SPECIAL-STATUS AMPHIBIAN SURVEYS

FOR

EID PROJECT 184

EL DORADO COUNTY, CALIFORNIA

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PREPARED FOR:

EL DORADO IRRIGATION DISTRICT

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1.0 INTRODUCTION

As part of the relicensing process for the El Dorado Hydroelectric Project, FERC 184-065 (Project 184), the El Dorado Irrigation District (EID) retained ECORP Consulting, Inc. (ECORP) to conduct environmental studies in support of EID's application to the Federal Energy Regulatory Commission (FERC). One of the elements of the application is the evaluation of project-affected stream flows on aquatic resources. Aquatic amphibians were identified as one of the resource groups that could potentially be affected by these flows. Three special-status frog species, California red-legged frog (*Rana aurora draytonii*) (CRLF), foothill yellow-legged frog (*Rana boylii*) (FYL), and mountain yellow-legged frog (*Rana muscosa*) (MYLF), and one special-status toad species, Yosemite toad (*Bufo canorus*) (YT), have the potential to occur within the Project 184 Study Area (hereafter referred to as study area), and may be affected by the operation of the hydroelectric facilities.

The three target frog species have been documented in, or in close proximity to, the study area through surveys conducted by the U.S. Forest Service (USFS), California Department of Fish and Game (CDFG), and other entities. It is generally accepted that the Yosemite toad does not occur in the study area. The closest confirmed occurrences of the species are those of individuals thought to be hybrids between the Yosemite toad and western toad (*Bufo boreas*). These potential hybrids have been documented approximately 9.6 km (6 mi) southeast of the study area in the Mokelumne drainage, at Lower Blue Lake, Meadow Lake, and Twin Lake. Yosemite toads have also been sighted at Ebbetts pass, approximately 27.2 km (17 mi) southeast of the study area (CDFG 2001). Since the study area may be near the zone of Yosemite toad and western toad hybridization, 2002 amphibian survey efforts included focused surveys for toads in appropriate habitat above 1,830 m (6,000 ft), in the event toads in this region are later determined to be Yosemite toad hybrids.

During the summer of 2001, ECORP initiated the amphibian study by documenting baseline population and habitat data for the four target amphibian species within the study area. Amphibian surveys were conducted the following summer (2002), between
late May and early September, in habitats identified as marginal to excellent for the four
target species. In addition, focused surveys were conducted in October and early
November to further evaluate FYLF distribution on the South Fork American River,
downstream of the town Riverton.

Information on the distribution and habitat use of special-status amphibians in the study
area is necessary to evaluate potential impacts resulting from anticipated stream flow
modifications (particularly short-term modifications). The results of the 2002 field
surveys will ultimately be used to evaluate the potential effects of project operations on
special-status amphibians, and to facilitate management decisions that may affect
amphibian populations (e.g., stream flow modifications).

2.0 STUDY AREA

The study area was subdivided into eight (8) distinct reaches, which are described below
and depicted in Figure 1.

Reach 1 - Lower South Fork American River (SFAR): Reach 1 consists of the SFAR,
beginning from the upper end of Slab Creek Reservoir and extending upstream to the
confluence with Esmeralda Creek.

Reach 2 - Downstream of Diversion Dam SFAR: Reach 2 consists of the SFAR,
beginning from the confluence with Esmeralda Creek and extending upstream to the
SFAR Diversion below Kyburz.

Reach 3 - Upstream of Diversion Dam SFAR: Reach 3 consists of the SFAR, beginning
from the SFAR Diversion and extending upstream to the confluence with Pyramid Creek.

Reach 4 - Echo Lake and Upper SFAR: Reach 4 consists of the SFAR, beginning from
the confluence with Pyramid Creek and extending to the SFAR headwater. Reach 4 also
includes the Echo Conduit, Upper and Lower Echo Lake, and upstream Echo Creek a
distance of 2.0 km (1.24 mi).
FIGURE 1. Project 184 - Survey Reach Locations

1. Lower South Fork American River
2. Below Diversion, South Fork American River
3. Above Diversion, South Fork American River
4. Echo Lake / Pyramid Creek
5. Lake Aloha / Upper Silver Fork
6. Silver Lake
7. Silver Fork
8. Caples Lake / Caples Creek

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**Reach 5 - Pyramid Creek and Lake Aloha:** Reach 5 consists of Pyramid Creek, beginning from the confluence with the SFAR and extending upstream to Lake Aloha.

**Reach 6 - Silver Fork American River:** Reach 6 consists of the Silver Fork American River (Silver Fork AR), beginning from the confluence with the SFAR and extending upstream to the confluence with Caples Creek.

**Reach 7 - Upper Silver Fork American River and Silver Lake:** Reach 7 consists of the Silver Fork AR, between the confluence with Caples Creek and Silver Lake, and Silver Lake itself.

**Reach 8 - Caples Creek and Caples Lake:** Reach 8 consists of Caples Creek, from the confluence with the Silver Fork AR to Caples Lake. This reach also includes Caples Lake.

### 3.0 LIFE HISTORY AND HABITAT INFORMATION

#### 3.1 California Red-legged Frog (*Rana aurora draytonii*)

##### 3.1.1 Status

The CRLF is listed by the U.S. Fish and Wildlife Service (USFWS) as Threatened, and by the CDFG as a Protected/Species of Special Concern.

##### 3.1.2 Distribution

Historically, the CRLF occurred from Point Reyes, California to Northern Baja California in the coast ranges, throughout California’s Central Valley, and from Redding through the Angeles mountains in the Sierra Nevada at elevations below 1,500 m (4,920 ft). It also occurred throughout California’s Central Valley (Stebbins 1985, Jennings and Hayes 1994). In the foothills of the Sierra Nevada, only a few drainages are currently known to support CRLFs. Those near the study area include the North Fork Weber Creek near Placerville, in El Dorado County (USFWS 2002a) and pond near the Middle Fork of the

### 3.1.3 General Life History

The CRLF is California's largest native frog [4.4–13.1 cm (1.7–5.2 in)] (Stebbins 1985). It is brownish to red in dorsal coloration, and features prominent dorsolateral folds, large black dorsal blotches, a white to cream colored upper lip stripe, and red ventral coloration (Stebbins 1985).

California red-legged frogs breed from November through April (Storer 1925). Males appear at breeding sites 2 to 4 weeks before females. While in amplexis, females will attach the fertilized egg mass to a vegetative brace such that it floats on the waters surface (Hayes and Jennings 1988). Egg masses contain approximately 2,000 to 5,000 eggs that are each about 2.0 to 2.8 mm (0.08–0.11 in) in diameter. Depending on water temperatures, tadpoles typically hatch from the eggs in 6 to 14 days (Jennings 1988b). Tadpoles metamorphose 3.5 to 7 months after hatching (Storer 1925). Sexual maturity is attained at 2 years of age by males and 3 years of age by females (Jennings and Hayes 1994).

Because of population extirpations throughout its range, including the entire Central Valley, the CRLF was listed as federally threatened in 1996 (USFWS 1996). Factors attributed to the observed population declines include historic overharvest for human consumption, habitat loss and degradation, predation by introduced exotic predators, competition from bullfrogs (*Rana catesbeiana* - a large, non-native ranid frog), and air and water borne contaminants (Jennings 1988, Jennings and Hayes 1994, USFWS 2000).

### 3.1.4 Habitat Associations

California red-legged frogs can be found in a range of habitats within a watershed (e.g. streams, creeks, natural and artificial ponds, etc.) in addition to riparian and upland
habitats. They typically occur at elevations below 1,050 m (3,445 ft), but historical sightings have noted them at elevations up to 1,500 m (4,920 ft). During the breeding season, CRLF are most closely associated with pools and ponds, and adults can often be found in slow-moving or still water that is usually deeper than 0.70 m (2.3 ft). Dense, shrubby riparian or emergent vegetation and undercut banks are typically common at such sites, although, breeding has been documented at stock ponds devoid of vegetation (USFWS 2002a).

Following breeding, frogs often disperse to summer foraging habitat which can include a wide variety of aquatic and terrestrial habitat types such as creeks, springs, drains, or under boulders, downed trees or logs. During dry weather, CRLF are rarely found far from water. Most overland movements, which can be up to 1.6 km (1.0 mi) in distance, are made during wet weather and at night (Scott and Rathbun in litt. 1998, cited in USFWS 2002a). In addition, CRLF may take refuge in small mammal burrows, moist leaf litter, and the fissures of dried stock ponds.

3.2 Foothill Yellow-legged Frog (*Rana boylii*)

3.2.1 Status

The FYLF is listed by the USFWS as a Species of Concern, by the U.S. Forest Service as a Sensitive Species, and by the CDFG as a Protected/Species of Special Concern.

3.2.2 Distribution

The foothill yellow-legged frog is a small (3.7-7.1 cm), highly aquatic frog that occurs almost exclusively in shallow, flowing streams with cobble substrates at elevations between 0 and 1830 meters (Stebbins 1985, Jennings and Hayes 1994). This frog’s skin has a distinct granular appearance, a pale triangle is apparent on its snout, yellow ventral coloration is confined to the rear legs, and it does not show dusky coloration on its toe tips (Stebbins 1972).
Historically, FYLFs were found in the Coast Ranges from the Santiam River drainage in Oregon (Mehama and Marion counties) to the San Gabriel River drainage in California (Los Angeles county), and along the west slopes of the Sierra Nevada/Cascade crest in most of central and northern California (Storer 1925, Zweifel 1955). However, they have apparently disappeared from about 45 percent of their historic range in California, and 66 percent of their historic range in the Sierra Nevada Mountains (Jennings and Hayes 1994). Livezey (1963) reported an isolated population in San Joaquin County on the floor of the Central Valley. The elevation range of FYLF extends from sea level to 1,550 m (5,000 ft) in the Sierra Nevada Mountains.

3.2.3 General Life History

Adult FYLF are primarily diurnal and typically occupy home ranges of less than 10 m (33 ft) in diameter; however, they may move greater distances to breed. FYLF can be active all year in the warmest localities, but may become inactive or hibernate in colder climates (Seltenrich and Pool 2002). At lower elevations, FYLF likely spend most of the year in or near streams. Nussbaum et al. (1983) found FYLFs underground and beneath surface objects more than 50 m (155 ft) from water in April. Significant seasonal movements or migrations from breeding areas have not been reported.

Egg laying typically occurs between late March and early June (Storer 1925, Grinnell et al. 1930, Wright and Wright 1949), which usually follows periods of high-flow discharges associated with winter rainfall and snowmelt. Females deposit eggs in clusters of 300 to 1,200 which they attached on the sides or under of cobbles and boulders in areas of moderate flow (Storer 1925, Fitch 1936, Zweifel 1955). Eggs generally hatch in 15 to 30 days (depending on water temperature), and tadpoles metamorphose into juvenile frogs in 3 to 4 months (depending on water temperature and food availability). Sexual maturity generally occurs in 1 to 2 years for males and 2 years for females. Adults feed on terrestrial and aquatic invertebrates, crustaceans and mollusks. The daily and seasonal movement of adult FYLF, as well as their ecology, and behaviors are essentially unknown.
Moyle (1973) implicated the bullfrog as a cause of the observed reduction of FYLF populations in the Sierra. In addition, centrarchid species (sunfish and bass) and introduced salmonid species (trout) may also contribute to the decline of FYLF populations (Werschkul and Christensen 1977). Other human related impacts to FYLFs and their habitat include, but are not limited to, the construction and maintenance of dams and reservoirs, controlled stream flows, recreation, and livestock grazing (Jennings and Hayes 1994, Lind et al. 1996, and Seltenrich and Pool 2002). In addition, disease appears to play a role in amphibian declines. The Declining Amphibian Population Task Force (DAPTF) reports that chytrid fungus, which is fatal to metamorphic and adult frogs, is increasingly common in the Sierra Nevada (Speare et al. 1998, cited in Seltenrich and Pool 2002).

3.2.4 Habitat Associations

The FYLF is a highly aquatic amphibian, spending most or all of its life in or near streams, though frogs have been documented underground and beneath surface objects more than 50 m away from water (Nussbaum et al. 1983, cited in Seltenrich and Pool 2002). The habitat requirements of FYLF are poorly understood (Van Wagner 1996). However, specific habitat preferences have been noted in a number of drainages throughout the Coast Range of California and at some locations in the Sierra Nevada.

Generally, the FYLF is found in small to fairly large streams that are characterized by the presence of cobble and boulder-sized substrate (Hayes and Jennings 1988). This habitat is probably best suited for oviposition and likely provides refuge habitat for larvae and post-metamorphs (Storer 1925, Zweifel 1955, Hayes and Jennings 1988). FYLF utilize the shallower portions of stream channels where flow velocity is low, such as at pool tail-outs, and in backwater and edgewater areas (Seltenrich and Pool 2002). Occurrence and distribution relative to canopy or shade may be somewhat tied to life stage, but streams that afford good exposed basking sites appear to be broadly utilized (Lind 1998). Though potentially abundant during the breeding season, adults are typically observed at a reduced frequency in these mainstem areas during the remainder
of the year (Seltenrich and Pool 2002). It is speculated that the adults are either dispersing into streamside vegetation or adjacent tributaries, or possibly just reducing diurnal activity (Lind 1998).

3.3 Mountain Yellow-legged Frog (*Rana muscosa*)

3.3.1 Status

The MYLF is listed by the USFWS as a Species of Concern, by the U.S. Forest Service as a Sensitive Species, and by the CDFG as a Protected/Species of Special Concern. Effective August 1, 2002, the southern California distinct vertebrate population segment (DPS) of the MYLF became listed as Endangered pursuant to the Endangered Species Act (USFWS 2002b). The USFWS has determined that a petition to list the Sierra Nevada population as Endangered may be warranted and a status review is currently underway (USFWS 2000b).

3.3.2 Distribution

Historically, the MYLF was the most commonly encountered vertebrate species at high elevations in California (Grinnell and Storer 1924). In recent years it has declined significantly throughout its range (Jennings and Hayes 1994, Bradford et al. 1994, Stebbins and Cohen 1995, Jennings 1996, Drost and Fellers 1996). The species is represented by two widely separated populations (distinct vertebrate population segments or DPS), which are isolated from one another by the Tehachapi Mountains. The Southern California DPS has been extirpated from greater than 99 percent of its historic range (Jennings and Hayes 1994), and as such has since been listed as Endangered pursuant to the federal Endangered Species Act. A proposal to list the species as threatened throughout its range is currently being evaluated (USFWS 2000b).

In the Sierra Nevada, the MYLF occurs from southern Plumas County to southern Tulare County with disjunct populations occurring on the north and south ends of the
geographic range (Jennings and Hayes 1994, ECORP Consulting 2000). The known elevation range of MYLF in the Sierra Nevada extends from 1,370 m (4,495 ft) to over 3,650 m (11,970 ft) (Zweifel 1955, Mullally and Cunningham 1956, both cited in Jennings and Hayes 1994).

3.3.3 General Life History

The MYLF is a moderate-sized frog [5.0–7.8 cm (2.0–3.1 in)] that varies widely in coloration, but is usually a mix of brown and yellow often with gray, red or green-brown. The dorsal surface may lack any pattern, or it may have discrete spots or irregular lichen-like patches. MYLF have dorsal lateral folds that may or may not be prominent (Stebbins 1985, Jennings and Hayes 1994, Barry 1999). The belly and undersurfaces of the hind limbs are pale to dark yellow.

The MYLF is a diurnal and highly aquatic species that rarely ventures far from the waters edge. It emerges from over wintering sites in lakes and ponds immediately following snowmelt, at which time it begins to migrate to breeding sites (D. Bradford, pers. comm. cited in Jennings and Hayes 1994). Breeding occurs around June or July, depending on the timing of snowmelt. MYLF deposit eggs in shallow waters in clusters to up to 500 eggs. Egg masses may be left unattached to substrate or in the case of streams, they may be attached to rocks, gravel, vegetation, or under banks (Zweifel 1955). Once hatched, larvae must over winter up to two times before attaining metamorphosis; growth occurs during the warmer months usually lasting 3 to 6 months at a time (Mullally and Cunningham 1956, Bradford 1983). Larval death may occur if the aquatic habitat becomes ephemeral, such as in dry years. Data regarding the time required to reach sexual maturity is absent (Jennings and Hayes 1994).

Stocking of high elevation lakes with predatory fishes such as trout (*Oncorhynchus* spp. and *Salmo* spp.) and char (*Salvelinus fontinalis*) has been implicated in the extirpation of MYLF from many lakes and streams (Jennings and Hayes 1994). Data also exist suggesting pathogens may contribute to the susceptibility of frogs to diseases that make them more vulnerable to predation (Bradford 1991, cited in Jennings and Hayes 1994).
However, range-wide population studies are needed to determine the full extent of the species' decline, and to identify the causes of this decline (Jennings and Hayes 1994).

3.3.4 Habitat Associations

MYLF occur in medium to high elevation ponds, tarns, lakes, and streams. They tend to utilize shallow, exposed shorelines that are gently sloped. This type of shoreline provides suitable oviposition sites, satisfies egg mass thermoregulatory needs, and shelters eggs from deepwater fish (Jenning and Hayes 1994). MYLF appear to be most successful where predatory fish are absent (Bradford 1989, Bradford et al. 1993, in press, cited in Jennings and Hayes 1994).

Larval and adult MYLFs are known to overwinter in deep pools with undercut banks that provide cover. Although tadpoles are tolerant to anoxic conditions, created when lakes and ponds completely freeze over, adults are susceptible to low dissolved oxygen levels and typically require a water depth of at least 4 m below the ice surface (Bradford 1983).

3.4 Yosemite Toad (Bufo canorus)

3.4.1 Status

The YT is listed by the USFWS as a Species of Concern, by the U.S. Forest Service as a Sensitive Species, and by the CDFG as a Protected/Species of Special Concern.

3.4.2 Distribution

The Yosemite toad occurs in the Sierra Nevada from the Blue Lakes region, north of Ebbetts Pass (Alpine County), south to Kaiser Pass in the Evolution Lake/Darwin Canyon area (Fresno County). The elevation range of this species extends from 1,950 m (6,400 ft) to 3,450 m (11,315 ft). In the northern portion of their range, YTts are thought to
hybridize with the more common western toad (*Bufo boreas*) (Karlstrom 1962, Morton and Sokolski 1978, cited in Jennings and Hayes 1994).

3.4.3 General Life History

The YT is a moderate-sized [3.0–7.1 cm (1.2–2.8 in)] toad that displays sexual dichromism. Females are gray, tan, or brown with black spots or blotches bordered with white or cream. Males have a nearly uniformly colored yellow-green to drab olive to darker greenish brown dorsum (Jennings and Hayes 1994). Both juvenile males and females display a thin mid-dorsal stripe. Males, however, lose the stripe as they develop.

The YT is a largely diurnal species that emerges from overwintering sites as soon as snowmelt ponds begin to form, generally from early May to mid-June (Kagarize Sherman 1980, cited in Jennings and Hayes 1994). Breeding typically occurs in wet meadows soon after emergence. Females deposit strings of 1,000 to 1,500 large [2.1 mm (0.08 in) average diameter] dark-colored eggs around emergent vegetation in still, shallow water with flocculent or silty substrate (Jennings and Hayes 1994). Larvae hatch in 3 to 6 days, depending on temperature, and metamorphose 40 to 50 days after fertilization. YT tadpoles are black, and tend to aggregate in shallow water during the day and move into deeper water at night (Mullally 1953, cited in Jennings and Hayes 1994). Both sexes grow slowly, with sexual maturity being attained in 3 to 5 years for males, and 4 to 6 years for females (Kagarize Sherman 1980, and Kagarize Sherman and Morton 1984, both cited in Jennings and Hayes 1994).

3.4.4 Habitat Associations

The YT is associated with high elevation open montane meadows that are surrounded by forests of white bark pine (*Pinus albicaulis*), lodgepole pine (*P. contorta*) or subalpine conifer. They hibernate in rodent burrows during the winter, apparently preferring the burrows of Belding’s ground squirrels (*Spermophilus beldingi*) and yellow-bellied marmots (*Marmota flaviventris*), which are deeper and less susceptible to freezing.
conditions (Kagarise Sherman 1980). As snowmelt ponds begin to form during the spring and summer YT's emerge from hibernation and move to breeding sites. Breeding typically occurs at the edges of wet meadows or slow, shallow runoff streams where short emergent sedges (Carex spp.) or rushes (Juncus spp.) are abundant. Following breeding, YT's will forage along the meadow perimeter and use rodent burrows and forest litter for refuge from predation and summer heat.

The YT has disappeared from greater than 50 percent of its documented historic sites (Jennings and Hayes 1994). Population declines may be attributable, in part, to livestock grazing and the effects of drought on breeding and rearing sites. However, declines have also occurred among the least physically disturbed sites in California. This diffuse pattern of decline suggests an atmospheric causal agent such as ozone depletion, and the resultant increase in ultraviolet (UV) radiation experienced in alpine regions (Blumthaler and Ambach 1990, cited in Jennings and Hayes 1994). Systematic population monitoring on a large scale, accompanied by experimental studies to identify the impact of various threats, such as UV radiation, are required to fully understand the cause and extent of YT declines (Jennings and Hayes 1994).

3.5 Other Aquatic Amphibians

Other aquatic amphibians that occur in the study area include the western toad, bullfrog, Pacific treefrog (Hyla regilla), long-toed salamander (Ambystoma macrodactylum), Sierra newt (Taricha torosa sierrae), and Sierra Nevada salamander (Ensatina eschscholtzii platensis). Of these, the western toad has experienced declines in the Sierra Nevada, California's Central Valley, and other states (Stebbins and Cohen 1995, Fisher and Shaffer 1996). Habitat modification and fragmentation, drought, and disease are suspected contributing causes for these declines (Stebbins and Cohen 1995).
4.0 METHODOLOGY

4.1 Site Selection

The process of site selection began with a thorough literature and information search to determine known target species occurrences within the study area. A number of resources were used, including published literature, the CDFG California Natural Diversity Data Base (CNDDB), local resource agency biologists, and species experts. USFWS assessment and survey guidelines for CRLF require an analysis of all documented locality data within 8.0 km (5 mi) of the project area (USFWS 1997). As such, locality data within a minimum of 8.0 km (5 mi) were obtained for all four species (i.e., CRLF, FYL, MYLF, and YT). The second level of analysis involved an evaluation of potential habitat for each of the target species within the study area. At the request of USFWS (Shannon Ludwig, USFWS Sacramento Field Office) the assessment of potential CRLF habitat targeted areas within 1.6 km (1.0 mi) of Project-affected waters. Potential FYLF habitat was identified within 0.8 km (0.5 mi) of Project-affected waters, per PG&E protocol (2001a), and potential MYLF and YT habitat was identified within 2.0 km (1.24 mi) of Project-affected waters.

Areas of potential habitat within the study area were identified for each species based on species-specific habitat criteria, including elevation ranges. High-resolution aerial photographs (dated October 2001 and July 2002) and 7.5-minute USGS topographic maps were used to identify and generally characterize aquatic habitats. The preliminary selection of study sites was then delineated onto topographic base maps. A number of ground-truthing site assessments were conducted at many locations during the fall of 2001 to confirm the suitability of the sites for the target species, and to obtain information regarding access and ownership. Drafts of the study plan were periodically reviewed by the FERC collaborative, and feedback from the resource agencies concerning survey effort was incorporated into the final study plan.

Selected survey sites for CRLF consisted of ponds (natural or man-made), springs, and seeps below 1,525 m (5,000 ft) elevation. In addition, areas of slow moving streams
within 1 mile of project-affected waters were evaluated to determine if they contained potential CRLF habitat. Survey sites for FYLF consisted of suitable river and perennial stream habitat below 1,525 m (5,000 ft) elevation. Survey sites for the MYLF included pond, lake, low-gradient stream, and wet meadow habitats above 1,525 m (5,000 ft). Surveys for YT were conducted above 1,830 m (6,000 ft) at wet meadows, lakes, and seasonal ponds.

The CDFG conducted amphibian studies within the Project 184 study area during the summer of 2002 that coincided with the present study. ECORP consulted with CDFG to coordinate survey efforts, so as to avoid repetitive survey effort. CDFG surveys focused primarily on small lakes in the vicinity of Lake Aloha, Caples Creek, and Pyramid Creek.

4.2 Visual Encounter Surveys

Visual encounter surveys (VES) for CRLF were conducted according to the USFWS's *Guidance on Site Assessment and Field Surveys for California Red-legged Frog* (1997). Surveys for FYLF, MYLF, and YT were conducted following protocols or using information provided in one or more of the following references: PG&E (2001), Lind (1997), Thoms et al. (1997), Fellers and Freel (1995), and Crump and Scott (1994). In addition, we incorporated specific resource agency recommendations (i.e., USFWS, USFS, and CDFG), and current MYLF dispersal data (Pope and Mathews 2001), to develop species-specific survey methodologies.

4.2.1 Visual Encounter Survey Procedures

Teams of two surveyors conducted all surveys following general amphibian-sampling procedures. Surveyors waded along the shore and randomly used a long-handled dip-net in aquatic microhabitats, such as beneath overhanging banks and within floating and emergent vegetation to search for frogs, toads, and tadpoles. They periodically used binoculars to scan ahead in search of frogs or toads basking or sitting on banks and exposed areas. At all times surveyors were careful to avoid crushing potential frog cover such as rootballs and overhanging banks, and they avoided disturbing sediments.
and vegetation that may harbor egg masses or larvae. While walking along the shore, surveyors gently waved nets over bank vegetation in an effort to flush hiding frogs and toads.

All amphibian surveys were conducted on warm, clear days when wind speeds were low, or on occasion, moderate [\(<24\ km/hr\ (15\ mi/hr)\]]. Nocturnal surveys for CRLF were conducted on warm, still nights between one hour after sunset and 12 midnight. Visual inspections of aquatic habitats were facilitated through the use of a Nite Sport II (Nite Light®) headlamp with a halogen bulb (powered by a 6 Volt gel cell battery) and a 30-Watt spotlight (powered by a 12 Volt gel cell battery). Each of these light systems is described in detail in *A Technique for Detecting Eyeshines of Amphibians and Reptiles* (Corben and Fellers, in press). Lighting sources were used to detect the eyeshines of amphibians present within the aquatic habitat of the site.

Variations in survey approach were dependent upon the type of habitat being surveyed (e.g., river, stream, pool, wet meadow, etc.) and the quality and extent of available habitat. Differences in survey approach are briefly addressed below. The specific survey area of each aquatic habitat type was based on the following guidelines:

- **Wet Meadows** – Distinct aquatic habitat units contained within the meadow (e.g., stream, pond, etc.) were searched visually, and dip-netted along their perimeter. The deeper portions of water bodies were scanned with binoculars. If there were no obvious aquatic channels, surveyors walked meandering transects throughout the meadow to search for standing water and shallow potholes.

- **River and Tributary Sites** – Two individuals, working in tandem, used linear or meandering transects to search along river and stream sections. When possible, river surveys began at the downstream end of the site, and continued along one bank. If suitable habitat was present on the opposite bank, surveyors crossed the river and surveyed the opposite bank once the first bank was completed.
Narrow tributary streams were surveyed in one direction, starting downstream and moving upstream. Two surveyors searched both banks simultaneously.

- **Ponds and Lakes** – Small ponds were surveyed by wading along the perimeter and dip-netting in the shallow waters. Larger ponds and lakes were sampled along their perimeter in three differentiated survey zones: 1) the **shore zone** – the area surrounding the pond within 3 m (9.8 ft) of the waterline. 2) the **waterline** – where water and upland meet, 3) the **shallow water zone** – the waterline out to a depth that can be waded safely [i.e., up to 1 m (3.3 ft) deep]. Surveyors, working either in tandem or individually completed the search for each zone. If there was abundant amphibian habitat along the shore, a zigzag pattern was used to search the entire shallow water zone.

4.2.2 **Survey Schedule**

**California red-legged frog** - Visual encounter surveys were conducted at selected sites four times, twice during the day and twice at night, between May 1 and November 1, 2002. In accordance with USFWS protocol (1997), surveys at a given location were separated by at least twenty-four hours.

**Foothill yellow-legged frog** – Because FYLF egg masses are difficult to locate, surveys targeted tadpoles and adult frogs. One survey per site was conducted between June and September to identify FYLF adults, larvae, or egg masses.

**Mountain yellow-legged frog** - Our surveys for MYLF adults and larvae were conducted between June and September. Generally, overwintering MYLF tadpoles become active and adults emerge from hibernation sites soon after the ice begins to melt in streams, lakes, and ponds. Accordingly, snowmelt and river and stream conditions were monitored to determine the most appropriate time to commence surveys. If larvae or egg masses were encountered that could not be identified to species, a second site visit was made 2 to 4 weeks later.
The food of YT was conducted at each accessible site between April and August 1, depending on environmental conditions. To determine the most appropriate time to initiate surveys, we monitored the spring snowmelt to detect the formation of snowmelt ponds within the meadows. If larvae or egg masses encountered could not be identified to the species level, a second site visit was made 2 to 4 weeks later.

4.2.3 Recording Data

Data on target species encountered during surveys, including the individual’s size, sex, lifestage, and behavior, were recorded onto standardized survey data sheets that were developed by PG&E (2001a). Target species were photographed, as were corresponding microhabitats, when possible. Weather conditions at the time of the encounter, and the specific microhabitat parameters were also recorded. Such parameters included substrate type, water temperature, water depth, and microhabitat type. GPS coordinates where also recorded at each species locality.

During the course of amphibian surveys at all appropriate sites, surveyors concurrently looked for western pond turtles (*Clemmys marmorata*) (WPT) by using binoculars to search for basking turtles, or turtles emerging from or entering the water. Non-target herpetofauna and fish observed during visual encounter surveys were also recorded at each site.

4.3 Site Habitat Assessments

Following the VES, habitat assessments were performed for each site and/or subsite. Data recorded during the assessments consisted of measurements of habitat parameters that influence target species life requirements, particularly the availability of suitable refuge from extreme climate and predators, as well as accessibility to proper breeding and foraging sites.
Parameters recorded and/or measured during site habitat assessments include the following:

- Weather variables – air temperature, cloud cover, and wind speed.
- Habitat type - river, tributary (ephemeral, perennial, or intermittent), lake perimeter, snowmelt pond, wet meadow, or marsh.
- Habitat Features:
  - Dimensions of the aquatic habitat.
  - Dominant and subdominant aquatic and terrestrial substrates. Substrate was recorded as organic debris, silt, sand, gravel, cobble, boulder, and/or bedrock.
  - Type and abundance of submerged, emergent, and margin vegetation. Examples include algae, pondweed, forbs, grass, sedge, rush, blackberry, and willow.
  - Type and amount of terrestrial and aquatic cover. Cover is defined here as elements that provide refuge or shelter for amphibians while in the water or on land. Examples include leaf litter, animal burrows, woody debris, vegetation, rootwads, undercut banks, and boulder gaps.
  - Riparian shading. The amount of shade provided to amphibian habitat by understory or canopy at the time of the survey.
  - Basking sites. The amount of area suitable for thermoregulatory requirements, such as exposed banks and boulders.
  - Presence of shallow water areas. Habitat elements such as sidepools, backwater pools, and edgewater areas that provide potential breeding or larval rearing habitat.

The abundance of each parameter was described categorically, as a percent range of coverage. Categories consisted of (1) absent - <10%, (2) minimal - 11 to 30%, (3) moderately low - 31 to 50%, (4) moderately high - 51 to 70%, and (5) abundant - >70%. If the character of the habitat changed significantly during the course of the survey, the site was divided into subsections and each was described separately.
5.0 RESULTS

5.1 Site Selection

5.1.1 California Red-legged Frog

California red-legged frogs are not known to occur within the study area. However, Reach 1 and Reach 2 are located near federally designated CRLF Critical Habitat (Unit 3) (USFWS 2002a). The species has been documented to occur within the Weber Creek watershed, including Spivey Pond near Pollock Pines, and in both the North Fork Weber Creek and South Fork Weber Creek at the Snows Road crossings in the vicinity of Placerville. Spivey Pond is located within 8.0 km (5 mi) of the study area (Figure 2); the North Fork Weber Creek is located outside of the 8-km project area radius.

CRLF are not known to occur within the study area and potential habitat within 1.6 km (1 mi) of Project-affected waters is minimal. During the site selection process, we originally identified nine potential CRLF survey sites, located within Reach 1 and Reach 2. At the lower reaches of the study area, the SFAR is located within a steep canyon. Consequently, the SFAR tributaries are high gradient streams and generally lack suitable habitat for this species. The selected sites consisted of various springs, stock ponds, and one reservoir. Further investigation of these sites revealed that six were privately owned and access to survey teams was denied by the landowners, where as several others lacked suitable habitat. Table 1 lists the habitat type, general location and survey status of the selected CRLF sites. Maps depicting selected survey sites are provided as Appendix B. Habitat quality of the sites is described in the Site Habitat Assessment section.
Table 1 Summary of California Red-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sighting?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach 1 - Lower South Fork American River</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140F</td>
<td>Reservoir</td>
<td>EID Forebay</td>
<td>5/15, 5/28, 7/23, 10/23</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>145P</td>
<td>2 Stockponds</td>
<td>EID property at</td>
<td>9/25</td>
<td>No</td>
<td>No water in ponds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Union Hill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150S</td>
<td>Spring</td>
<td>Indian Hatties</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td>155S</td>
<td>Spring</td>
<td>Spring Valley</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td>160S</td>
<td>Spring</td>
<td>Van Vleck</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td>Reach 2 - Downstream of Diversion Dam SFAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>275S/P</td>
<td>Spring &amp; pond</td>
<td>White Meadow</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td>280P</td>
<td>4 Stockponds</td>
<td>North of Indian</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Springs Campground</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>285S</td>
<td>Spring</td>
<td>Short Place</td>
<td>--</td>
<td>--</td>
<td>Access Denied</td>
</tr>
<tr>
<td>290S</td>
<td>Spring</td>
<td>Unnamed spring</td>
<td>--</td>
<td>--</td>
<td>No pooled water</td>
</tr>
</tbody>
</table>

5.1.2 Foothill Yellow-legged Frog

There are few historical sightings of foothill yellow-legged frogs within the study area. Previously documented occurrences consist of one site on the SFAR, at the Akin Powerhouse (site 105R), and one location outside of the study area on upper Soldier Creek. A historical record also exists for Bark Shanty Creek, although the validity (i.e. species identification) of this record is questionable. Historical sightings are depicted on the Project 184 map, which is provided as Appendix B. Much of the potential FYLF habitat we identified during site selection is located within the steep canyon of the SFAR in Reach 1 near Pollock Pines, an area that is largely inaccessible by roadways. Prior surveys in this area have been limited, or not conducted, due to the relative isolation and inaccessibility of the river. Potential FYLF habitat was also identified within Reach 2 and Reach 6.

Sites selected for FYLF surveys consisted of areas below 1,525 m (5,000 ft) along the SFAR and the Silver Fork AR, and tributaries to the two rivers, including all of the diverted tributaries of the SFAR. We initially identified 24 river and tributary sites to survey during the summer of 2002. Table 2 lists the habitat type, general location, and
survey dates of the selected FYLF sites. Maps depicting selected survey sites are provided in Appendix A.

In October 2002, additional surveys were conducted at six sites, one previously surveyed site and five new sites, along the SFAR in Reach 1 and Reach 2. These supplemental surveys were conducted to provide additional background information with respect to the occurrence, distribution, and availability of potentially suitable habitat for the FYLF in the SFAR. In particular, the area downstream of the Kyburz Diversion Dam, an area discussed in the preliminary USFS 4(e) conditions for the El Dorado Hydroelectric Project, FERC No. 184. Although amphibian surveys are most reliable if conducted from the onset of the breeding season to when tadpoles are just beginning to metamorphose (Fellers and Freel 1995), the continued mild weather conditions during October made frog activity likely. The habitat type, general location, and survey dates of the supplemental FYLF sites are provided in Table 3.

Table 2  Summary of Foothill Yellow-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach 1 - Lower South Fork American River</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105R</td>
<td>River</td>
<td>SFAR at Akin Powerhouse</td>
<td>6/27</td>
<td>Yes</td>
</tr>
<tr>
<td>110R</td>
<td>River</td>
<td>SFAR upstream of powerhouse</td>
<td>8/8</td>
<td>Yes</td>
</tr>
<tr>
<td>115T</td>
<td>Tributary</td>
<td>Silver Creek</td>
<td>8/8</td>
<td>Yes</td>
</tr>
<tr>
<td>120R</td>
<td>River</td>
<td>SFAR upstream of Silver Creek</td>
<td>8/8</td>
<td>Yes</td>
</tr>
<tr>
<td>125T</td>
<td>Tributary</td>
<td>Soldier Creek</td>
<td>8/7</td>
<td>Yes</td>
</tr>
<tr>
<td>130R</td>
<td>River</td>
<td>SFAR at Grays Canyon Creek</td>
<td>8/30</td>
<td>Yes</td>
</tr>
<tr>
<td>135R</td>
<td>River</td>
<td>SFAR at Pacific House</td>
<td>6/26</td>
<td>No</td>
</tr>
<tr>
<td>Reach 2 - Downstream of Diversion Dam SFAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>205DT</td>
<td>Diverted Tributary</td>
<td>Esmeralda Creek</td>
<td>5/29, 5/30</td>
<td>No</td>
</tr>
<tr>
<td>210DT</td>
<td>Diverted Tributary</td>
<td>Ogilby Creek</td>
<td>5/29</td>
<td>Yes</td>
</tr>
<tr>
<td>215T</td>
<td>Tributary</td>
<td>Short Place</td>
<td>6/27</td>
<td>No</td>
</tr>
<tr>
<td>220R</td>
<td>River</td>
<td>SFAR at Blackbird Campground</td>
<td>6/26</td>
<td>Yes</td>
</tr>
<tr>
<td>225T</td>
<td>Tributary</td>
<td>Plum Creek</td>
<td>5/28</td>
<td>No</td>
</tr>
<tr>
<td>230DT</td>
<td>Diverted Tributary</td>
<td>Bull Creek</td>
<td>5/16, 5/24</td>
<td>No</td>
</tr>
<tr>
<td>235R</td>
<td>River</td>
<td>SFAR at Cleveland Corral</td>
<td>6/25</td>
<td>No</td>
</tr>
<tr>
<td>240R</td>
<td>River</td>
<td>SFAR at White Hall</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>245DT</td>
<td>Diverted Tributary</td>
<td>Mill Creek</td>
<td>5/30</td>
<td>No</td>
</tr>
<tr>
<td>250DT</td>
<td>Diverted Tributary</td>
<td>Alder Creek</td>
<td>5/30</td>
<td>No</td>
</tr>
<tr>
<td>255R</td>
<td>River</td>
<td>SFAR at 29-mile Guard Station</td>
<td>6/25</td>
<td>No</td>
</tr>
<tr>
<td>260R</td>
<td>Diverted Tributary</td>
<td>SFAR at Indian Creek Campground</td>
<td>6/21</td>
<td>No</td>
</tr>
</tbody>
</table>
Table 2  Summary of Foothill Yellow-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>265DT</td>
<td>Diverted Tributary</td>
<td>No-Name Creek</td>
<td>6/5</td>
<td>No</td>
</tr>
<tr>
<td>270DT</td>
<td>Diverted Tributary</td>
<td>Carpenter Creek</td>
<td>6/5</td>
<td>No</td>
</tr>
<tr>
<td>Reach 6 - Silver Fork American River</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>605R</td>
<td>River</td>
<td>Silver Fork AR at SFAR confluence</td>
<td>6/28</td>
<td>No</td>
</tr>
<tr>
<td>610T</td>
<td>Tributary</td>
<td>Beanville Creek</td>
<td>8/6</td>
<td>No</td>
</tr>
<tr>
<td>615R</td>
<td>River and Marsh</td>
<td>Silver Fork AR at China Flat</td>
<td>6/28</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 3  Summary of Supplemental Foothill Yellow-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach 1 - Lower South Fork American River</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105R</td>
<td>River</td>
<td>SFAR at Akin Powerhouse</td>
<td>10/28</td>
<td>Yes</td>
</tr>
<tr>
<td>106R</td>
<td>River</td>
<td>SFAR upstream of powerhouse</td>
<td>10/30</td>
<td>Yes</td>
</tr>
<tr>
<td>126R</td>
<td>River</td>
<td>SFAR</td>
<td>11/5</td>
<td>No</td>
</tr>
<tr>
<td>136R</td>
<td>River</td>
<td>SFAR at Brockliss Canyon Creek</td>
<td>10/31</td>
<td>No</td>
</tr>
<tr>
<td>Reach 2 - Downstream of Diversion Dam SFAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>207R</td>
<td>River</td>
<td>SFAR at Ogilby Creek</td>
<td>10/31</td>
<td>No</td>
</tr>
<tr>
<td>213R</td>
<td>River</td>
<td>SFAR upstream of Ogilby Creek</td>
<td>10/31</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5.1.3  Mountain Yellow-legged Frog

The MYLF is known from numerous localities within the study area. The highest concentrations of these occurrences are located within the vicinities of Lake Aloha and Silver Lake. Other areas with historic records include, but are not limited to, Middle Creek, Bark Shanty Creek, Alder Creek, Cody Creek, Forni Lake, Forni Creek, and Tamarack Lake (Appendix B).

MYLF survey sites consisted of pond, lake, low-gradient stream, and wet meadow environments above 1,525 m (5,000 ft), located within 2.0 km (1.24 mi) of Project-affected waters. Potential habitat was identified within Reaches 3, 4, 5, 6, 7, and 8. We initially identified 68 sites to survey during the 2002 field season. Sixteen of these sites were further divided into 51 sub-sites based on discrete aquatic habitat units. Table 4 provides the habitat type, general location, and survey date(s) for each of the selected MYLF sites. Maps depicting selected survey sites are provided as Appendix A.
The CDFG conducted MYLF surveys within the Project 184 study area during the Summer of 2002 that coincided with the present study. To avoid repetitive surveys, ECORP consulted with CDFG to coordinate survey efforts. CDFG conducted surveys at sites that consisted primarily of small lakes in the vicinity of Lake Aloha, Caples Creek, and Pyramid Creek.

### Table 4 Summary of Mountain Yellow-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Subsite</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reach 3 - Upstream of Diversion Dam SFAR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>305R</td>
<td>River</td>
<td>SFAR at Station Creek RNA</td>
<td>7/22</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>310T</td>
<td>Tributary</td>
<td>Unnamed tributary at Station Creek RNA</td>
<td>7/22</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>315T</td>
<td>Tributary</td>
<td>Station Creek</td>
<td>7/2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>320T</td>
<td>Tributary</td>
<td>Forni Creek</td>
<td>7/25</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>325T</td>
<td>Tributary</td>
<td>Cody Creek</td>
<td>7/2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Reach 4 - Echo lake and Upper SFAR</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>405T</td>
<td>Tributary</td>
<td>Sayles Canyon</td>
<td>8/2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>410T/L</td>
<td>a</td>
<td>Tributary</td>
<td>Bryan Creek</td>
<td>8/2</td>
<td>No</td>
</tr>
<tr>
<td>b</td>
<td>Marsh</td>
<td>At 'Sierra at Tahoe'</td>
<td>8/2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>415M/L</td>
<td>a</td>
<td>Lake</td>
<td>Lake Audrian</td>
<td>6/6</td>
<td>No</td>
</tr>
<tr>
<td>b</td>
<td>Tributary</td>
<td>Lake Audrian</td>
<td>6/6</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Marsh</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>420T/M</td>
<td>a</td>
<td>Meadow</td>
<td>Huckleberry Flat</td>
<td>8/1</td>
<td>No</td>
</tr>
<tr>
<td>b</td>
<td>Dry Meadow</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Tributary</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>425L</td>
<td>Marsh</td>
<td>East side of Echo Summit</td>
<td>6/20, 6/25</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>430T</td>
<td>Tributary</td>
<td>Echo Creek</td>
<td>8/1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>435L</td>
<td>Lake</td>
<td>Osgood Swamp</td>
<td>6/4</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>440IT/L</td>
<td>a</td>
<td>Lake</td>
<td>Cagwin Lake</td>
<td>7/31</td>
<td>No</td>
</tr>
<tr>
<td>b, c, d, e</td>
<td>Snowmelt pond</td>
<td>South of Cagwin Lake</td>
<td>7/30</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Tributary</td>
<td>Inlet to Upper Echo Lake</td>
<td>7/31</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>455LP</td>
<td>a</td>
<td>Lake</td>
<td>Upper Echo Lakes</td>
<td>7/31</td>
<td>No</td>
</tr>
<tr>
<td>b</td>
<td>Lake</td>
<td>Lower Echo Lake</td>
<td>7/31</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td><strong>Reach 5 - Pyramid Creek and Lake Aloha</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>505R</td>
<td>Tributary</td>
<td>Pyramid Creek</td>
<td>8/6</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>550LP</td>
<td>Lake</td>
<td>Aloha Lake</td>
<td>9/11</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td><strong>Reach 6 - Silver Fork American River</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>620T</td>
<td>Tributary</td>
<td>Middle Creek</td>
<td>6/7</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>625T</td>
<td>Tributary</td>
<td>Long Canyon</td>
<td>7/2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>630R</td>
<td>River</td>
<td>Silver Fork AR</td>
<td>8/9</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>631T</td>
<td>Tributary</td>
<td>Girard Creek</td>
<td>6/10, 7/1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>635T</td>
<td>Tributary</td>
<td>Hell's Delight</td>
<td>6/12</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Site No.</td>
<td>Subsite</td>
<td>Habitat Type</td>
<td>Location</td>
<td>Survey Date(s)</td>
<td>Sightings?</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
<td>----------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td>640T</td>
<td></td>
<td>Tributary</td>
<td>Bark Shanty</td>
<td>8/1</td>
<td>No</td>
</tr>
<tr>
<td>641T</td>
<td></td>
<td>Tributary</td>
<td>Mule Canyon</td>
<td>7/2</td>
<td>No</td>
</tr>
<tr>
<td>642T</td>
<td></td>
<td>Tributary</td>
<td>Martin Creek</td>
<td>6/12</td>
<td>No</td>
</tr>
<tr>
<td>645T</td>
<td></td>
<td>Tributary</td>
<td>Sherman Canyon</td>
<td>7/1</td>
<td>No</td>
</tr>
<tr>
<td>646T</td>
<td></td>
<td>Tributary</td>
<td>North Tragedy</td>
<td>6/14</td>
<td>No</td>
</tr>
</tbody>
</table>

Reach 7 - Upper Silver Fork AR and Silver Lake

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Subsite</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>705R</td>
<td></td>
<td>River</td>
<td>Silver Fork AR near Silver Fork Meadow</td>
<td>8/7</td>
<td>No</td>
</tr>
<tr>
<td>710M</td>
<td></td>
<td>Meadow</td>
<td>Silver Fork Meadow</td>
<td>6/18</td>
<td>No</td>
</tr>
<tr>
<td>711L</td>
<td></td>
<td>Lake</td>
<td>Oyster Lake</td>
<td>7/17</td>
<td>No</td>
</tr>
<tr>
<td>715R</td>
<td></td>
<td>River</td>
<td>Silver Fork AR at northern inlet to Silver Lake</td>
<td>7/25</td>
<td>No</td>
</tr>
<tr>
<td>716L</td>
<td>a, b, c, d</td>
<td>Snowmelt pond</td>
<td>Kayes</td>
<td>7/17</td>
<td>No</td>
</tr>
<tr>
<td>718L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>Quarry near Tragedy Springs Campground</td>
<td>8/29</td>
<td>No</td>
</tr>
<tr>
<td>719T</td>
<td>a</td>
<td>Tributary</td>
<td>Inlet to south side of Silver Lake</td>
<td>7/11</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Meadow</td>
<td></td>
<td>7/11</td>
<td>No</td>
</tr>
<tr>
<td>720T</td>
<td></td>
<td>Tributary</td>
<td>Oyster Creek</td>
<td>7/18</td>
<td>No</td>
</tr>
<tr>
<td>721L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>No</td>
</tr>
<tr>
<td>722L</td>
<td>a, b, c, d, e</td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>6/19, 7/3, 7/9</td>
<td>Yes</td>
</tr>
<tr>
<td>724L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>No</td>
</tr>
<tr>
<td>725L</td>
<td>a, b, c, d, e, f, g</td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/11, 7/12</td>
<td>No</td>
</tr>
<tr>
<td>726L</td>
<td>2</td>
<td>Snowmelt ponds</td>
<td>East of Silver Lake</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>728L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/10</td>
<td>No</td>
</tr>
<tr>
<td>729L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/9</td>
<td>No</td>
</tr>
<tr>
<td>730L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>Yes</td>
</tr>
<tr>
<td>750LP</td>
<td>a</td>
<td>Lake</td>
<td>Silver Lake</td>
<td>7/9, 7/10</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Island</td>
<td>Treasure Island</td>
<td>7/25</td>
<td>No</td>
</tr>
<tr>
<td>751IT</td>
<td></td>
<td>Tributary</td>
<td>Southern inlet to Silver Lake</td>
<td>7/11</td>
<td>Yes</td>
</tr>
<tr>
<td>752IT</td>
<td></td>
<td>Tributary</td>
<td>Eastern inlet to Silver Lake</td>
<td>7/10</td>
<td>Yes</td>
</tr>
<tr>
<td>753IT</td>
<td></td>
<td>Tributary</td>
<td>Eastern inlet to Silver Lake</td>
<td>7/10</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Reach 8 - Caples Creek and Caples Lake

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Subsite</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>805M</td>
<td></td>
<td>Meadow</td>
<td>Jack Schneider Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td>810L/S</td>
<td>a</td>
<td>Seasonal pond</td>
<td>South of Government Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Spring</td>
<td></td>
<td>6/20</td>
<td>No</td>
</tr>
<tr>
<td>815M</td>
<td></td>
<td>Meadow</td>
<td>Government Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td>820M</td>
<td></td>
<td>Meadow</td>
<td>Convict Meadow</td>
<td>7/16</td>
<td>No</td>
</tr>
<tr>
<td>821T</td>
<td></td>
<td>Tributary</td>
<td>Tributary of Caples Creek near Convict Meadow</td>
<td>7/22</td>
<td>No</td>
</tr>
<tr>
<td>822R</td>
<td></td>
<td>Tributary</td>
<td>Caples Creek</td>
<td>7/16</td>
<td>No</td>
</tr>
<tr>
<td>825R</td>
<td></td>
<td>Tributary</td>
<td>Caples Creek</td>
<td>7/16</td>
<td>No</td>
</tr>
<tr>
<td>830L</td>
<td></td>
<td>Snowmelt pond</td>
<td>Unnamed lake</td>
<td>7/18</td>
<td>No</td>
</tr>
</tbody>
</table>
Table 4 Summary of Mountain Yellow-legged Frog Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Subsite</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td>831L</td>
<td></td>
<td>Snowmelt pond</td>
<td>Unnamed lake</td>
<td>7/18</td>
<td>No</td>
</tr>
<tr>
<td>870R/M</td>
<td>a</td>
<td>Tributary</td>
<td>At confluence of Caples</td>
<td>7/3</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Meadow</td>
<td>spillway and Caples Creek</td>
<td>7/3</td>
<td>No</td>
</tr>
<tr>
<td>875SC</td>
<td></td>
<td>Spillway channel</td>
<td>Caples Spillway</td>
<td>7/3</td>
<td>No</td>
</tr>
<tr>
<td>876L</td>
<td></td>
<td>Snowmelt pond</td>
<td>At Kirkwood Resort</td>
<td>7/24</td>
<td>No</td>
</tr>
<tr>
<td>877L</td>
<td></td>
<td>Lake</td>
<td>Lake Kirkwood</td>
<td>6/13</td>
<td>No</td>
</tr>
<tr>
<td>878L</td>
<td></td>
<td>Dry Basin</td>
<td>Unnamed lake</td>
<td>6/4</td>
<td>No</td>
</tr>
<tr>
<td>880R</td>
<td></td>
<td>Tributary</td>
<td>At Caples Lake Gaging Station</td>
<td>7/3</td>
<td>No</td>
</tr>
<tr>
<td>885L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>At Hwy 88 Lookout Point</td>
<td>6/4, 6/13</td>
<td>No</td>
</tr>
<tr>
<td>890M</td>
<td></td>
<td>Meadow</td>
<td>Martin Meadow</td>
<td>7/17</td>
<td>No</td>
</tr>
<tr>
<td>895LP</td>
<td></td>
<td>Lake</td>
<td>Caples Lake</td>
<td>7/23</td>
<td>No</td>
</tr>
<tr>
<td>896IT</td>
<td></td>
<td>Tributary</td>
<td>Woods Creek</td>
<td>7/24, 7/25</td>
<td>No</td>
</tr>
<tr>
<td>897IT/L</td>
<td>a</td>
<td>Lake</td>
<td>Emigrant Lake</td>
<td>7/19</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Tributary</td>
<td>Emigrant Creek</td>
<td>7/26</td>
<td>Yes</td>
</tr>
<tr>
<td>898L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Emigrant Creek</td>
<td>7/24</td>
<td>No</td>
</tr>
<tr>
<td>899L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>East of Emigrant Creek</td>
<td>7/24</td>
<td>Yes</td>
</tr>
</tbody>
</table>

5.1.4 Yosemite Toad

The YT is not known to occur within the study area. The nearest confirmed occurrences of the species are those of individuals thought to be hybrids between YT and western toad. These individuals were documented approximately 9.6 km (6 mi) southeast of the study area in the Mokelumne drainage, at Lower Blue Lake, Meadow Lake, and Twin Lake. YT have also been documented at Ebbetts pass, which is located approximately 27.2 km (17 mi) southeast of the study area.

Portions of the study area may be near the zone of YT and western toad hybridization. Thus, 2002 field efforts included focused surveys for toads in appropriate habitats within Reaches 7 and 8, in case toads in this region are later determined to be YT hybrids. Sites selected for YT surveys consisted of meadows and seasonal ponds above 1,830 m (6,000 ft), and within 2.0 km (1.24 mi) of Project-affected waters. We initially identified 24 sites to survey during the 2002 field season. Nine of these sites were further divided into 29 sub-sites based upon discrete aquatic habitat units, such as snowmelt ponds. Table 5 provides the habitat type, general location, and survey date(s) for each of the
selected YT survey sites. Maps depicting selected survey sites are provided in Appendix A.

Table 5 Summary of Yosemite Toad Survey Sites

<table>
<thead>
<tr>
<th>Site No.</th>
<th>Subsite</th>
<th>Habitat Type</th>
<th>Location</th>
<th>Survey Date(s)</th>
<th>Sightings?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reach 7 - Upper Silver Fork AR and Silver Lake</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>710M</td>
<td></td>
<td>Meadow</td>
<td>Silver Fork Meadow</td>
<td>6/18</td>
<td>No</td>
</tr>
<tr>
<td>716L</td>
<td>a, b, c, d</td>
<td>Snowmelt pond</td>
<td>Kayes</td>
<td>7/17</td>
<td>No</td>
</tr>
<tr>
<td>718L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>Quarry near Tragedy Springs Campground</td>
<td>8/29</td>
<td>No</td>
</tr>
<tr>
<td>719T</td>
<td>b</td>
<td>Meadow</td>
<td>Inlet to south side of Silver Lake</td>
<td>7/11</td>
<td>No</td>
</tr>
<tr>
<td>721L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>No</td>
</tr>
<tr>
<td>722L</td>
<td>a, b, c, d, e</td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>6/19, 7/3, 7/9</td>
<td>No</td>
</tr>
<tr>
<td>724L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>No</td>
</tr>
<tr>
<td>725L</td>
<td>a, b, c, d, e, f, g</td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/11, 7/12</td>
<td>No</td>
</tr>
<tr>
<td>726L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>728L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/10</td>
<td>No</td>
</tr>
<tr>
<td>729L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/9</td>
<td>No</td>
</tr>
<tr>
<td>730L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Silver Lake</td>
<td>7/12</td>
<td>No</td>
</tr>
<tr>
<td><strong>Reach 8 - Caples Creek and Caples Lake</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>805M</td>
<td></td>
<td>Meadow</td>
<td>Jack Schneider Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td>810L/S</td>
<td>a</td>
<td>Seasonal pond</td>
<td>South of Government Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>Spring</td>
<td>South of Government Meadow</td>
<td>6/20</td>
<td>No</td>
</tr>
<tr>
<td>815M</td>
<td></td>
<td>Meadow</td>
<td>Government Meadow</td>
<td>6/11</td>
<td>No</td>
</tr>
<tr>
<td>820M</td>
<td></td>
<td>Meadow</td>
<td>Convict Meadow</td>
<td>7/16</td>
<td>No</td>
</tr>
<tr>
<td>830L</td>
<td></td>
<td>Snowmelt pond</td>
<td>Unnamed lake</td>
<td>7/18</td>
<td>No</td>
</tr>
<tr>
<td>831L</td>
<td></td>
<td>Snowmelt pond</td>
<td>Unnamed lake</td>
<td>7/18</td>
<td>No</td>
</tr>
<tr>
<td>870R/M</td>
<td>b</td>
<td>Meadow</td>
<td>At confluence of Caples spillway and Caples Creek</td>
<td>7/3</td>
<td>No</td>
</tr>
<tr>
<td>876L</td>
<td></td>
<td>Snowmelt pond</td>
<td>At Kirkwood Resort</td>
<td>7/24</td>
<td>No</td>
</tr>
<tr>
<td>885L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>At Hwy 88 Lookout Point</td>
<td>6/4, 6/13</td>
<td>No</td>
</tr>
<tr>
<td>890M</td>
<td></td>
<td>Meadow</td>
<td>Martin meadow</td>
<td>7/17</td>
<td>No</td>
</tr>
<tr>
<td>898L</td>
<td></td>
<td>Snowmelt pond</td>
<td>East of Emigrant Creek</td>
<td>7/24</td>
<td>No</td>
</tr>
<tr>
<td>899L</td>
<td>a, b, c</td>
<td>Snowmelt pond</td>
<td>East of Emigrant Creek</td>
<td>7/24</td>
<td>No</td>
</tr>
</tbody>
</table>
5.2 Visual Encounter Surveys

5.2.1 California Red-legged Frog

In areas deemed to be potential CRLF breeding habitat, four surveys were conducted (including two diurnal and two nocturnal surveys) in accordance with U. S. Fish and Wildlife Guidance on Site Assessment and Field Surveys for California Red-legged Frogs (dated February 18, 1997) (USFWS 1997). Due to the limited availability of suitable habitat within the study area and restricted access (private property), protocol-level surveys were conducted at only one site, the EID Forebay (Site 140F). Representative site photos are provided as Plate 1. No CRLFs were observed during the four surveys conducted at this site. A number of factors, including the presence of bullfrogs and predatory non-native fish (centrarchid and salmonid), relatively high recreational impacts, and a general lack of structural diversity, reduce the suitability of this site for CRLF.

5.2.2 Foothill Yellow-legged Frog

Of the 29 sites surveyed during 2002, we documented the presence of FYLF at 11 locations (Table 6). Seven locations were river sites from reach 1 and 2 of the SFAR (105R, 106R, 110R, 120R, 130R, 220R). Three locations were tributary sites: Silver Creek (115T), Soldier Creek (125T), and Ogilby Creek (210DT). The final location was an incidental sighting on Grays Canyon tributary, which was not an official survey site. Breeding activity was confirmed by the presence of egg masses and/or tadpoles at four of the 11 sites: two river sites (105R, 106R) and two tributary sites (115T - Silver Creek, 125T - Soldier Creek). Furthermore, breeding activity likely occurred at two additional river sites (106R, 213R), as suggested by the presence of small, recently metamorphosed juveniles. Representative site photos of various FYLF life stages and the habitats where they were observed are provided as Plates 2 through 4. Copies of the VES data forms are provided as Appendix C.
Site 140F, EID Forebay in Pollock Pines, 5/15/02.

Site 140F, EID Forebay in Pollock Pines, 5/15/02.

PLATE 1. Site Photos of Potential California Red-legged Frog Habitats
Table 6 Summary of 2002 Foothill Yellow-legged Frog Visual Encounter Survey Results

<table>
<thead>
<tr>
<th>Reach</th>
<th>Site/Location</th>
<th>Survey Date</th>
<th>Lifestage/sex</th>
<th>Length (mm)</th>
<th>Activity</th>
<th>Microhabitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>105R – SFAR Akin Powerhouse, Pollock Pines</td>
<td>June 27</td>
<td>Adult female</td>
<td>47</td>
<td>Sitting in shade</td>
<td>Edgewater area with boulder substrate on left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Edgewater area with boulder substrate on left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>52</td>
<td>Sitting in shade</td>
<td>Edgewater area with boulder substrate on left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>50</td>
<td>Hiding</td>
<td>Connected side pool with boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>41</td>
<td>Basking</td>
<td>Exposed sandbar on right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Edgewater area on right bank with gravel/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>~100 Tadpoles</td>
<td>11</td>
<td>--</td>
<td>Connected side pool with boulder substrate along right bank.</td>
</tr>
<tr>
<td>1</td>
<td>105R – SFAR Akin Powerhouse, Pollock Pines</td>
<td>Oct 28</td>
<td>Adult female</td>
<td>50</td>
<td>Basking</td>
<td>Isolated side pool with silt, sand, and boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>45</td>
<td>Basking</td>
<td>Isolated side pool with silt, sand, and boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Isolated side pool with silt, sand, and boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>22</td>
<td>Basking</td>
<td>Connected side pool with boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>55</td>
<td>Basking</td>
<td>Boulder/sedge margin along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>61</td>
<td>Basking</td>
<td>Isolated side pool with cobble substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>56</td>
<td>Floating</td>
<td>Connected side pool with sand and boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Connected side pool with sand, cobble, and boulder substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Backwater pool with sand, boulder, and woody debris substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Hiding</td>
<td>Isolated side pool with sand substrate along right bank.</td>
</tr>
<tr>
<td>Reach</td>
<td>Site/Location</td>
<td>Survey Date</td>
<td>Lifestage/sex</td>
<td>Length (mm)</td>
<td>Activity</td>
<td>Microhabitat</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>105R - SFAR&lt;br&gt;Akin Powerhouse, Pollock Pines</td>
<td>Oct 28</td>
<td>Juvenile</td>
<td>33</td>
<td>Basking</td>
<td>Backwater pool with cobble substrate along left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>60</td>
<td>Basking</td>
<td>Backwater pool with sand substrate along left bank.</td>
</tr>
<tr>
<td>1</td>
<td>106R - SFAR&lt;br&gt;~0.5 km upstream of Akin Powerhouse, Pollock Pines</td>
<td>Oct 30</td>
<td>Juvenile</td>
<td>25</td>
<td>Sitting in shade</td>
<td>Edgewater area with sandy bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>62</td>
<td>Basking</td>
<td>Connected side pool with boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Main channel cascade/run with bedrock substrate along bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>56</td>
<td>Sitting in shade</td>
<td>Edgewater area with gravel/cobble substrate</td>
</tr>
<tr>
<td>1</td>
<td>110R - SFAR&lt;br&gt;~0.75 miles upstream of Akin Powerhouse, Pollock Pines</td>
<td>Aug 8</td>
<td>Juvenile</td>
<td>Unk</td>
<td>Underwater</td>
<td>Connected side pool with a silt covered bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Exposed bank with a bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Connected side pool with an embedded boulder substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Connected side pool with an embedded boulder substrate.</td>
</tr>
<tr>
<td>1</td>
<td>115T - Silver Creek&lt;br&gt; SFAR tributary, Pollock Pines</td>
<td>Aug 8</td>
<td>Juvenile</td>
<td>~20</td>
<td>Basking</td>
<td>Side channel along right bank with a silt covered bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>54</td>
<td>Sitting in shade</td>
<td>Protected section of gravel bank beneath a boulder outcrop along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>50</td>
<td>Basking</td>
<td>Exposed cobble substrate along left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 Tadpoles</td>
<td>50</td>
<td>--</td>
<td>Connected side pool with embedded boulder substrate along right bank.</td>
</tr>
<tr>
<td>1</td>
<td>115T - Silver Creek&lt;br&gt; SFAR tributary, Pollock Pines</td>
<td>Aug 8</td>
<td>1 Tadpole</td>
<td>50</td>
<td>--</td>
<td>Connected side pool with embedded boulder substrate along left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Tadpoles</td>
<td>55</td>
<td>--</td>
<td>Connected side pool with embedded boulder substrate along left bank.</td>
</tr>
<tr>
<td>Reach</td>
<td>Site/Location</td>
<td>Survey Date</td>
<td>Lifestage/sex</td>
<td>Length (mm)</td>
<td>Activity</td>
<td>Microhabitat</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>120R - SFAR</td>
<td>Aug 8</td>
<td>Adult female</td>
<td>41</td>
<td>Basking</td>
<td>Connected side pool with silt/mud substrate on left bank</td>
</tr>
<tr>
<td></td>
<td>~ 0.65 miles upstream of Silver Creek, at confluence with unnamed tributary, Pollock Pines</td>
<td></td>
<td>Adult female</td>
<td>55</td>
<td>Basking</td>
<td>Connected side pool with silt/mud substrate on left bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>37</td>
<td>Basking</td>
<td>Connected side pool with silt/mud substrate on left bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>39</td>
<td>Sitting in shade</td>
<td>Isolated side pool with cobble substrate along right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>55</td>
<td>Sitting in shade</td>
<td>Connected side pool with cobble substrate on right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>36</td>
<td>Sitting in shade</td>
<td>Connected side pool with cobble substrate on right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>39</td>
<td>Sitting in shade</td>
<td>Isolated side pool with cobble substrate along right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>41</td>
<td>Basking</td>
<td>Connected side pool with cobble/boulder substrate along right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>39</td>
<td>Basking</td>
<td>Connected side pool with cobble/boulder substrate on right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>33</td>
<td>Basking</td>
<td>Connected side pool with cobble/boulder substrate on right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 Unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Boulder substrate along right bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Boulder substrate along left bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>41</td>
<td>Basking</td>
<td>Moderate gradient bedrock/boulder cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>54</td>
<td>Basking</td>
<td>Moderate gradient bedrock/boulder cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Boulder/sedge margin adjacent to mainchannel pool.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Boulder/sedge margin adjacent to mainchannel pool.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12 Tadpoles</td>
<td>Unk</td>
<td>--</td>
<td>Isolated side pool along left bank of American River (approximately 20 m from tributary confluence).</td>
</tr>
<tr>
<td>Reach</td>
<td>Site/Location</td>
<td>Survey Date</td>
<td>Lifestage/sexa</td>
<td>Length (mm)b</td>
<td>Activity</td>
<td>Microhabitat</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>-------------</td>
<td>----------------</td>
<td>--------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>130R – SFAR At the Grays Canyon confluence, Pollock Pines</td>
<td>Aug 30</td>
<td>Adult male</td>
<td>45</td>
<td>Sitting in shade</td>
<td>Small pool within a high gradient boulder cascade in Grays Canyon.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult unknown sex</td>
<td>~70</td>
<td>Basking</td>
<td>Side channel run with boulder substrate on left bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Tadpoles</td>
<td>Unk</td>
<td>--</td>
<td>Isolated side pool with boulder and silt substrate along left bank.</td>
</tr>
<tr>
<td>2</td>
<td>210DT - Ogilby Canyon Diverted SFAR tributary</td>
<td>May 29 Aug 14 and 16</td>
<td>Adult female</td>
<td>81</td>
<td>Sitting in shade</td>
<td>Riffle with cobble/boulder substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>74</td>
<td>Sitting in shade</td>
<td>Observed on moist cement approximately 1.5 m inside culvert.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Plunge pool in association with a small boulder cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>26</td>
<td>Swimming</td>
<td>Isolated side pool with sand/cobble/boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>25</td>
<td>Floating</td>
<td>Isolated side pool with sand/cobble/boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>23</td>
<td>Floating</td>
<td>Isolated side pool with sand/cobble/boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Floating</td>
<td>Isolated side pool with sand/cobble/boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Swimming</td>
<td>Isolated side pool with sand/cobble/boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>24</td>
<td>Swimming</td>
<td>Connected side pool with sand substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>26</td>
<td>Swimming</td>
<td>Connected side pool with sand substrate</td>
</tr>
<tr>
<td>2</td>
<td>213R – SFAR ~0.5 km upstream of the confluence with Ogilby Canyon tributary</td>
<td>Oct 30</td>
<td>Juvenile</td>
<td>47</td>
<td>Sitting in shade</td>
<td>Connected side pool with silt/mud substrate along right bank.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Edgewater area with sand substrate along left bank.</td>
</tr>
</tbody>
</table>

a ‘Unknown’ refers to frogs positively identified to species but not captured, life stage and/or sex not determined.

b Adult and juvenile length measured from snout to vent. Tadpole length measured from snout to end of tail. Unk = unknown length.
PLATE 3. Site Photos of Foothill Yellow-legged Frog Occupied Habitats

Site 106R, SFAR, connected side pool habitat, 10/30/02.

Site 213R, SFAR, connected side pool habitat, 10/31/02.

Site 105R, SFAR, sand bar habitat, 6/27/02.
The majority of the FYLF sightings during our 2002 surveys were previously undocumented with the exception of site 105R (SFAR - at the El Dorado Powerhouse). Historical sightings on Soldier Creek (125T) were located about 3.7 km (2.3 mi) upstream of the confluence, which is outside of the study area. We documented FYLF on Soldier Creek within a half-mile of the confluence.

Of the sites where FYLF activity was observed, three were supplemental sites (105R, 106R, 213R) that were surveyed after the summer season, at the end of October. Weather conditions were relatively mild during these surveys, but air and water temperatures declined during subsequent surveys. Thus, negative survey results for river sites 126R, 136R, and 207R cannot be interpreted as evidence that FYLF do not occupy these locations. Frogs will often become inactive or move to hibernacula at the onset of colder temperatures.

5.2.3 Mountain Yellow-legged Frog

Of the 68 sites surveyed during 2002, we documented the presence of MYLF at 13 locations, which consisted of 10 sites and three subsites within one site (Table 7). Although we did not observe eggmasses or first-year tadpoles that would signify breeding activity for the 2002 season, we did encounter what were considered likely second-year tadpoles with developed rear legs. Thus, breeding occurred during 2001 or earlier at three sites consisting of a tributary (620T - Middle Creek), a snowmelt pond (440IT/L-c), and a recently isolated side pool of Lake Aloha (550LP). In addition, a recently metamorphosed frog was observed at an inlet tributary to Lake Aloha. Juvenile and adult frogs were observed at Silver Lake (750LP), three inlet tributaries to Silver Lake (751IT, 752IT, and 753IT), Emigrant Creek (897IT), and several snowmelt ponds east of Silver Lake (722L[a,d,e], 730L) and Caples Lake (899L). Representative photos of MYLF life stages and the habitats where they were observed are provided as Plates 5 and 6. Copies of the VES data forms are provided as Appendix C.
<table>
<thead>
<tr>
<th>Reach</th>
<th>Site/Location</th>
<th>Survey Date</th>
<th>Lifestage/sex</th>
<th>Length (mm)</th>
<th>Activity</th>
<th>Microhabitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4401T – Pond C</td>
<td>July 30</td>
<td>1 Tadpole (rear legs, front nubs)</td>
<td>77</td>
<td>--</td>
<td>Snowmelt pond with silt/mud substrate and scattered boulders.</td>
</tr>
<tr>
<td></td>
<td>Snowmelt pond adjacent to unnamed inlet tributary to Upper Echo Lake</td>
<td></td>
<td>1 Tadpole (rear legs)</td>
<td>50</td>
<td>--</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11 Tadpoles (rear legs)</td>
<td>45</td>
<td>--</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>49</td>
<td>Sitting</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>57</td>
<td>Sitting</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>58</td>
<td>Sitting</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>61</td>
<td>Sitting</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sept 11</td>
<td>Juvenile</td>
<td>37</td>
<td>Basking</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>Unk</td>
<td>Basking</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Shallow, isolated pool with silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>38</td>
<td>Basking</td>
<td>Low-gradient bank of lake with cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>45</td>
<td>Basking</td>
<td>Main channel pool of inlet tributary with gravel/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>35</td>
<td>Basking</td>
<td>Main channel pool of inlet tributary with gravel/cobble substrate.</td>
</tr>
<tr>
<td>5</td>
<td>550LP - Lake Aloha (Medley Lakes)</td>
<td>Sept 10</td>
<td>Adult female</td>
<td>74</td>
<td>Basking</td>
<td>Isolated pool with boulder and silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td>Incidental Sightings</td>
<td></td>
<td>2 Unknown</td>
<td>Unk</td>
<td>Basking</td>
<td>Isolated pool with boulder and silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Tadpole</td>
<td>Unk</td>
<td>--</td>
<td>Isolated pool with boulder and silt/mud substrate adjacent to main lake</td>
</tr>
<tr>
<td>Reach</td>
<td>Site/Location</td>
<td>Survey Date</td>
<td>Lifestage/sex</td>
<td>Length (mm)</td>
<td>Activity</td>
<td>Microhabitat</td>
</tr>
<tr>
<td>-------</td>
<td>---------------</td>
<td>-------------</td>
<td>----------------</td>
<td>-------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>6</td>
<td>620T - Middle Creek Silver fork American River tributary</td>
<td>June 7</td>
<td>Adult male</td>
<td>63</td>
<td>Basking</td>
<td>Low gradient riffle of step-pool with boulder substrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>72</td>
<td>Basking</td>
<td>Exposed bank adjacent to low-gradient riffle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>68</td>
<td>Basking</td>
<td>On boulder within a plunge pool at the base of a small cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>82</td>
<td>Sitting in shade</td>
<td>On boulder within a plunge pool at the base of a small cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>46</td>
<td>Basking</td>
<td>On boulder within a plunge pool at the base of a small cascade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>48</td>
<td>Basking</td>
<td>Low gradient riffle with boulder/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>60</td>
<td>Basking</td>
<td>Low gradient riffle with boulder/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>55</td>
<td>Basking</td>
<td>Low gradient riffle with boulder/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>82</td>
<td>Basking</td>
<td>Low gradient riffle with boulder/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>49</td>
<td>Basking</td>
<td>Low gradient riffle with boulder/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 Tadpoles (rear legs)</td>
<td>44</td>
<td>--</td>
<td>Main channel pool with silt/gravel substrate.</td>
</tr>
<tr>
<td>7</td>
<td>722L - Pond A Ephemeral snowmelt pond located ~ 0.8 km from southeast edge of Silver Lake</td>
<td>June 7</td>
<td>Juvenile</td>
<td>45</td>
<td>Basking</td>
<td>Small ephemeral snowmelt pool with silt/mud and small woody debris substrate.</td>
</tr>
<tr>
<td>7</td>
<td>722L - Pond D Ephemeral snowmelt pond located ~ 0.8 km from southeast edge of Silver Lake</td>
<td>June 7</td>
<td>Adult male</td>
<td>70</td>
<td>Basking</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>80</td>
<td>Basking</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>75</td>
<td>Basking</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td>7</td>
<td>722L - Pond E Ephemeral snowmelt pond located ~ 0.8 km from southeast edge of Silver Lake</td>
<td>June 7</td>
<td>Adult male</td>
<td>70</td>
<td>Swimming</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td>Reach</td>
<td>Site/Location</td>
<td>Survey Date</td>
<td>Lifestage/sex&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Length (mm)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Activity</td>
<td>Microhabitat</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>-------------</td>
<td>---------------------------</td>
<td>------------------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>7</td>
<td>730L</td>
<td>July 12</td>
<td>Adult male</td>
<td>58</td>
<td>Basking</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td></td>
<td>Ephemeral snowmelt pond adjacent to Granite Lake (~0.7 km from southeast edge of Silver Lake)</td>
<td></td>
<td>Adult female</td>
<td>90</td>
<td>Sitting in shade</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
<td>Unk</td>
<td>Sitting in shade</td>
<td>Small ephemeral snowmelt pool with silt/mud and woody debris substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>33</td>
<td>Basing</td>
<td>Lake perimeter with low gradient shoreline and aquatic vegetation and boulder/bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>33</td>
<td>Basing</td>
<td>Lake perimeter with low gradient shoreline and aquatic vegetation and boulder/bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>35</td>
<td>Basing</td>
<td>Low gradient shoreline with boulder/bedrock substrate and aquatic vegetation.</td>
</tr>
<tr>
<td>7</td>
<td>750LP - Silver Lake</td>
<td>July 9</td>
<td>Adult male</td>
<td>60</td>
<td>Sitting in shade</td>
<td>Incised bank above a pool formed by woody debris.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>29</td>
<td>Basing</td>
<td>Incised bank above a pool formed by woody debris.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>40</td>
<td>Sitting in shade</td>
<td>Main channel pool with silt/mud substrate and woody debris.</td>
</tr>
<tr>
<td>7</td>
<td>751IT</td>
<td>July 11</td>
<td>Adult male</td>
<td>52</td>
<td>Basking</td>
<td>Small cascade with algae-covered bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td>Unnamed inlet tributary to southern section of Silver Lake</td>
<td></td>
<td>Adult male</td>
<td>73</td>
<td>Basking</td>
<td>Main channel pool with downed log and cobble/gravel substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Juvenile</td>
<td>40</td>
<td>Sitting in shade</td>
<td>Main channel pool with gravel/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult female</td>
<td>70</td>
<td>Basking</td>
<td>Gravel and boulder bank adjacent to run.</td>
</tr>
<tr>
<td>7</td>
<td>752IT</td>
<td>July 10</td>
<td>Adult male</td>
<td>63</td>
<td>Sitting in shade</td>
<td>Main channel pool with gravel/cobble substrate.</td>
</tr>
<tr>
<td></td>
<td>Unnamed inlet tributary to Silver Lake from Western Meadow Lake</td>
<td></td>
<td>Adult female</td>
<td>85</td>
<td>Sitting in shade</td>
<td>Low gradient riffle with boulder/cobble/gravel substrate.</td>
</tr>
<tr>
<td>7</td>
<td>753IT</td>
<td>July 10</td>
<td>Juvenile</td>
<td>40</td>
<td>Basing</td>
<td>Plunge pool with bedrock substrate.</td>
</tr>
<tr>
<td></td>
<td>Unnamed inlet tributary to Silver Lake from Thunder Mountain</td>
<td></td>
<td>Adult male</td>
<td>55</td>
<td>Basing</td>
<td>Cascade with bedrock substrate.</td>
</tr>
<tr>
<td>8</td>
<td>897IT - Emigrant Creek Inlet to southern section of Caples Lake</td>
<td>July 26</td>
<td>Juvenile</td>
<td>40</td>
<td>Sitting in shade</td>
<td>Shallow run with sand/silt substrate and margin vegetation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult male</td>
<td>72</td>
<td>Basing</td>
<td>Main channel pool with boulder/cobble/sand substrate.</td>
</tr>
</tbody>
</table>
Table 7  Summary of 2002 Mountain Yellow-legged Frog Visual Encounter Survey Results

<table>
<thead>
<tr>
<th>Reach</th>
<th>Site/Location</th>
<th>Survey Date</th>
<th>Lifestage/sex$^a$</th>
<th>Length (mm)$^b$</th>
<th>Activity</th>
<th>Microhabitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>899L - Pond C</td>
<td>July 24</td>
<td>Juvenile</td>
<td>34</td>
<td>Basking</td>
<td>Snowmelt pond with silt/mud substrate and scattered boulder.</td>
</tr>
</tbody>
</table>

$^a$ Unknown refers to frogs positively identified to species but not captured, life stage and/or sex not determined.

$^b$ Adult and juvenile length measured from snout to vent. Tadpole length measured from snout to end of tail. Unk = unknown length.
Site 752IT: Unnamed Inlet tributary to Silver Lake, 7/10/02.

Site 620T: Middle Creek, perennial tributary to SFAR, 6/07/02.

Site 599UP: Unnamed Inlet tributary to Lake Alpha, 9/11/02.

Site 722Ld: Snowmelt pond located east of Silver Lake, 7/03/02.

PLATE 6. Site Photos of Mountain Yellow-legged Frog Occupied Habitats
Many of the MYLF observations documented during our surveys were original sightings; however, they were near locations of previously documented sightings. For example, we found frogs at a snowmelt pond within a half-mile of Tamarack Lake, which is a known MYLF site. In addition, MYLF activity is well documented in the various small lakes of the Lake Aloha area, such as American Lake and Waca Lake, among others. However, we recorded previously undocumented frogs along the perimeter of Lake Aloha proper, as well as tadpoles in adjacent ponds. Finally, MYLF have formerly been found in several places in the vicinity of Silver Lake. Accordingly, we encountered MYLFs at several snowmelt ponds and tributaries in the area. In addition, previously undocumented sightings were made of frogs inhabiting the perimeter of Silver Lake itself.

5.2.4 Yosemite Toad

No Yosemite toads or western toads were observed during the 2002 field season. Representative site photos are provided as Plate 7.

5.2.5 Non-target Species

Incidental sightings of non-target species were recorded during each survey visit. Of special interest was the presence of garter snakes (*Thamnophis* spp.), predatory fish species, bullfrogs, and all other amphibian and reptile species.

Garter snakes at high elevations are known to be dependent on native amphibian species as a prey base, and secondary declines have been observed among garter snakes in the Sierra Nevada as native ranid frogs disappear (Jennings et al. 1992, Matthews et al. 2000). The introductions of non-native predatory fish and bullfrogs have been implicated in the declines of CRLF, FYLF, and MYLF and CRLF and FYLF, respectively.
Site 710M, Silver Fork Meadow, 6/18/02.

Site 815M, Government Meadow, 6/11/02.

Site 805M, Jack Schneider Meadow, 6/11/02.

Site 870R/M, Meadow at Caples spillway and Caples Creek confluence, 7/03/02.

PLATE 7. Site Photos of Potential Yosemite Toad Habitats
Each of the three garter snakes common to the western Sierra Nevada, mountain garter snake (Thamnophis elegans elegans), valley garter snake (T. sirtalis fitchi), and Sierra garter snake (T. couchii couchii), were observed on multiple occasions during the 2002 field season. Trout were observed at 51 sites/sub-sites encompassing all eight reaches of the study area. Bullfrogs and sunfish were observed at only one site, the EID Forebay (Site 140F), during the 2002 survey efforts. Other amphibians documented within the study area were Pacific treefrog, long-toed salamander, Sierra Newt, and Sierra Nevada salamander. Reptiles encountered during the surveys included, but were not limited to, southern alligator lizard (Gerrhonotus coeruleus palmeri), sagebrush lizard (Sceloporus graciosus), western fence lizard (Sceloporus occidentalis), sharp-tailed snake (Contia tenuis), and rubber boa (Charina bottae).

A complete list of wildlife species observed during the 2002 amphibian surveys can be found in Appendix D. Information regarding the occurrence of predatory fish and aquatic amphibians and reptiles at each site is provided in Appendix E.

5.3 Site Habitat Assessments

Following the visual encounter survey for each site and subsite, a site habitat assessment was conducted. If the site or subsite had areas that differed significantly from each other in terms of the type or abundance of habitat elements, it was divided into units and each was described separately. A common example is when the habitat of a tributary changed during the course of a long (2 km) survey from high gradient bedrock and boulder cascades to low gradient, meandering cobble stream.

A summary of each habitat assessment is provided as Appendix E. For display purposes, the table depicts a condensed version of the information provided in the data sheets. For data sheets were several areas were described but not officially divided into subsites, a weighted average of the abundance values was used in the table. Several sites contained sections that were not surveyed or were surveyed only crudely due to impenetrable vegetation or steep and dangerous terrain. These sections were not
6.0 REFERENCES


California Department of Fish and Game. 2001. Natural Diversity Data Base, Computer data base report.


Hayes, M. P., and M. R. Jennings. 1988. Habitat correlates of distribution of the
California red-legged frog (Rana aurora draytonii) and the foothill yellow-legged
frog (Rana boylii): Implications for management. Pp. 144-158 In R.C. Szaro,
K.E. Severson, and D.R. Patton (technical coordinators), Proceedings of the
symposium on the management of amphibians, reptiles, and small mammals in
North America. United States Department of Agriculture, Forest Service, General

Report to Congress 2, 921-944.

snake Thamnophis elegans on amphibians in the Sierra Nevada of California.

72 In: H.F. DeLisle, P. R. Brown, B. Kaufman, and B. M. McGurty editors,
Proceedings of the conference on California herpetology. Southwestern
Herpetologists Society, Special Publication #4.

Concern in California. Final report to California Department of Fish and Game,
Rancho Cordova, California. 255 pp.

Kagarise Sherman, C. 1980. A comparison of the natural history and mating system of
two anurans: Yosemite tads (Bufo canorus) and black toads (Bufo exsul). PhD
Dissertation, The University of Michigan, Ann Arbor, Michigan.

Natural History 93(3): 73-78.


Pacific Gas and Electric Company. 2001b. Results of preliminary surveys for foothill yellow-legged frogs and an evaluation of the effects of test flows on foothill yellow-legged frogs and associated habitat, along the North Fork Feather River within the Poe Project area. Poe Project FERC No. 2107, Application for New License, Volume 3 of 4, Appendix E3-6. 39 pages.


Speare, R., L. Berger, and H. Hines. 1998. How to reduce the risks of you transmitting an infectious agent between frogs and between sites. James Town University, Townsville, Australia. 9 pp. 


Van Wagner, T. J. 1996. Selected life-history and ecological aspects of a population of foothill yellow-legged frogs (*Rana boylii*) from Clear Creek, Nevada County, California. Master Thesis, Department of Biological Sciences, California State University, Chico. 143 pages.


LIST OF APPENDICES

Appendix A: Map of Amphibian Survey Sites and Results

Appendix B: EID Project 184 Map of Historic Occurrences of Sensitive Status Herpetofauna

Appendix C: VES Data Forms

Appendix D: Wildlife Species Observed During Amphibian Surveys

Appendix E: Site Habitat Assessment Results Matrix

Appendix F: Site Habitat Assessment Data Forms
APPENDIX A

Map of Amphibian Survey Sites and Results
APPENDIX B

EID Project 184 Map of Historic Occurrences of Sensitive Status Herpetofauna
VES Data Forms
# River Visual Encounter Survey Data Sheet

### Foothill Yellow-Legged Frog

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance (ft)</th>
<th>Sex (M/F)</th>
<th>Age (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity</th>
<th>Mainstream Habitat</th>
<th>Microhabitat Type</th>
<th>Substrate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rb</td>
<td>F</td>
<td>A</td>
<td>50</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>0706632 <strong>7/15/16/17</strong></td>
</tr>
<tr>
<td>2</td>
<td>Rb</td>
<td>M</td>
<td>J</td>
<td>45</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>0706731 <strong>7/15/16/17</strong></td>
</tr>
<tr>
<td>3</td>
<td>Rb</td>
<td>M</td>
<td>J</td>
<td>22</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>**</td>
</tr>
<tr>
<td>4</td>
<td>Rb</td>
<td>M</td>
<td>A</td>
<td>25</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>**</td>
</tr>
<tr>
<td>6</td>
<td>Rb</td>
<td>M</td>
<td>A</td>
<td>61</td>
<td>2</td>
<td>1, 2</td>
<td>1</td>
<td>4</td>
<td>0706640 <strong>7/15/16/17</strong></td>
</tr>
<tr>
<td>7</td>
<td>Rb</td>
<td>M</td>
<td>A</td>
<td>56</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>**</td>
</tr>
<tr>
<td>8</td>
<td>Rb</td>
<td>A</td>
<td>?</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>**</td>
</tr>
<tr>
<td>9</td>
<td>Rb</td>
<td>A</td>
<td>?</td>
<td>3</td>
<td>4</td>
<td>2, 5</td>
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<tr>
<td>10</td>
<td>Rb</td>
<td>A</td>
<td>?</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
</tbody>
</table>

1. Distance = distance from bottom of site/subsite to frogs
2. Age = J = Juvenile, A = Adult
3. Activity = (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. Mainstream Habitat = (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5. Microhabitat Type = (1) isolated side pool, (2) connected side pool, (3) spring pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other

---

**Fish Present**
- **Yes**
- **No**

**Type:** Salmonid, Centrarchid, Cyprinidae

**Herpetofauna & Lifestage:**
- Treefrog
- Bullfrog
- Western Pond Turtle
- Garter Snake

---

**Other Species Observed:**
- *T. couchi*}

**Comments:**
- **ARIA:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Bream:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Capsize:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Habitat:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Bream:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Habitat:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Bream:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Habitat:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Bream:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)
- **Habitat:** 7/15/16 (Pool 4A) & 7/15/17 (Pool 4B) (Pool 4A) (Pool 4B)

**QA/QC (initials):** ________ **Date:** ________
## Foothill Yellow-Legged Frog
### River Visual Encounter Survey Data Sheet
#### Juveniles and Adults

**Date:** mm/dd yy 02  
**Site #:** 105 A  
**Subsite #:**  
**Survey Method:** tandem separate  
**Start Time:** 1000  
**End Time:** 1400  
**River Name/Location:**  
**Start Air Temp:** 20  
**End Air Temp:** 19  
**Water Temp:** (edgewater)  
**Discharge:** cfs  
**Search Area Length:**  
**Search Area Width:**  
**Total Area Searched:** (m²):  
**Site Visit:** 1 2 3 4 5  
**Weather:** Sky: Overcast Partly Overcast Clear  
**Wind:** Inclement Fair Ideal  
**Past 24 hrs:** Sky: Overcast Partly Overcast Clear  
**Wind:** Inclement Fair Ideal  
**Photograph # (index to notebook):**  
**Roll #:**  

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex (M/F)</th>
<th>Age² (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>1B</td>
<td>J</td>
<td>33</td>
<td>2</td>
<td>1 2 3</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0706799 4296522 Fov ± 5 ± 3 m</td>
</tr>
<tr>
<td>12</td>
<td>1B</td>
<td>M</td>
<td>A</td>
<td>60</td>
<td>2</td>
<td>1 2 3</td>
<td>4</td>
<td>2</td>
<td>0706880 4296404 Acc ± 3 m</td>
</tr>
</tbody>
</table>

1. Distance – distance from bottom of site/subsite to frogs  
2. Age – J = Juvenile, A = Adult  
3. Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other  
4. Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other  
5. Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgetwater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other  
6. Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

### Fish Present  
- Yes  
- No  

**Type:** Salmonid Centrarchid Cyprinid Other:  

### Herpetofauna & Life Stage  
- (A J T E)  
- Treefrog  
- Bullfrog  
- Western Pond Turtle  
- Garter Snake  
- Other  

### Other Species Observed:  

**Comments:**  

**QA/QC (initials):**  
**Date:**
## Foothill Yellow-Legged Frog
### River Visual Encounter Survey Data Sheet
#### Tadpoles

**Date:** mm/dd/yy 06/27/02  **Site #:** 105R  **Subsite #:** RB  **River Name/Location:** EID Powerhouse  **Observers:** SH DB

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Temp: (edgewater) 8-21°C (main channel)</td>
<td>Discharge: cfs</td>
<td>Subsite Length:</td>
<td>Total Site Length:</td>
<td></td>
</tr>
<tr>
<td>Search Area Length:</td>
<td>Search Area Width:</td>
<td>Total Area Searched: (m²):</td>
<td>Site Visit: 1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>Photograph # (index to notebook):</td>
<td>Roll #:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group Letter¹</th>
<th>Distance² (m)</th>
<th>Approx. No. of Tadpoles³</th>
<th>Distance From Shore⁴</th>
<th>Velocity⁵ (cm/sec)</th>
<th>Tadpole Stage⁶</th>
<th>Avg. TL⁷ (mm)</th>
<th>Mainstream Habitat⁸</th>
<th>Microhabitat²</th>
<th>Substrate¹⁰</th>
<th>% Algae</th>
<th>% Detritus</th>
<th>Max. Water Depth¹¹ (cm)</th>
<th>Water Temp. (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 cm</td>
<td>20°C</td>
</tr>
</tbody>
</table>

1. **Group Letter** – if multiple groups at a site/subsite
2. **Distance** – distance from bottom of site/subsite
3. **No. of Tadpoles** – estimate the total number of tadpoles for the area, or estimate the number of tadpoles/m² based on random counts (m²) taken within the area that tadpoles are observed
4. **Distance From Shore** – for an aggregation of tadpoles, measure to the center of the group. If tadpoles are dispersed along the shoreline, record an average distance from the water's edge.
5. **Velocity** – measure where tadpoles are located
6. **Tadpole Stage** – (1) no legs, (2) rear legs, (3) rear legs and front nubs, (4) legs fully grown, but with tail, (5) mixed
7. **Avg. TL** – average total length of tadpoles
8. **Mainstream Habitat** – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
9. **Microhabitat Type** – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) other
10. **Substrate** – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris (9) aquatic vegetation
11. **Max. Water Depth** – Max. depth at tadpole location

---

**Fish Present** Yes No  **Type:** Salmonid Centrarchid Cyprinid Other:

**Herpetofauna & Lifestage (A J T E)** Treefrog Bullfrog Western Pond Turtle Garter Snake Other:

**Other Species Observed:**

**Comments:** 42906757 42906588

---

Tadpoles were within 1-2m of an eggmass - evidently they had very recently hatched out of the mass. No embryos could be seen within the eggs.

**QA/QC (initials):**  **Date:**
Foothill Yellow-Legged Frog
River Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: 06/07/22 Site #: 1058 Subsite #: 16/16 River Name/Location: FID Powerhouse Observers: SH, DB
Water Temp: (edgewater) 20°C (main channel) 21°C (pool) Discharge: ____ cfs Subsite Length: Total Site Length:
Search Area Length: Search Area Width: Total Area Searchned: (m²): Site Visit: 3 2 5
Photograph # (index to notebook): Roll #:

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex²</th>
<th>Age³</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>A</td>
<td>47</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td></td>
<td>Sore on thigh</td>
</tr>
<tr>
<td>1</td>
<td>M</td>
<td>A</td>
<td>52</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td></td>
<td>Searched for 25 min. Positive visual i.d. but not captured</td>
</tr>
<tr>
<td>1</td>
<td>M</td>
<td>A</td>
<td>50</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td></td>
<td>Im from eggs mass = 100 larva</td>
</tr>
<tr>
<td>1</td>
<td>UNK</td>
<td>UNK</td>
<td>47</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td></td>
<td>Couldn't capture after escape</td>
</tr>
</tbody>
</table>

¹ Distance – distance from bottom of site/subsite to frogs
² Age – J = Juvenile, A = Adult
³ Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) ampleus, (8) floating, (9) underwater, (10) other
⁴ Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
⁵ Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
⁶ Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pellet, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

Fish Present: Yes No
Type: Salmonid Centrarchid Cyprinid Other: Sucker, Minnow
Herpetofauna & Lifestage (A) T E Treefrog Bullfrog Western Pond Turtle Garter Snake 2 Other

Other Species Observed: utm (A) 10 S 07 06 794, 4296595 (B) 10 S 07 06 862, 4296551 (C) 10 S 07 06 623, 4296708
(© directly in front of powerhouse
10 S 07 06 357, 4296588

QA/QC (initials): Date:
### Foothill Yellow-Legged Frog

#### River Visual Encounter Survey Data Sheet

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Date:</th>
<th>April 02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site #:</td>
<td>06R</td>
</tr>
<tr>
<td>Subsite #:</td>
<td></td>
</tr>
<tr>
<td>River Name/Location:</td>
<td>SFAR upstream</td>
</tr>
<tr>
<td>Survey Method:</td>
<td>tandem</td>
</tr>
<tr>
<td>Start Time:</td>
<td>11:00</td>
</tr>
<tr>
<td>End Time:</td>
<td></td>
</tr>
<tr>
<td>Water Temp: (edgewater)</td>
<td>70°F</td>
</tr>
<tr>
<td>(main channel)</td>
<td>70°F</td>
</tr>
<tr>
<td>(pool)</td>
<td>70°F</td>
</tr>
<tr>
<td>Discharge:</td>
<td>cfs</td>
</tr>
<tr>
<td>Subsite Length:</td>
<td></td>
</tr>
<tr>
<td>Total Site Length:</td>
<td></td>
</tr>
<tr>
<td>Site Visit:</td>
<td>1 2 3 5</td>
</tr>
<tr>
<td>Weather:</td>
<td>Overcast Partly Overcast Clear</td>
</tr>
<tr>
<td>Wind:</td>
<td>Inclement Fair Ideal</td>
</tr>
<tr>
<td>Past 24 hrs:</td>
<td>Sky: Overcast Partly Overcast Clear</td>
</tr>
<tr>
<td>Photograph #</td>
<td>(index to notebook):</td>
</tr>
</tbody>
</table>

#### Number of Frogs

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹ (yd)</th>
<th>Sex (M/F)</th>
<th>Age² (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>105.02</td>
<td>UNK</td>
<td>J</td>
<td>25mm</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>Food, grad sand bank of bedrock steep</td>
</tr>
<tr>
<td>2</td>
<td>105.22</td>
<td>E</td>
<td>A</td>
<td>62mm</td>
<td>2</td>
<td>1 (partially dry)</td>
<td>2</td>
<td>5</td>
<td>Sandy willow patches emerging, sand</td>
</tr>
<tr>
<td>3</td>
<td>124.44</td>
<td>UNK</td>
<td>A</td>
<td>Not Captured</td>
<td>1</td>
<td>3 (partially dry)</td>
<td>1</td>
<td>6</td>
<td>From sand into 5m of small cove</td>
</tr>
<tr>
<td>4</td>
<td>124.68</td>
<td>E</td>
<td>A</td>
<td>56mm</td>
<td>1</td>
<td>3 (partially dry)</td>
<td>7 (10% sand)</td>
<td>3/4</td>
<td>(see back)</td>
</tr>
</tbody>
</table>

1. Distance = distance from bottom of site/subsite to frogs
2. Age = J = Juvenile, A = Adult
3. Activity = (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. Mainstream Habitat = (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5. Microhabitat Type = (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/edge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. Substrate = (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

**Fish Present**: Yes
**Type**: Salmonid, Centrarchid, Cyprinid, Other:

**Herpetofauna & Lifestage (A J T E)**
- Treefrog
- Bullfrog
- Western Pond Turtle
- Garter Snake
- Other:

Other Species Observed:

Comments:

QA/QC (initials): Date:
Traq = 4

(No comments)

Prove 3: Adding a slick lubricant in shaded areas improved but did not completely alleviate the sticking. Sun exposure caused the areas to darken, a double-duty effect.

Conserve 50% - 70% by examining the existing set-up, reorganizing the area, and making small, gradual changes.

Reduce exposure in high sunlight areas to avoid melting or discoloring.

Prove 4: At the back, the area is covered with plastic. This proved to be ineffective.

Traq #2 - Attaching on brackets may work better for this area.
**Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog**

*Visual Encounter Survey Data Sheet*

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td></td>
<td>320°</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><em>K</em></td>
<td>?</td>
<td>322°</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><em>K</em></td>
<td>?</td>
<td>325°</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
- X EISM AT NORTH END OF TB, UNTIL BEHEовых S, WATER, FROG S, 42479
- X 320° FROM TRUE NORTH
- X SUMMER FROG WITH A REDDISH HUE (MYSELF)

---

1. **Hipchain Distance** — distance from bottom of site/subsite or landmark
2. **Bearing** — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3. **SVL** — snout-vent length
4. **Activity** — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5. **Substrate** — (1) silt/mud, (2) sand, (3) gravel, (4) cobbles, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6. **Habitat** — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Date: mm/dd yy 07 Site Number: 752 Subsite (if applicable): Location/Reach: Summit Meadow Lake Creek Observed: JCD DB
Begin Time (24 hr.): 10:15  End Time (24 hr.): 11:15  Begin Air Temp: 69.5  End Air Temp: 79.6  Discharge: cfs
Site Visit: 1 2 3 4 Water Temp: (surface/nearshore) 546 (main channel/depth) 546 Overall Site Length (m): 11.1 Subsite Length (m):
Search Area Length (m): 1.1 Search Area Width (m): 0.1 Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast  Partly Overcast  Clean  Wind Cond (circle one): Inclement  Fair  Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast  Partly Overcast  Clean  Wind Cond (circle one): Inclement  Fair  Ideal
Photograph # (index to notebook page): 70-36 (Original) Review photos 70-79 West side Silver Lake (Silver) Roll #: Canon 02

Fish Present (circle one): Yes  No  Type (circle one): Salmonid  Centrarchid  Other: Bullfrog #5 Western Pond Turtle #7 Garter Snake #5 Other: Lifestage: AJT E

Other Herp Species (circle one):  

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S A</td>
<td>M</td>
<td>0.5 4</td>
<td>5 2</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>Frog on log inside of pond, Bubbling/amu</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>M</td>
<td>0.5 9 4</td>
<td>7 3</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>Can sit under boulder</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>F</td>
<td>0.5 9</td>
<td>10</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>Frog on log inside of pond, Bubbling/amu</td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>M</td>
<td>0.6 5</td>
<td>6 3</td>
<td>1</td>
<td>3/4</td>
<td>4</td>
<td>4</td>
<td>Can sit under boulder</td>
</tr>
<tr>
<td>5</td>
<td>A</td>
<td>F</td>
<td>0.6 5</td>
<td>8 5</td>
<td>1</td>
<td>5 4 3</td>
<td>4</td>
<td>4</td>
<td>Can sit under boulder</td>
</tr>
</tbody>
</table>

Comments: *Hipchain distance is straight line from bottom of site/subsite or landmark

- UT.M. Frog 1 428 2422 073699
  2 428 2423 073699
  3 428 2424 073699
  4 428 2425 073699
  5 428 2426 073699

1 Hipchain Distance — distance from bottom of site/subsite or landmark
2 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL — snout-vent length
4 Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate — (1) silty mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): JCD Date: 

U.T.M. Frog 1 428 2422 073699
  2 428 2423 073699
  3 428 2424 073699
  4 428 2425 073699
  5 428 2426 073699

U.T.M. Frog 1 428 2422 073699
  2 428 2423 073699
  3 428 2424 073699
  4 428 2425 073699
  5 428 2426 073699
**Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog**

**Visual Encounter Survey Data Sheet**

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Chipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>F</td>
<td>N/A</td>
<td>40</td>
<td></td>
<td></td>
<td>BEDROCK</td>
<td>POND</td>
<td>4283025N 1075275E</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td></td>
<td>N/A</td>
<td>55</td>
<td></td>
<td></td>
<td>MADE VOCALIZATIONS</td>
<td>CASCADE</td>
<td>4283020N 1075252E</td>
</tr>
</tbody>
</table>

**Comments:**

- HIGH GRADIENT BEDROCK/POND EDGE CASENCE. NO FISH PRESENT. 15.76G MAKE HIGH GRADIENT BEDROCK/POND EDGE CASENCE. NO FISH PRESENT. 15.76G MAKE HIGH GRADIENT BEDROCK/POND EDGE CASENCE. NO FISH PRESENT. 15.76G MAKE HIGH GRADIENT BEDROCK/POND EDGE CASENCE. NO FISH PRESENT.

1. Chipchain Distance — distance from bottom of site/subsite or landmark
2. Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3. SVL — snout-vent length
4. Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5. Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6. Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Egg Masses

Date: 06.26.02  Site Number: 8857  Subsite: Huny Look Out  Location/Reach:  Observers: SH DB
Begin Time (24 hr.): 10:10  End Time (24 hr.): 10:55  Begin Air Temp: 11°C  End Air Temp: 11°C  Discharge: cfs
Site Visit: 2 3 4  Water Temp: (surface/nearshore) 19°C (main channel/at depth) 16°C  Overall Site Length (m): 1034
Search Area Length (m):  Search Area Width (m):  Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast Partly Overcast  Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast  Wind Cond (circle one): Inclement Fair Ideal
Photograph # (index to notebook desc.):  Roll #:

<table>
<thead>
<tr>
<th>Egg Mass Letter</th>
<th>Hipchain Distance (m)</th>
<th>Bearing from Site/Subsite or Landmark</th>
<th>Number of Egg Masses</th>
<th>Attachment Substrate</th>
<th>Substrate</th>
<th>Habitat</th>
<th>% Silt on Eggs</th>
<th>Water Depth (cm)</th>
<th>Depth of Egg Mass (cm)</th>
<th>Water Temp (°C)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>420</td>
<td>from and facing out</td>
<td>1</td>
<td>8, 9</td>
<td>10</td>
<td>60</td>
<td>20, 16°</td>
<td>1g white, 2 eggs wrapped about 3 inches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Egg Mass Letter - for individual egg masses if group of egg masses record number at site. Mark locations of egg mass sites on map for return visits.
2 Hipchain Distance - distance from bottom of site/subsite or landmark
3 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
4 Attachment Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
5 Predominant Substrate at Egg Mass — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
6 Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary.
7 % Silt on Eggs — Percent of silt on egg mass — (1) none, (2) < 25%, (3) 25 – 50%, (4) 51 – 75%, (5) > 75%
8 Water Depth — total depth at egg mass location
9 Comments — On return visits note condition of egg masses — hatched, detached partially or entirely from substrate, attacked by fungus, predated upon

Comments:

Eggs were found under about 80cm of water wrapped around grass in shade.

QA/QC (initiate): __________ Date: __________
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: mm/dd/yy 08 Site Number: 89717 Subsite (if applicable): Location/Reach: Emigrant Creek Observers: __ __
Begin Time (24 hr.): __ __ End Time (24 hr.): __ __ Begin Air Temp: 68°F End Air Temp: 84°F Discharge: __ cfs
Site Visit: 1 2 3 4 Water Temp: (surface/nearshore) 16°C (main channel/at depth) 16°C Overall Site Length (m): __ Subsite Length (m): __
Search Area Length (m): __ Search Area Width (m): __ Total Area Searched (m²): __
Weather: Sky Cond (circle one): Overcast Partly Overcast __ Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast __ Wind Cond (circle one): Inclement Fair Ideal
Photograph # (index to notebook desc.): __ __ Roll #: __ __
Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other: __ __
Other Herp Species (circle one): Bullfrog __ Western Pond Turtle __ Garter Snake __ Other __ Lifestage: A J T E

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, S, A, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance^1 (m)</th>
<th>Bearing^2</th>
<th>SVL^3 (mm)</th>
<th>Activity^4</th>
<th>Substrate^5</th>
<th>Habitat^6</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

1 Hipchain Distance – distance from bottom of site/subsite or landmark
2 Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL – snout-vent length
4 Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate – (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): ________ Date: __________
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: mm dd yy 02 Site Number: Subsite (if applicable): Location/Reach: Observers: SH LR

Begin Time (24 hr): End Time (24 hr): Begin Air Temp: End Air Temp: °C Discharge: cfs
Site Visit: 2 3 4 Water Temp: (surface/nearshore) °C (main channel/at depth) Overall Site Length (m): Subsite Length (m):
Search Area Length (m): Search Area Width (m): Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast Party Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Party Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Photograph # (index to notebook desc.): Roll #:

Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other:
Other Herp Species (circle one): Bullfrog # Western Pond Turtle # Garter Snake # Other A. morrocrysta Lifestage: A [ ] T E

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance¹ (m)</th>
<th>Bearing²</th>
<th>SVL ³ (mm)</th>
<th>Activity⁴</th>
<th>Substrate⁵</th>
<th>Habitat⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>UNK</td>
<td>34</td>
<td></td>
<td></td>
<td>2</td>
<td>5</td>
<td>11</td>
<td>Snowmelt</td>
</tr>
</tbody>
</table>

Comments: 075969 428455

¹ Hipchain Distance – distance from bottom of site/subsite or landmark
² Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
³ SVL – snout-vent length
⁴ Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
⁵ Substrate – (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
⁶ Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): Date:
### Foothill Yellow-Legged Frog

#### River Visual Encounter Survey Data Sheet

**Juveniles and Adults**

| Date: | mm 8  dd 8  yy 02  | Site #: | 110 R  | Subsite #: | River Name/Location: | American River  | Observers: | DB JH  |
|-------|-------------------|--------|--------|------------|----------------------|-----------------|------------|
| Survey Method: | (tandem) separate | Start Time: | 1:10 PM | End Time: | 2:10 PM | Start Air Temp: | 18 °C  | End Air Temp: | 32 °F  |
| Water Temp: | (edgewater) | (main channel) | 78 °F  | (pool) | 79 °F  | Discharge: | 7 cfs | Subsite Length: | Total Site Length: |
| Search Area Length: | 446 feet | Search Area Width: | 3 - 5 meters | Total Area Searched: | (m²): | | | | |
| Photograph #: | (index to notebook) | 10-0207 | 10-0208 | | | | | | | | | | | |

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance 1</th>
<th>Sex (M/F)</th>
<th>Age 2</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity 3</th>
<th>Mainstream Habitat 4</th>
<th>Microhabitat Type 5</th>
<th>Substrate 6</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 cm</td>
<td>J</td>
<td>J</td>
<td>2.50 - 30</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>6.1</td>
<td>Say frog but couldn't catch it.</td>
</tr>
<tr>
<td>1</td>
<td>1 meter</td>
<td>J</td>
<td>J</td>
<td>2.0 - 30</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>6.1</td>
<td>Frog got away</td>
</tr>
<tr>
<td>1</td>
<td>10 cm</td>
<td>J</td>
<td>J</td>
<td>2.25 - 35</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5.1</td>
<td></td>
</tr>
</tbody>
</table>

1. Distance – distance from bottom of site/subsite to frogs
2. Age – J = Juvenile, A = Adult
3. Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5. Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

- **Fish Present**: Yes  No
- **Type**: Salmonid  Centrarchid  Cyprinid  Other:
- **Herpetofauna & Lifestage, (A J T E)**: Treefrog  Bullfrog  Western Pond Turtle  Garter Snake  Other: Fierce Lizard
- **Other Species Observed**: Osprey

**Comments**: Zero for four, we need to tough up on our frog catching skills

---

**QA/QC (initials):**  
**Date:**
Foothill Yellow-Legged Frog

Creek Visual Encounter Survey Data Sheet

Tadpoles

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Distance (m)</th>
<th>Approx. No. of Tadpoles</th>
<th>Distance From Shore (m)</th>
<th>Velocity (cm/sec)</th>
<th>Tadpole Stage</th>
<th>Avg. TL (mm)</th>
<th>Creek Habitat</th>
<th>Micro-Habitat</th>
<th>Substrate</th>
<th>% Algae</th>
<th>% Detritus</th>
<th>Max. Water Depth (cm)</th>
<th>Water Temp. (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>55</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5.5</td>
<td>1.5</td>
<td>3</td>
<td>17.5</td>
</tr>
<tr>
<td>2 (Redimaged from 1)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>50</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>5.5</td>
<td>1.5</td>
<td>3</td>
<td>17.5</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>50</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>5.5</td>
<td>1.5</td>
<td>3</td>
<td>17.5</td>
</tr>
</tbody>
</table>

1 Group Letter – if multiple groups at a site
2 Distance – distance from bottom of site
3 No. of Tadpoles – Estimate the total number of tadpoles for the area, or estimate the number of tadpoles/m² based on random counts (m²) taken within the area that tadpoles are observed
4 Distance From Shore – For an aggregation of tadpoles, measure to the center of the group. If tadpoles are dispersed along the shoreline, record an average distance from the water’s edge.
5 Velocity – measure where tadpole are located
6 Tadpole Stage – (1) no legs, (2) r.vr legs, (3) rear legs and front flaps, (4) legs grown, but with tail, (5) mixed
7 Avg. TL – average total length of tadpoles
8 Creek Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) other
9 Micro-Habitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side
10 Substrate – (1) sand/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation

Fish Present: [ ] Yes [ ] No
Type: [ ] Salmonid [ ] Centrarchid
Other: [ ] Salmonid [ ] Centrarchid

Herpetofauna & Life Stages (A T E)
Treefrog [ ] Bullfrog [ ] Western Pond Turtle [ ] Garter Snake [ ] Other

Other Species Observed:

Comments:
1. [Comment]
2. [Comment]
3. [Comment]

QA/QC (initials): [ ] Date: [ ]

[Handwritten notes]
<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex (M/F)</th>
<th>Age²</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>M N/K</td>
<td>J</td>
<td>50 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>F A</td>
<td></td>
<td>50 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Distance – distance from bottom of site/subsite to frogs
² Age – J = Juvenile, A = Adult
³ Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
⁴ Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
⁵ Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
⁶ Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

Fish Present: Yes No  Type: Salmonid Centrarchid Cyprinid Other:  
Herpetofauna & Lifestage (A J T E) Treefrog Bullfrog Western Pond Turtle Garter Snake Other:  
Other Species Observed:  
Comments:  
QA/QC (initials): Date:
Foothill Yellow-Legged Frog
River Visual Encounter Survey Data Sheet

Juveniles and Adults

Date: 08/15/02  Site #: 120R
Survey Method: Transect separate
Water Temp: (edgewater) 19°C (main channel) 18°C (pool)
Weather: Sky: Overcast Partly Overcast Wind: Inclement Fair Ideal
Photograph # (index to notebook): SEE COMMENTS

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance (M)</th>
<th>Sex (M/F)</th>
<th>Age (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity</th>
<th>Mainstream Habitat</th>
<th>Microhabitat Type</th>
<th>Substrate</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>200m</td>
<td>F</td>
<td>A</td>
<td>41</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>4295600, 10710753</td>
</tr>
<tr>
<td>2</td>
<td>600m</td>
<td>F</td>
<td>A</td>
<td>55</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>429261, 10710892</td>
</tr>
<tr>
<td>3</td>
<td>631m</td>
<td>J</td>
<td>M</td>
<td>39</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>429295, 10710541</td>
</tr>
<tr>
<td>4</td>
<td>950m</td>
<td>F</td>
<td>A</td>
<td>55</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4295039, 10710993</td>
</tr>
<tr>
<td>5</td>
<td>750m</td>
<td>F</td>
<td>A</td>
<td>36</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>42950702, 10710583</td>
</tr>
<tr>
<td>6</td>
<td>725m</td>
<td>M</td>
<td>A</td>
<td>41</td>
<td>2</td>
<td>5</td>
<td>4/5</td>
<td>4/5</td>
<td>42951565, 10710557</td>
</tr>
<tr>
<td>7</td>
<td>700m</td>
<td>M</td>
<td>A</td>
<td>39</td>
<td>2</td>
<td>5</td>
<td>4/5</td>
<td>4/5</td>
<td>429572, 10710531</td>
</tr>
<tr>
<td>8</td>
<td>2175m</td>
<td>M</td>
<td>A</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>4/5</td>
<td>2</td>
<td>42950462, 10710372</td>
</tr>
</tbody>
</table>

1 Distance = distance from bottom of site/subsite to frogs
2 Age: J = Juvenile, A = Adult
3 Activity = (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4 Mainstream Habitat = (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5 Microhabitat Type = (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6 Substrate = (1) silt/clay/mud, (2) sand, (3) gravel/pellet, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other
7 Fish Present: No, Type: Salmonid, Centarchid, Cyprinid, Other: Other
8 Herpetofauna & Lifestage: Treefrog, Bullfrog, Western Pond Turtle, Garter Snake, Other: T E
9 Other Species Observed: 1 FLYE OBSERVED @ 4295600, 10710350 - Basking on Boulder in Shade
2 FLYF OBSERVED @ 4295300, 10710600 - Basking on Rock in Shade
3 FLYE OBSERVED ON N. BANK WHILE RETURNING TO START OF S.A. - INCIDENTAL - MARK AS SUCH (MARKED)

Total 16 FLYE FROGS OBSERVED.

Holds: 18-9 FLYE #1
4-2 Disposable M. Vermes B/C - B/8 '02
2-1 M 3

QA/QC (initials): MSR  Date: 09/02
### Foothill Yellow-Legged Frog
#### River Visual Encounter Survey Data Sheet

**Juveniles and Adults**

**Date:** mm/dd/yyyy **Site #:** 125T  **Subsite #:**  
**Survey Method:** Silted **Subsite Location:** Soldier Creek  
**Start Time:** 11:00 **End Time:** 15:15  
**Water Temp:** (edgewater) **Discharge:** 1 cfs  
**Search Area Length:** 1.5 miles **Subsite Length:** Total Site Length:  
**Search Area Width:** **Total Area Searched:** (m²):  
**Weather:** Overcast **Past 24 hrs:** Overcast **Partly Overcast**  
**Photograph #** (index to notebook): 100-0194  
**Roll #:**  

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex (M/F)</th>
<th>Age² (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100 m from shore</td>
<td>F</td>
<td>A</td>
<td>41 mm</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>0,1</td>
<td>Found in red gravels, bordering sedge. Small debris.</td>
</tr>
<tr>
<td>2</td>
<td>500 m from shore</td>
<td>F</td>
<td>A</td>
<td>34 mm</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>0,1</td>
<td>Small debris.</td>
</tr>
</tbody>
</table>
| 12              | 500 m from shore | ? | ? | 60 mm | 5 | 7 | 1 (1 cm thick) 3, 2 | | Small debris from Amur River.  

¹ Distance – distance from bottom of site/subsite to frogs  
² Age – J = Juvenile, A = Adult  
³ Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amphipods, (8) floating, (9) underwater, (10) other  
⁴ Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other  
⁵ Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other  
⁶ Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

**Fish Present:** Yes No  
**Type:** Salmonid, Centrarchid, Cyprinid, Other:  
**Herpetofauna & Lifestage:** (A J T E) Treefrog Bullfrog Western Pond Turtle Garter Snake Other:  
**Other Species Observed:**  

**Comments:**  

QA/QC (initials): Date:
**Foothill Yellow-Legged Frog**  
**River Visual Encounter Survey Data Sheet**  
**Tadpoles**

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Distance</th>
<th>Approx. No. of Tadpoles</th>
<th>Distance From Shore</th>
<th>Velocity</th>
<th>Tadpole Stage</th>
<th>Avg TL</th>
<th>Mainstream Habitat</th>
<th>Micro-Habitat</th>
<th>Substrate</th>
<th>% Algae</th>
<th>% Detritus</th>
<th>Max. Water Depth (cm)</th>
<th>Water Temp (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>1.5 m</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4, 2, 1</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

1. **Group Letter** – if multiple groups at a site/subsite
2. **Distance** – distance from bottom of site/subsite
3. **No. of Tadpoles** – Estimate the total number of tadpoles for the area, or estimate the number of tadpoles/m² based on random counts (m²) taken within the area that tadpoles are observed
4. **Distance From Shore** – For an aggregation of tadpoles, measure to the center of the group. If tadpoles are dispersed along the shoreline, record an average distance from the water’s edge
5. **Velocity** – measure where tadpoles are located
6. **Tadpole Stage** – (1) no legs, (2) rear legs, (3) rear legs and front nubs, (4) legs fully grown, but with tail, (5) mixed
7. **Avg. TL** – average total length of tadpoles
8. **Mainstream Habitat** – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
9. **Microhabitat** – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) eddies, (8) pool tail-out, (9) riffle, (10) other
10. **Substrate** – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) debris, (8) large woody debris, (9) aquatic vegetation
11. **Max. Water Depth** – Max. depth at tadpole location

**Fish Present**  
**Type:** Salmonid  
**Centrarchid**  
**Cyprinid**  
**Other:**

**Herpetofauna & Lifestage (A J T E)**  
**Treefrog**  
**Bullfrog**  
**Western Pond Turtle**  
**Garter Snake**  
**Other:**

**Other Species Observed:**

**Comments:**

**QA/QC (initials):** __________  
**Date:** __________
# Foothill Yellow-Legged Frog

## River Visual Encounter Survey Data Sheet

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance(^1)</th>
<th>Sex (M/E)</th>
<th>Age(^2) (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity(^3)</th>
<th>Mainstream Habitat(^4)</th>
<th>Microhabitat Type(^5)</th>
<th>Substrate(^6)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>M</td>
<td>A, Adult</td>
<td>45</td>
<td>1 (sitting)</td>
<td>boulder pool</td>
<td>5</td>
<td>5</td>
<td>Had thick frog eggs in natal pool</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td>2 (swimming)</td>
<td>boulder/sedge</td>
<td>5</td>
<td>5</td>
<td>In deep shaded pool with algae and partially submerged canoe.</td>
</tr>
</tbody>
</table>

---

1. **Distance** – distance from bottom of site/subsite to frogs
2. **Age** – J = Juvenile, A = Adult
3. **Activity** – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. **Mainstream Habitat** – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) slide, (5) main channel pool, (6) step-pool, (7) other
5. **Microhabitat Type** – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. **Substrate** – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

**Fish Present**

- Yes
- No

**Type**

- Salmonid
- Centarchid
- Cyprinid
- Other

**Herpetofauna & Lifestage (A J T E)**

- Treefrog
- Bullfrog
- Western Pond Turtle
- Garter Snake
- Other

**Other Species Observed**

- Coot
- Rainbow Trout
- Salmon
- Steelhead
- Brook Trout
- Brook lamprey
- Eulachon
- Cutthroat trout
- Chinook salmon

**Comments**

- D. undata sighting: Dim 1/5 in Mtn Canyon Stream, frog eggs in small (0.5 m x 5 m) pool, width 14 °c, 20715.860 e-4279.5400
- D. undata sighting: Dim 1/5 in Mtn Canyon Stream, frog eggs in small (0.5 m x 5 m) pool, width 14 °c, 20715.860 e-4279.5400
- D. undata sighting: Dim 1/5 in Mtn Canyon Stream, frog eggs in small (0.5 m x 5 m) pool, width 14 °c, 20715.860 e-4279.5400

**QA/QC (initials):** __________

**Date:** __________
### Foothill Yellow-Legged Frog
#### River Visual Encounter Survey Data Sheet

**Tadpoles**

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Distance (m)</th>
<th>Approx. No. of Tadpoles</th>
<th>Distance From Shore (m)</th>
<th>Velocity (cm/sec)</th>
<th>Tadpole Stage</th>
<th>Avg. TL (mm)</th>
<th>Mainstream Habitat</th>
<th>Microhabitat</th>
<th>Substrate</th>
<th>% Algae</th>
<th>% Detritus</th>
<th>Max. Water Depth (cm)</th>
<th>Water Temp. (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5</td>
<td>2</td>
<td>3 m</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;5</td>
<td>&lt;5</td>
<td></td>
<td>60</td>
</tr>
</tbody>
</table>

1. **Group Letter** – if multiple groups at a site/subsite
2. **Distance** – distance from bottom of site/subsite
3. **No. of Tadpoles** – Estimate the total number of tadpoles for the area, or estimate the number of tadpoles/m² based on random counts (m²) taken within the area that tadpoles are observed
4. **Distance From Shore** – For an aggregation of tadpoles, measure to the center of the group. If tadpoles are dispersed along the shoreline, record an average distance from the water’s edge.
5. **Velocity** – measure where tadpoles are located
6. **Tadpole Stage** – (1) no legs, (2) rear legs, (3) rear legs and front nubs, (4) legs fully grown, but with tail, (5) mixed
7. **Avg. TL** – average total length of tadpoles
8. **Mainstream Habitat** (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
9. **Microhabitat** – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side-channel, (6) boulder/edge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) other
10. **Substrate** – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris (9) aquatic vegetation
11. **Max. Water Depth** – Max. depth at tadpole location

**Fish Present** | **No**
--- | ---
**Type** | **Salmonid**

**Herpetofauna & Lifestage**

- Treefrog
- Bullfrog
- Western Pond Turtle
- Garter Snake

**Other Species Observed**

**Comments**:

- **Date**: 8/7/2023
- **QA/QC (initials)**: S H A B
**Foothill Yellow-Legged Frog**

**River Visual Encounter Survey Data Sheet**

**Juveniles and Adults**

**Confluence WEAR**

Date: 05/29/02, Site #: 2105

<table>
<thead>
<tr>
<th>Survey Method: tandem separate</th>
<th>River Name/Location: Ogden Canyon Wx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Time: 10:30</td>
<td>End Time: 16:30</td>
</tr>
<tr>
<td>Water Temp: (edgewater) 70 °F</td>
<td>Subsite Length:</td>
</tr>
<tr>
<td>Search Area Width:</td>
<td>Total Site Length:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Photograph # (index to notebook):</th>
<th>Wind: Inclement Fair Ideal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roll #:</td>
<td>Clear Wind: Inclement Fair Ideal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex (M/F)</th>
<th>Age²</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Mainstream Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15m from</td>
<td>E</td>
<td>A</td>
<td>81</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>hopped under cobble as I approached</td>
</tr>
</tbody>
</table>

¹ Distance – distance from bottom of site/subsite to frogs
² Age – J = Juvenile, A = Adult
³ Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
⁴ Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
⁵ Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
⁶ Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

Fish Present Yes No  
Type: Salmoide  
Centrarchid  
Cyprinid  
Other:  

Herpetofauna & Lifestage (A J T E)  
Treefrog  
Bullfrog  
Western Pond Turtle  
Garter Snake  
Other:  

Other Species Observed:  
Comments:  

This area is ideal habitat. Nice exposed basking sites. Low-gradient riffles at base covered cobble. Thickets + emergent plants. Lots of undercut bank + boulder + root wads.

QA/QC (initials):  
Date:  

Foothill Yellow-Legged Frog

Creek Visual Encounter Survey Data Sheet

Juveniles and Adults

Date: mm/dd/yy 2002 Site #: 210 DT Subsite #: Creek Name/Location: OAKLEY CREEK
Total Site Length: Search Area Length: Search Area Width: Total Area Searched: (m²):

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance¹</th>
<th>Sex (M/F)</th>
<th>Age² (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity³</th>
<th>Creek Habitat⁴</th>
<th>Microhabitat Type⁵</th>
<th>Substrate⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>F</td>
<td>A</td>
<td>74</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>CEMENT</td>
</tr>
</tbody>
</table>

¹ Distance = distance from bottom of site to frogs
² Age = J = Juvenile, A = Adult
³ Activity = (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
⁴ Creek Habitat = (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) other
⁵ Microhabitat Type = (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) (11) protected bank, (12) other
⁶ Substrate = (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation

Fish Present: Yes No

Herpetofauna & Lifestage (A J T E) Treefrog Bullfrog Western Pond Turtle Garter Snake

Other Species Observed:

Comments:

QA/QC ( initials): Date:
# Foothill Yellow-Legged Frog
## River Visual Encounter Survey Data Sheet
### Juveniles and Adults

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance (m)</th>
<th>Sex (M/F)</th>
<th>Age (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity</th>
<th>Mainstream Habitat</th>
<th>Microhabitat Type</th>
<th>Substrate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 B</td>
<td>—</td>
<td>Juv</td>
<td>210</td>
<td>5</td>
<td>1 and 3</td>
<td>1</td>
<td>2.495</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 B</td>
<td>—</td>
<td>Juv</td>
<td>25</td>
<td>8</td>
<td>1 and 3</td>
<td>1</td>
<td>2.495</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2 B</td>
<td>—</td>
<td>Juv</td>
<td>23</td>
<td>8</td>
<td>1 and 3</td>
<td>1</td>
<td>2.495</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2 B</td>
<td>—</td>
<td>Juv</td>
<td>25, not</td>
<td>8</td>
<td>1 and 3</td>
<td>1</td>
<td>2.495</td>
<td>— ESCAPE</td>
</tr>
<tr>
<td>5</td>
<td>1 B</td>
<td>—</td>
<td>Juv</td>
<td>29</td>
<td>5</td>
<td>1 and 3</td>
<td>2</td>
<td>1.98</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1 B</td>
<td>—</td>
<td>Juv</td>
<td>29</td>
<td>5</td>
<td>1 and 3</td>
<td>2</td>
<td>1.98</td>
<td></td>
</tr>
</tbody>
</table>

1. Distance – distance from bottom of site/subsite to frogs
2. Age – J = Juvenile, A = Adult
3. Activity – (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. Mainstream Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5. Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgeriffle, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

### Fish Present
- Yes: No
- Type: Salmonid, Centrarchid, Cyprinid
- Other: Salmon

### Herpetofauna & Lifestage
- (A J T E) Treefrog, Bullfrog, Western Pond Turtle, Garter Snake

### Other Species Observed
-_tolli, Amodi

### Comments
- Frog #1 – Bubbling, slurred, substrate emersed in sand. Pool appeared to have recently become isolated. Mid depth ~ 5cm. Had tad in pool. Frog #3 – No activity.
- Frog #2 – Same pool. Max depth ~ 15cm. Same substrate as Frog #1. Pool connected to pool downstream. Frog #1 – See #2 of connected pool. Appears to provide good breeding habitat.
- Frog #4 – Activity in – Seen trying to escape. NOT able to determine dry activity.

### QA/QC (initials): ____________ Date: ____________
# Foothill Yellow-Legged Frog
## River Visual Encounter Survey Data Sheet
### Juveniles and Adults

<table>
<thead>
<tr>
<th>Date: 06 26 2021</th>
<th>Subsite #: 0</th>
<th>River Name/Location: St. Francis, Blackbird Campground</th>
<th>Observers: MCV LM</th>
<th>Survey Method: tandem</th>
<th>Start Time: 1230</th>
<th>End Time: 1440</th>
<th>Start Air Temp: 80°</th>
<th>End Air Temp: 76°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Temp: 68°F (edgewater)</td>
<td>63°F (pool)</td>
<td>Discharge: cfs</td>
<td>Subsite Length:</td>
<td>Total Site Length:</td>
<td>Search Area Length:</td>
<td>Search Area Width: 30 m</td>
<td>Total Area Searched (m²):</td>
<td>Site Visit: 1 2 3 5</td>
</tr>
<tr>
<td>Weather: Overcast</td>
<td>Wind: Inclement</td>
<td>Past 24 hrs: Overcast</td>
<td>Photograph # (index to notebook):</td>
<td>Roll #:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance1</th>
<th>Sex (M/F)</th>
<th>Age2 (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity3</th>
<th>Mainstream Habitat4</th>
<th>Microhabitat Type5</th>
<th>Substrate6</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>UNK</td>
<td>5</td>
<td>47 nm</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>UNK</td>
<td>5</td>
<td>47 nm</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

1. Distance = distance from bottom of site/subsite to frogs
2. Age - J = Juvenile, A = Adult
3. Activity - (1) sitting in shade, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) amplexus, (8) floating, (9) underwater, (10) other
4. Mainstream Habitat - (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) glide, (5) main channel pool, (6) step-pool, (7) other
5. Microhabitat Type - (1) isolated side pool, (2) connected side pool, (3) scour pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) edgewater, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. Substrate - (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

- **Fish Present**: Yes
- **Type**: Salmonid, Centrarchid, Cyprinid
- **Herpetofauna & Lifestage (A J T E)**: Treefrog, Bullfrog, Western Pond Turtle, Garter Snake
- **Other Species Observed**: *Dictyurus, Mallard*

**Comments:**
- **UTM 42 950 18**
- **UTM 42 949 29**

**QA/QC (initials):**  Date: ______
### Creek Visual Encounter Survey Data Sheet

**Foothill Yellow-Legged Frog**

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number of Frogs</th>
<th>Distance</th>
<th>Sex (M/F)</th>
<th>Age (J, A)</th>
<th>Snout-Vent Length (mm)</th>
<th>Activity</th>
<th>Creek Habitat</th>
<th>Microhabitat Type</th>
<th>Substrate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.5 m</td>
<td>M</td>
<td>M</td>
<td>63 mm</td>
<td>2</td>
<td>5</td>
<td>9</td>
<td>5</td>
<td>Dunky toe tips and dorsal - lateral folds ok, ovary visible.</td>
</tr>
<tr>
<td>1</td>
<td>1.0 m</td>
<td>M</td>
<td>A</td>
<td>72 mm</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>Mature, lipping noise while being handled.</td>
</tr>
<tr>
<td>3</td>
<td>1.0 m</td>
<td>M</td>
<td>A</td>
<td>63.2 - 46</td>
<td>2, 1, 2</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>Good day, 10 07321343573023</td>
</tr>
<tr>
<td>3</td>
<td>1.0 m</td>
<td>M</td>
<td>J</td>
<td>49.60, 55</td>
<td>2, 1, 2</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>Good day, 10 0732121342937373</td>
</tr>
<tr>
<td>3</td>
<td>1.0 m</td>
<td>M</td>
<td>J</td>
<td>33.49</td>
<td>2, 1, 2</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>Good day, 10 07321343573023</td>
</tr>
</tbody>
</table>

1. Distance – distance from bottom of site to frogs
2. Age – J = Juvenile, A = Adult
3. Activity – (1) sitting, (2) hiding, (3) calling, (4) swimming, (5) foraging, (6) amplexus, (7) floating, (8) underwater, (10) other
4. Creek Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) other
5. Microhabitat Type – (1) isolated side pool, (2) connected side pool, (3) scours pool, (4) backwater pool, (5) side channel, (6) boulder/sedge, (7) eddies, (8) pool tail-out, (9) riffle, (10) exposed bank, (11) protected bank, (12) other
6. Substrate – (1) silt/clay/mud, (2) sand, (3) gravel/pebble, (4) cobble, (5) boulder, (6) bedrock, (7) small woody debris, (8) large woody debris, (9) aquatic vegetation, (10) margin vegetation, (11) other

**Fish Present**

- Yes

- No

**Type:** Salmonid, Centrarchid, Other:

- Treefrog
- Bullfrog
- Western Pond Turtle
- Garter Snake
- Whip Snake

**Other Species Observed:**

- Aproximately 30 smelt at site of capture 33 cm and below.
- All three frogs sitting on exposed and partially exposed.
- Basking on bolder, bright side a small step pool.
- Whispers heard but manual search did not reveal all frogs were lake underneath.
- The 2 nd Juv also had some whiteing on forelimen and maybe some pod development but were not defined.

**QA/QC (initials):** Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Tadpoles

Date: 07.30.2002  Site Number: 440  Subsite: Echo Lake (Reach 4)  Observers: MS, MV, DB
Begin Time (24 hr): 12:45  End Time (24 hr): 14:00  Begin Air Temp: 24°F  End Air Temp: 24°F  Discharge: cfs
Site Visit: 2 3 4  Water Temp: (surface/nearshore) 20 (main channel/depth) 21  Overall Site Length (m):  Subsite Length (m):
Search Area Length (m):  Search Area Width (m):  Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast Partly Overcast Clear  Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear  Wind Cond (circle one): Inclement Fair Ideal
Photograph #: (index to notebook desc.):

Fish Present (circle one): Yes  Type (circle one): Salmonid Centarchid Other:
Other Herp Species (circle one): Bullfrog  Western Pond Turtle  Garter Snake  Other
Lifestage: A J T E

Tadpoles

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>Approx. No of Tadpoles</th>
<th>Avg. TL (mm)</th>
<th>Tadpole Stage</th>
<th>Habitat</th>
<th>Substrate</th>
<th>% Algal Cover</th>
<th>Distance to Shore (m)</th>
<th>Water Depth (cm)</th>
<th>Water Temp (°C)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAMU</td>
<td></td>
<td></td>
<td></td>
<td>77</td>
<td>3</td>
<td>11</td>
<td>5</td>
<td>&lt;10%</td>
<td>30-40 cm</td>
<td>5 cm</td>
<td>20</td>
<td>4752392</td>
</tr>
</tbody>
</table>

Comments: 6 Peninsula Run - One observer there with individual captured 6-11-02 from bank. Missing location
**Tadpole location**

1 Group Letter — if multiple groups at a site
2 Hipchain Distance — distance from bottom of site/subsite or landmark
3 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
4 No. of Tadpoles — in pools: approximate count for 1 m². Along shoreline: one random count along 1 m parallel to shoreline (as far out as visible) for every 5 m that tadpoles observed.

Avg. TL — average total length
5 Tadpole Stage — (1) no legs, (2) rear legs, (3) rear legs and front nabs, (4) legs fully grown, but with tail, (5) mixed
6 Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary
7 Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
8 Water Depth — total depth at tadpole location

QA/QC (initials):  Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog

Visual Encounter Survey Data Sheet

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>M</td>
<td>1</td>
<td>37</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>49</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td></td>
<td>1</td>
<td>37</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>57</td>
</tr>
<tr>
<td>3</td>
<td>J</td>
<td></td>
<td>1</td>
<td>37</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>58</td>
</tr>
<tr>
<td>4</td>
<td>J</td>
<td></td>
<td>1</td>
<td>37</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>60</td>
</tr>
</tbody>
</table>

Other Herp Species (circle one):

- Bullfrog
- Western Pond Turtle
- Garter Snake
- Other

Lifestage: A J T E

Comments:

- Isolated shallow pond: max 10 cm deep
- Total of 9 Juvenile observed
- Site 1: shallow pond: 15 cm deep
- Site 2: heavily overgrown, little water

1 Hipchain Distance -- distance from bottom of site/subsite or landmark
2 Bearing -- compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL -- snout-vent length
4 Activity -- (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate -- (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat -- (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): __________ Date: __________
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Tadpoles

Date: 06/09 dd 11 yr 02 Site Number: A-2 Subsite: Location/Reach: Aloha lake Observers: STC EGV
Begin Time (24 hr): 9:30 End Time (24 hr): 5:15 Begin Air Temp: End Air Temp: Discharge: cfs
Site Visit: 1 2 3 4 Water Temp: (surface/nearshore) (main channel/at depth) Overall Site Length (m): Subsite Length (m):
Search Area Length (m): Search Area Width (m): Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Photograph #: Roll #: Photograph description:

Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other:
Other Herp Species (circle one): Bullfrog Western Pond Turtle Garter Snake Lifestage: A J T E

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Hiplchain Distance (m)</th>
<th>Bearing</th>
<th>Approx. No of Tadpoles</th>
<th>Avg. TL (mm)</th>
<th>Tadpole Stage</th>
<th>Habitat</th>
<th>Substrate</th>
<th>% Algal</th>
<th>Distance to Shore (m)</th>
<th>Water Depth (cm)</th>
<th>Water Temp. (°C)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td>1</td>
<td>50 mm</td>
<td>2</td>
<td>10</td>
<td>(1)</td>
<td>0</td>
<td>140 mm</td>
<td>70 mm</td>
<td>28</td>
<td>GPS #27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>41</td>
<td>45 mm</td>
<td></td>
<td>2</td>
<td>10</td>
<td>(9)</td>
<td>7</td>
<td>140 mm</td>
<td>70 mm</td>
<td>28</td>
<td>#26</td>
</tr>
</tbody>
</table>

Comments:

---

1. Group Letter — if multiple groups at a site
2. Hiplchain Distance - distance from bottom of site/subsite or landmark
3. Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
4. No. of Tadpoles — la pools: approximate count for 1 m². Along shoreline: one random count along 1 m parallel to shoreline (as far out as visible) for every 5 m that tadpoles observed.
5. Avg. TL — average total length
6. Tadpole Stage — (1) no legs, (2) rear legs, (3) rear legs and front stubs, (4) legs fully grown, but with tail, (5) mixed
7. Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary
8. Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
9. Water Depth — total depth at tadpole location

TAD 1 748814E 4305085N
TAD 2-6 748819E 4305063N
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Juveniles and Adults

Date: mm/dd/yy: 9/4/20 Location/Reach: LAKE ALMA
Subsite (if applicable): Observers: S. Egan
Begin Time (24 hr): 16:20 End Time (24 hr): 20:45
Begin Air Temp: 24°C End Air Temp: ~22°C
Discharge: cfs
Site Visit: 1 2 3 4 Water Temp (surface/nearshore): 5°C
Search Area Width (m): Total Area Searched (m²):
Search Area Length (m):
Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Photograph #: Roll #: 

Fish Present (circle one): Yes No Type (circle one): Salmonoid Centrarchid Other: ____________
Other Herp Species (circle one): ____________

Lifestage: A J T E

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance¹ (m)</th>
<th>Bearing²</th>
<th>SVL³ (mm)</th>
<th>Activity⁴</th>
<th>Substrate⁵</th>
<th>Habitat⁶</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>F</td>
<td>45</td>
<td>2</td>
<td>3</td>
<td>4 m inlet trib.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>J</td>
<td>F</td>
<td>35</td>
<td>2</td>
<td>4/3</td>
<td>4 m pool at top *1 m depth</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: Efficient swimmer yes age present

¹ Hipchain Distance — distance from bottom of site/subsite or landmark
² Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
³ SVL — snout-vent length
⁴ Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
⁵ Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
⁶ Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): Date: ____________
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: 7/11/02
Site Number: 0-5
Subsite (if applicable): Location/Reach: Lake Aloha
Observers: SH RH
Begin Time: 8:30 AM
End Time (24 hr): 11:30 AM
Begin Air Temp: 16°C
End Air Temp: 23°C
Discharge: 0 cfs

Site Visited: 2 3 4
Water Temp: (surface/nearshore) 17°C
(main channel/at depth) Overall Site Length (m): Subsite Length (m):

Search Area Length (m): Search Area Width (m): Total Area Searched: (sq): Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Photograph #: (index to notebook page): Roll #: 

Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other: Bullfrog # Western Pond Turtle # Garter Snake # Other: Lifestage: A J T E
Other Fish Species (circle one):

### Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>UNK</td>
<td>430</td>
<td>18</td>
<td>17</td>
<td>4-7 ed</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: 1 Hipchain Distance – distance from bottom of site/subsite or landmark
2 Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL – snout-vent length
4 Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate – (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: 7/xx/yyxx Site Number: Subsite (if applicable): Location/Reach: Lake Alder Observers: __________
Begin Time (24 hr.): __________ End Time (24 hr.): __________ Begin Air Temp: __________ End Air Temp: __________ Discharge: __________ cfs
Site Visit: 1 2 3 4 Water Temp: (surface/nearshore) (main channel/at depth) Overall Site Length (m): Subsite Length (m):
Search Area Length (m): Search Area Width (m): Total Area Searched: (m²):
Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal
Photograph # (index to notebook desc.): Roll #:

Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other: Bullfrog #, Western Pond Turtle #, Garter Snake #, Other: P. regilla, Lifestage: A J T E

Other Herp Species (circle one):

<table>
<thead>
<tr>
<th>Number</th>
<th>Age</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>F</td>
<td>103.4933</td>
<td>5</td>
<td>74</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>Separated from main lake, water = 20.8°C, 200 cm deep, silt/sand boundary, 8m x 3m.</td>
</tr>
</tbody>
</table>

Comments: Predatory diving beetles and a (?) observed in pool.

QA/QC (initials): __________ Date: __________

1 Hipchain Distance – distance from bottom of site/subsite or landmark
2 Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL – snout-vent length
4 Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate – (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) oxbow stream course, Write in other type as necessary
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Tadpoles

<table>
<thead>
<tr>
<th>Group Letter</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>No of Tadpoles</th>
<th>Avg. TL (mm)</th>
<th>Tadpole Stage</th>
<th>Habitat</th>
<th>Substrate</th>
<th>% Algal Cover</th>
<th>Distance to Shore (m)</th>
<th>Water Depth (cm)</th>
<th>Water Temp (°C)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.81</td>
<td>NE</td>
<td>2</td>
<td>45</td>
<td>4</td>
<td>1.3</td>
<td></td>
<td>0</td>
<td>1</td>
<td>21</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Comments: Tadpoles were under emergent veg. on side of pool. As we walked, they dispersed into the detritus in the pool bottom.

1 Group Letter - if multiple groups at a site
2 Hipchain Distance - distance from bottom of site/subsite or landmark
3 Bearing - compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
4 No. of Tadpoles - In pools: approximate count for 1 m². Along shoreline: one random count along 1 m parallel to shoreline (as far out as visible) for every 5 m that tadpoles observed.

QA/QC (initials): Date: 
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: 19-Mar-2002  Site Number: 722L (A)  Location/Reach: SITE 722L  Observers: AGB  DB

Begin Time (24 hr): 12:25  End Time (24 hr): 13:30  Begin Temp: 19.5°C  End Temp: 19.5°C  Discharge: 3.1 cfs

Site Visit: 1 2 3 4  Water Temp: (surface/nearshore) 17.0°C  (main channel/depth) 19.5°C  Overall Site Length (m): 21 x 20 m

Search Area Length (m):  Search Area Width (m):  Total Area Searched: (m²): 453.1 m²

Weather: Sky Cond (circle one): Overcast  Wind Cond (circle one): Inclement  Fair  Ideal

Weather Past 24 hrs: Sky Cond (circle one): Overcast  Wind Cond (circle one): Inclement  Fair  Ideal

Photograph # (index to notebook desc.): Roll #:

Fish Present (circle one): Yes  No  Type (circle one): Salmonid  Centarchid  Other:

Other Herb Species (circle one): None

Fish Present: Yes  No  Type (circle one): Western Pond Turtle  Garter Snake  Other: Lifestage: A J T E

GPS: 0751388 4281022 ACC. -20.30' TAKEN AT CENTER OF FLOOD - STORED AS FILL PUMP

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Juv</td>
<td>?</td>
<td>45</td>
<td>2</td>
<td>148</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: Prox 1 & 2 are dejected above in upper right corner - a microhabitat not monitored in Site 1.2. A flow

1 Hipchain Distance – distance from bottom of site/nest to landmark
2 Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL – snout-vent length
4 Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate – (1) silt/sand, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
6 Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Juveniles and Adults

Date: mm_dd_yy  Site Number: J22L  Subsite (if applicable):  Location/Reach:  Observers:  
Begin Time (24 hr.):  End Time (24 hr.):  Begin Air Temp:  End Air Temp:  Discharge:  cfs  
Site Visit:  Water Temp:  (surface/depth)  (main channel/depth)  Overall Site Length (m):  Subsite Length (m):  
Search Area Length (m):  Search Area Width (m):  Total Area Searched:  (m²):  
Weather:  Wind Cond (circle one):  Overcast Partly Overcast  Clear  Fair  Ideal  
Weather Past 24 hrs:  Wind Cond (circle one):  Overcast Partly Overcast Clear  Fair  Ideal  
Photograph #:  Roll #:  
Fish Present (circle one):  Yes  No  
Type (circle one):  Salmonid  Centrarchid  Other:  
Other Herp Species (circle one):  Bullfrog  Western Pond Turtle  Garter Snake  Other  

Lifestage:  A  J  T  E  

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance¹ (m)</th>
<th>Bearing²</th>
<th>SVL³ (mm)</th>
<th>Activity⁴</th>
<th>Substrate⁵</th>
<th>Habitat⁶</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>M</td>
<td>70</td>
<td>2</td>
<td>3 (Loc)</td>
<td>Summerlot Pond</td>
<td>0751583 7261230</td>
<td>100% 30</td>
<td></td>
</tr>
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<td>2</td>
<td>A</td>
<td>F</td>
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<td>Summerlot Pond</td>
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<tr>
<td>3</td>
<td>A</td>
<td>M</td>
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<td>3 (Loc)</td>
<td>Summerlot Pond</td>
<td>0751583 7261230</td>
<td>100% 30</td>
<td></td>
</tr>
</tbody>
</table>

Comments:  All 3 were present but difficult to capture.  
Located 3 m from point 3 in pool.  
Mounted 3 m visual at time of capture, at pool #3, confirming presence of 3 frogs.

1 Hipchain Distance – distance from bottom of site/subsite or landmark
2 Bearing – compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL – snout-vent length
4 Activity – (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate – (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
6 Habitat – (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials):  Date:
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: mm dd yy
Site Number:
Subsite (if applicable):
Location/Reach:
Begin Time (24 hr): End Time (24 hr):
Begin Air Temp: End Air Temp:
Discharge:
Site Visit: Water Temp: (surface/nearshore) (main channel/at depth)
Search Area Length (m): Search Area Width (m):
Total Area Searched (m²):
Weather:
Weather Past 24 hrs:
Photograph # (index to notebook desc.):
Fish Present: Yes
Type (circle one):
Centrarchid
Other:
Lifestage: JTE
Other Herp Species (circle one):

Juveniles and Adults

<table>
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<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: Activity: Prior to observation unknown - The frog flushed (swimming) away from near a log as I approached, the frog was captured (left image) while underwater - no flexing as frog flushed so it was unclear as to what triggered flushing

1 Hipchain Distance — distance from bottom of site/subsite or landmark
2 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL — snout-vent length
4 Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials):______ Date:________
Yosemite Toad, (Mountain Yellow-Legged Frog), Northern Leopard Frog, and Cascades Frog

Visual Encounter Survey Data Sheet

Juveniles and Adults

<table>
<thead>
<tr>
<th>Date: mm/dd/yy</th>
<th>Site Number</th>
<th>Subsite (if applicable):</th>
<th>Location/Reach:</th>
<th>Discharge: cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin Time (24 hr.)</td>
<td>End Time (24 hr.)</td>
<td>Begin Air Temp:</td>
<td>End Air Temp:</td>
<td></td>
</tr>
<tr>
<td>Site Visit: 1 2 3 4</td>
<td>Water Temp: (surface/nearshore)</td>
<td>(main channel/at depth)</td>
<td>Overall Site Length (m):</td>
<td>Subsite Length (m):</td>
</tr>
<tr>
<td>Search Area Length (m):</td>
<td>Search Area Width (m):</td>
<td>Total Area Searched: (m²):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather:</td>
<td>Weather Past 24 hrs:</td>
<td>Wind Cond (circle one):</td>
<td>Inclement</td>
<td>Fair</td>
</tr>
<tr>
<td>Photograph # (index to notebook desc.):</td>
<td>Roll #:</td>
<td>Bullfrog</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Fish Present (circle one): Yes No Type (circle one): Salmonid Centrarchid Other: _______________

Other Herp Species (circle one): Bullfrog, Western Pond Turtle, Garter Snake, Other _______________

Lifestage: A J T E

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
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<th>Sex (M/F)</th>
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<th>Bearing (°)</th>
<th>SVL (mm)</th>
<th>Activity (1)</th>
<th>Substrate (2)</th>
<th>Habitat (3)</th>
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<tbody>
<tr>
<td>1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</table>

1. Hipchain Distance — distance from bottom of site/subsite or landmark
2. Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3. SVL — snout-vent length
4. Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5. Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6. Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): ___________ Date: ___________
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet

Date: mm/dd/yy  Site Number: Subsite (if applicable): Location/Reach: Observers: T E  H B
Begin Time (24 hr): End Time (24 hr): Begin Air Temp: °E End Air Temp: °C Discharge: NA cfs
Site Visit: Water Temp: (surface/earse) (main channel/at depth) Overall Site Length (m): Subsite Length (m):
Search Area Length (m): Search Area Width (m): Total Area Searched (m²):
Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Ideal
Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Ideal
Photograph # (index to notebook desc.): Roll #:

Fish Present (circle one): Yes ☐ No ☐ Type (circle one): Salmonid Centrarchid Other:
Other Herp Species (circle one):

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>M</td>
<td></td>
<td>50</td>
<td>90(1)</td>
<td>0</td>
<td>9(10?)</td>
<td>9</td>
<td>Camera 1, 28-28</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>F</td>
<td>40 capture</td>
<td></td>
<td>90(1)</td>
<td>0</td>
<td>9(10?)</td>
<td>9</td>
<td>Pond, 28-28</td>
</tr>
</tbody>
</table>

Comments: ☒ 07-5-1317, 928-1353

1 Hipchain Distance — distance from bottom of site/subsite or landmark
2 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL — snout-vent length
4 Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris (9) aquatic vegetation
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QA/QC (initials): Date: 

[Image of pond and fish marks]
Yosemite Toad, Mountain Yellow-Legged Frog, Northern Leopard Frog, and Cascades Frog
Visual Encounter Survey Data Sheet
Juveniles and Adults

Date: 07 10 96, 97 03 15 92 Site Number: 75049 Subsite (if applicable): Location/Reach: 5194.5k Observers: MV

Begin Time (24 hr.): 1515 End Time (24 hr.): 1530 Begin Air Temp: 24°C End Air Temp: 23°C Discharge: 0 cfs

Site Visit: 1 2 3 4 Water Temp: (surface/nearshore) 23°C (main channel/at depth) 20°C Overall Site Length (m): 20 Subsite Length (m): 24

Search Area Length (m): 17 Search Area Width (m): 2 Total Area Searched: (m²): 34

Weather: Sky Cond (circle one): Overcast Partly Overcast Clear Wind Cond (circle one): Inclement Fair Ideal Wind Cond (circle one): Inclement Fair Ideal

Weather Past 24 hrs: Sky Cond (circle one): Overcast Partly Overcast Clear Photograph # (index to notebook desc.): 3 4

Fish Present (circle one): Yes No Type (circle one): Salmonid Centarchid Other: 

Other Herp Species (circle one): Bullfrog # Western Pond Turtle # Garter Snake # Other Lifestage: A J T E

Juveniles and Adults

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td></td>
<td>N/A</td>
<td>267°</td>
<td>33</td>
<td>2</td>
<td>9</td>
<td>Low gradient shore line</td>
<td>See use in upper west corner</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>33</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments: moss/aquatic veg matter substrate with bedrock and boulders.

1 Hipchain Distance — distance from bottom of site/subsite or landmark
2 Bearing — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3 SVL — snout-vent length
4 Activity — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5 Substrate — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6 Habitat — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course, Write in other type as necessary

QA/QC (initials): MW Date: 7/9/82
**Yosemite Toad, Mountain Yellow-Legged Frog, and Northern Leopard Frog**

**Visual Encounter Survey Data Sheet**

**Juveniles and Adults**

- **Date:** n/a
- **Site Number:** 75OLP
- **Subsite (if applicable):**
- **Location/Reach:** n/a
- **Observers:**
- **Begin Time (24 hr):** 08:50
- **End Time (24 hr):** 10:45
- **Begin Air Temp:** 24°C
- **End Air Temp:** 23°C
- **Discharge:** 0 cfs
- **Site Visit:** 234
- **Water Temp:** 23°C
  - (surface/earshore
    - **main channel/at depth:** n/a
  - **Overall Site Length (m):**
  - **Subsite Length (m):**
- **Search Area Length (m):**
- **Search Area Width (m):**
- **Total Area Search:** (m²):
- **Weather:**
  - **Sky Cond (circle one):** Overcast
  - **Wind Cond (circle one):** Inclement
- **Weather Past 24 hrs:**
  - **Sky Cond (circle one):** Overcast
  - **Wind Cond (circle one):** Inclement
- **Photograph # (index to notebook desc.):**
- **Roll #:**

---

**Fish Present (circle one):**
- **Yes**
- **No**

**Type (circle one):**
- **Salmonid**
- **Centrarchid**
- **Other: A**

**Other Herp Species (circle one):**
- **Bullfrog #**
- **Western Pond Turtle #**
- **Frogs Snake #**
- **Other**

**Lifestage: A**

---

**Juveniles and Adults**

<table>
<thead>
<tr>
<th>Number</th>
<th>Age (J, SA, A)</th>
<th>Sex (M/F)</th>
<th>Hipchain Distance (m)</th>
<th>Bearing</th>
<th>SVL (mm)</th>
<th>Activity</th>
<th>Substrate</th>
<th>Habitat</th>
<th>Comments</th>
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<tr>
<td>3</td>
<td>J</td>
<td></td>
<td>MPA</td>
<td>204</td>
<td>35</td>
<td>2</td>
<td>9</td>
<td>Low gradient Shoreline</td>
<td></td>
</tr>
</tbody>
</table>

---

**Comments:** Low gradient shoreline, emergent vegetation, muddy substrate.

---

1. **Hipchain Distance** — distance from bottom of site/subsite or landmark.
2. **Bearing** — compass heading from landmark or relative heading: N, NE, E, SE, S, SW, W, NW
3. **SVL** — snout-vent length
4. **Activity** — (1) sitting, (2) basking, (3) hiding, (4) calling, (5) swimming, (6) foraging, (7) breeding, (8) floating
5. **Substrate** — (1) silt/mud, (2) sand, (3) gravel, (4) cobble, (5) boulder, (6) bedrock, (7) large woody debris, (8) small woody debris, (9) aquatic vegetation
6. **Habitat** — (1) low gradient riffle, (2) high gradient riffle, (3) run, (4) main channel pool, (5) step-pool, (6) slough, (7) emergent wetland, (8) wet meadow, (9) ephemeral standing pool, (10) perennial standing pool, (11) pond, (12) ephemeral stream course. Write in other type as necessary.

**QA/QC (initials):**

**Date:** 07/11/05

**UTM:**

**Zone:** 12

**Easting:** 57,000

**Northing:** 4,950
APPENDIX D

Wildlife Species Observed During Amphibian Surveys
WILDLIFE SPECIES OBSERVED DURING AMPHIBIAN SURVEYS

Amphibians
Sierra newt (Taricha torosa sierrae)
Long-toed salamander (Ambystoma macrodactylum)
Sierra Nevada salamander (Ensatina eschscholtzii platensis)
Foothill yellow-legged frog (Rana boylii)
Mountain yellow-legged frog (Rana muscosa)
Bullfrog (Rana catesbeiana)
Pacific treefrog (Hyla regilla)

Reptiles
Sagebrush lizard (Sceloporus graciosus)
Western fence lizard (Sceloporus occidentalis)
Sierra alligator lizard (Gerrhonotus coeruleus palmeri)
Rubber boa (Charina bottae)
Western yellow-bellied racer (Coluber constrictor mormon)
Gopher snake (Pituophis melanoleucus)
Sharp-tailed snake (Contia tenuis)
Sierra garter snake (Thamnophis couchii couchii)
Mountain garter snake (Thamnophis elegans elegans)
Valley garter snake (Thamnophis sirtalis fitchii)
Western rattlesnake (Crotalus viridis)

Birds
Pied-billed grebe (Podilymbus podiceps)
Canada goose (Branta canadensis)
Domestic goose
Mallard (Anas platyrhynchos)
Ring-necked duck (Aythya collaris)
Bufflehead (Bucephala albeola)
Common merganser (Mergus merganser)
Turkey vulture (Cathartes aura)
Osprey (Pandion haliaetus)
Sharp-shinned hawk (Accipiter striatus)
Northern goshawk (Accipiter gentiles)
Red-tailed hawk (Buteo jamaicensis)
American kestrel (Falco sparverius)
Mountain quail (Oreortyx pictus)
Killdeer (Charadrius vociferus)
Spotted sandpiper (Actitis macularia)
Band-tailed pigeon (Columba fasciata)
Mourning dove (Zenaida macroura)
Common nighthawk (Chordeiles minor)

Birds Cont.
Anna's hummingbird (*Calypte anna*)
Belted kingfisher (*Ceryle alcyon*)
White-headed woodpecker (*Picoides albolarvatus*)
Northern flicker (*Colaptes auratus*)
Williamson's sapsucker (*Sphyrapicus thyroideus*)
Red-breasted sapsucker (*Sphyrapicus ruber*)
Nuttall's woodpecker (*Picoides nuttallii*)
Downy woodpecker (*Picoides pubescens*)
Hairy woodpecker (*Picoides villosus*)
Olive-sided flycatcher (*Contopus cooperi*)
Western wood-pewee (*Contopus sordidulus*)
Hammond's flycatcher (*Empidonax hammondii*)
Flycatcher sp. (*Empidonax* sp.)
Black phoebe (*Sayornis nigricans*)
Cassin's vireo (*Vireo cassini*)
Warbling vireo (*Vireo gilvus*)
Steller's jay (*Cyanocitta stelleri*)
Clark's nutcracker (*Nucifraga columbiana*)
Common raven (*Corvus corax*)
Cliff swallow (*Petrochelidon pyrrhonota*)
Northern rough-winged swallow (*Stelgidopteryx serripennis*)
Barn swallow (*Hirundo rustica*)
Mountain chickadee (*Poecile gambeli*)
Bushtit (*Psaltriparus minimus*)
Brown creeper (*Certhia americana*)
White-breasted nuthatch (*Sitta carolinensis*)
Red-breasted nuthatch (*Sitta canadensis*)
House wren (*Troglydites aedon*)
Winter wren (*Troglydites troglodytes*)
American dipper (*Cinclus mexicanus*)
Golden-crowned kinglet (*Regulus satrapa*)
Townsend's solitaire (*Myadestes townsendi*)
Hermit thrush (*Catharus guttatus*)
American robin (*Turdus migratorius*)
Orange-crowned warbler (*Vermivora celata*)
Nashville warbler (*Vermivora ruficapilla*)
Yellow-rumped warbler (*Dendroica coronata*)
Yellow warbler (*Dendroica petechia*)
MacGillivray's warbler (*Oporornis tolmiei*)
Wilson's warbler (*Wilsonia pusilla*)
Western tanager (*Piranga ludoviciana*)
Spotted towhee (*Pipilo maculatus*)
Fox sparrow (*Passerella iliaca*)
Lincoln's sparrow (*Melospiza lincolnii*)
Song sparrow (*Melospiza melodia*)
White-crowned sparrow (*Zonotrichia leucophrys*)

**Birds Cont.**
Dark-eyed junco (*Junco hyemalis*)
Black-headed grosbeak (*Pheucticus melanocephalus*)
Pine grosbeak (*Pinicola enucleator*)
Red-winged blackbird (*Agelaius phoeniceus*)
Brewer’s blackbird (*Euphagus cyanocephalus*)
Brown-headed cowbird (*Molothrus ater*)
Bullock’s oriole (*Icterus bullockii*)
Cassin’s finch (*Carpodacus cassinii*)
Red crossbill (*Loxia curvirostra*)
Pine siskin (*Carduelis pinus*)
Lesser goldfinch (*Carduelis psaltria*)
Goldfinch sp. (*Carduelis sp.*)

**Mammals**

Bat sp.
Black bear (*Ursus americanus*)
Coyote (*Canis latrans*)
Fox sp.
Bobcat (*Lynx rufus*)
Mountain lion (*Felis concolor*)
Yellowbelly marmot (*Marmota flaviventris*)
Raccoon (*Procyon lotor*)
Douglas squirrel (*Tamiasciurus douglasi*)
Chipmunk sp. (*Eutamias sp.*)
Golden-mantled squirrel (*Citellus lateralis*)
Beaver (*Castor canadensis*)
Pika (*Ochotona princeps*)
Mule deer (*Odocoileus hemionus*)

**Fish**

Sacramento pikeminnow (*Ptychocheilus grandis*)
Golden shiner (*Notemigonus crysoleucas*)
Minnow sp.
Sacramento sucker (*Catostomus occidentalis*)
Mountain sucker (*Catostomus platyrhynchus*)
Rainbow trout (*Oncorhynchus mykiss*)
Brown trout (*Salmo trutta*)
Brook trout (*Salvelinus fontinalis*)
Sunfish sp. (*Lepomis sp.*)
Largemouth bass (*Micropterus salmoides*)
APPENDIX E

Site Habitat Assessment Results Matrix
<table>
<thead>
<tr>
<th>Site</th>
<th>Habitat Assessment Rating Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>103a</td>
<td>River 979 0.50 20 Low</td>
</tr>
<tr>
<td>104a</td>
<td>River 543 0.97 15-25 Low</td>
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<tr>
<td>115a</td>
<td>River 610 0.60 3-15 Low</td>
</tr>
<tr>
<td>117a</td>
<td>River 622 0.80 3-15 Low</td>
</tr>
<tr>
<td>120a</td>
<td>River 466 0.60 40 Low</td>
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<tr>
<td>121a</td>
<td>River 467 0.40 80 Low</td>
</tr>
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<td>122a</td>
<td>River 767 0.50 30 Low</td>
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<td>124a</td>
<td>River 676 0.80 20 Low</td>
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<tr>
<td>125a</td>
<td>River 952 0.40 30 Low</td>
</tr>
<tr>
<td>126a</td>
<td>Reservoir 1152 0.20 100</td>
</tr>
<tr>
<td>127a</td>
<td>River 615 0.50 30 Low</td>
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<tr>
<td>128a</td>
<td>River 124 1.75 3-15 Low</td>
</tr>
<tr>
<td>129a</td>
<td>River 920 0.20 50 Low</td>
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<td>130a</td>
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<td>131a</td>
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<td>132a</td>
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<td>133a</td>
<td>River 1390 0.50 30 Low</td>
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<tr>
<td>134a</td>
<td>River 617 0.80 30 Low</td>
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<td>135a</td>
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<td>136a</td>
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<td>139a</td>
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</tr>
<tr>
<td>140a</td>
<td>River 617 0.80 30 Low</td>
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**Comments:***
- **TOC:** Swift and deep main channel riffle/riffle habitat. Sandbar along shore.
- **TOC:** This site alternates between areas with no riparian habitat (vertical bedrock cliff adjacent to deep water) and areas with abundant shoreline shadows, wave mark, and cobble/boulder terrace.
- **TOC:** Bedrock-lined channel with riffle/riffle habitat.
- **TOC:** Main channel with riffle/riffle habitat and a meandering secondary channel.
- **TOC:** Main channel with riffle/riffle habit and small cascades.
- **TOC:** Mixed main channel with riffle/riffle habitat and steep cascades/chute pools.
- **TOC:** Main channel with steep run habitat, deep gorges and pools.
- **TOC:** Riffle/riffle habitat bordered by jetty wall.
- **NIS, TOC:** Habitat is low gradient riffle/run pool habitat before the diversion. After the diversion, habitat is primarily moderates to high gradient cascades and plunge pools.
- **TOC:** A prominent trend in the SFRAR occurs within this site. Numerous connected snotel sites and backwater pools are present along the margin of the island formed between the branch and the mainstem. Riparian shade values may be inflated due to relatively low trajectory of the sun.
- **TOC:** Riparian shade values likely inflated due to skewness of associated canyon walls and the relatively low trajectory of the sun.
- **TOC:** Boulder/cobble bar present.
- **TOC:** Riffle/riffle bar with short cascades.
- **TOC:** occasional bedrock cascades and slates.
- **TOC:** Boulder habitat on right bank, cobble boulder margin and boulder/cobble bar.
- **TOC:** Creeks contribute primarily of bedrock cascades, slates, and plunge pools. Recent the altered canopy of the site was impermeable due to dense undergrowth and snotel bars.
- **TOC:** Low gradient during this half of site but increases during second half with more moderate to high gradient bedrock cascades.
- **TOC:** Island located at downstream end of site.
<table>
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<tr>
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<th>CCA 24</th>
<th>CCA 25</th>
<th>CCA 26</th>
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<td>0.32</td>
<td>0.24</td>
<td>0.19</td>
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<td>Week 4</td>
<td>Week 6</td>
<td>Week 8</td>
<td>Week 12</td>
<td>Week 16</td>
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</table>

Comments:
- Site 11/2/2022 Snowmelt pond: Pond not depicted on USGS quad map.
- Site 11/2/2022 Snowmelt pond: Pond not depicted on USGS quad map.
- This pond is near two additional, small snowmelt ponds that were likely all brooded earlier in the season.
- This pond consists of 3 small ponds that earlier in the season would have been one large pond.
- Pond not depicted on USGS toposheet map.
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<th>Code</th>
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<th>Scientific Name</th>
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<td>Ambystoma maculatum</td>
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<td>EIES</td>
<td>Sierra Nevada salamander</td>
<td>Desmognathus fuscus</td>
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<tr>
<td>HYRE</td>
<td>Pacific treefrog</td>
<td>Hyla regilla</td>
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<td>RAET</td>
<td>Barking frog</td>
<td>Raorchestes</td>
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<tr>
<td>TAYO</td>
<td>Sierra toad</td>
<td>Anaxyrus</td>
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<tr>
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<td>Western aquatic garter snake</td>
<td>Thamnophis</td>
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<td>Common garter snake</td>
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<td>THSP</td>
<td>Garter snake (species unknown)</td>
<td>Thamnophis</td>
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APPENDIX F

Site Habitat Assessment Data Forms
**Amphibian Habitat Site Assessment**

Date: 5/15/02  Site #: 140E  Site Name: EID Forebay Pollock Pines

Surveyors: AB  Survey time: start 0930 end 1015  Total survey time 45  Sighting: Yes

Total Site Length: ——  Elevation: 3786' UTM: start —— end ——

Air Temp: 18°C  Water Temp: shore partly cloudy at depth  Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)

Upland Habitat Type:  Reservoir coastal  Forests  Fish Observed: Catfish, bullhead, carp, bass, sunfish, trout, shad, smelt

Herpetofauna Observed:  3  Rana, anat.  Kaelke, S. sp.  Other: 3

Other Species Observed:  dead fox in inlet  Osprey  Other: hydroelectric, eels

**Impacts to Amphibian Habitat**
- □ grazing  Recreation  □ logging  □ other: high intensity anglers

**Habitat Type**
- Diverted tributary  Reservoir  Pond/Lake
- Tributary: ephemeral, intermittent, or perennial  Forebay  River
- Wet meadow: flowing water, standing ponds

**Aquatic Habitat Features:**

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

Dimensions: length ___ width ___ depth ___

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1  Type: sedge, rush, pondweed, algae, willow, other  cattail, cattail stalks
Submerged vegetation: 1  Type: sedge, rush, algae, other  grass
Margin vegetation: 3  Type: forbs, grass, shrubs (blackberry, willow, etc.), other  reed, reed grass
Terrestrial cover: 2  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 2  Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other  reed, reed grass
Shade: 0  Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 0  Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewise areas: Description of size, depth, and substrate:

Additional comments: cattails provided aquatic cover for the season when it was dry. No bank mostly exposed with dead or matted, dead veg.
2) Description of habitat

Dimensions: length 100' or % of site __________ width __________ depth ___________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Mid-channel pools deep

Additional comments: Bajet is very shaded, found dead got in pool.

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

**Date:** 5/28/02  
**Site #:** 140F  
**Site Name:** Eld Forebay, Pollock Pines

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<th>APB</th>
<th>Survey time: start</th>
<th>end</th>
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<th>Sighting: Yes</th>
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<td>Wind Speed (*Beaufort):</td>
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<td>Ave. Creek (River) Gradient: Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod (15-40°)</td>
<td>High (&gt;40°)</td>
<td>inlet, w/ eroded banks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upland Habitat Type: Forest, hardwood/conifer</td>
<td>Fish Observed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed:</td>
<td>Sucker trout, bullhead, redside dace</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Impacts to Amphibian Habitat:**  
- ☐ grazing  
- ☐ recreation  
- ☐ logging  
- ☑ other: Hydroelectric (high impact)

**Habitat Type**

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir: **Forebay**
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ________

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

<table>
<thead>
<tr>
<th>Description of habitat</th>
<th>Forebay w/ inlet and outlet water source</th>
</tr>
</thead>
</table>

- Dimensions: length ________ or % of site ________ width ________ depth ________
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other  
- Submerged vegetation: Type: sedge, rush, algae, other
- Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: Type: understory (willow dogwood, alder, maple, other), canopy cover
- Basking sites: Type: exposed bank, boulder, log, other
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

**Additional comments:** Bank devoid of cover. Bank gradient low but with a few steeply undercut sections. Banks heavily trod, uprooted form flooding and other tree activities. Water level significantly higher than previous day, limiting in increased wading veg. or其他。
2) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: ________ Type: sedge, rush, algae, other_________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other_________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: _____________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

3) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: ________ Type: sedge, rush, algae, other_________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other_________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: _____________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 23 July 2002  Site #: 150  Site Name: Foreman

Surveyors:  h b H LA M R A Survey time: start 0:30  end 0:50  Total survey time 2:05"  Sighting: Yes (N)

Total Site Length: _ Elevation: 3500'  UTM: start end

Air Temp: 20  Water Temp: shore 24 at depth 24  Ave. Water Velocity 1/10

Cloud cover: (clear 10-100%) partly cloudy (11-50%) cloudy (50%) Wind Speed (Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  NA

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)

Upland Habitat Type: Mixed Conifer  Fish Observed: YES (SALMON, COWICHAN, Etc.)

Herpetofauna Observed: BULLFROG (314 ADULTS OBSERVED) - ONLY ADULTS OBSERVED, NO JUN OR TADLS

Other Species Observed: MALLARD, DUCK, GREBE

Impacts to Amphibian Habitat - ★ grazing □ recreation □ logging □ other: SHUN OF RECREATIONAL USE (TRASH, TRASH, ETC)

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir Foreman
- Pond/Lake
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

SEE DATA FORMS COMPLETED DURING DAY SURVEYS FOR HABITAT ASSESSMENT INFO

Dimensions: length _ or % of site _ width _ depth _

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _ Type: sedge, rush, pondweed, algae, willow, other _
Submerged vegetation: _ Type: sedge, rush, algae, other _
Margin vegetation: _ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _
Terrestrial cover: _ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _
Aquatic cover: _ Type: rootwat, aquatic veg, woody debris, boulder, undercut banks, other _
Shade: _ Type: understory (willow, dogwood, alder, maple, other _), canopy cover
Basking sites: _ Type: exposed, bank, boulder, log, other _

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: H20 LEVELS AGAIN HIGH - CREATING STEEP BANKS ALONG MUCH OF THE FOREMAN PERIMETER. FISH COMMONLY OBSERVED IN THE SHALLOW WATER TONE ALONG SHORE LINE. 15 MINUTES SPENT GATHERING THE WAT 100 MOON LOCATED AT THE SE CORNER OF THE FOREMAN NO CACO OR MORE OBSERVED

OFFICIAL SUNSET: 7:30
FULL MOON

SLOWED ENTIRE PERIMETER OF FOREMAN.
2) Description of habitat

Dimensions: length________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other________

Submerged vegetation: __________ Type: sedge, rush, algae, other________

Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________

Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________

Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________

Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover

Basking sites: __________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other________

Submerged vegetation: __________ Type: sedge, rush, algae, other________

Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________

Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________

Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________

Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy-cover

Basking sites: __________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 23 OCT 2002  Site #: 140F  Site Name: End Forebay  

Surveyors:  
Survey time: start 2000  end 2215  Total survey time 2.5 h  Sighting: Yes  

Total Site Length:  
Elevation: 598'  UTM: start  
end  

Air Temp: 70  Water Temp: 70  at depth 70  Ave. Water Velocity  
Cloud cover:  
partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0) (2) (4) (5+)  
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)  

Upland Habitat Type: Mixed Conifer  Fish Observed: Bullecg (4 hours)  

Herpetofauna Observed:  
Other Species Observed:  

Impacts to Amphibian Habitat -  
Recreation  Logging  Other:  

Habitat Type  
- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir  
- Pond/Lake  
- River  
- Wet meadow: flowing water, standing ponds  

Aquatic Habitat Features:  
Estimate the abundance of each of the following habitat variables using the following categories:  
1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%).  
Circle the dominant (and co-dominant) type and underline the sub-dominant type.  
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately.  
Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.  

1) Description of habitat  Reservoir -  
Dimensions: length ______ or % of site ______  width ______  depth ______  
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Emergent vegetation: _________ Type: sedge, rush, pondweed, algae, willow, other _________  
Submerged vegetation: _________ Type: sedge, rush, algae, other _________  
Margin vegetation: _________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _________  
Terrestrial cover: _________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _________  
Aquatic cover: _________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _________  
Shade: _________ Type: understory (willow, dogwood, alder, maple, other _________), canopy cover  
Basking sites: _________ Type: exposed bank, boulder, log, other _________  
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:  

Additional comments:  

Final survey  
Deer level lower than during prey nocturnal survey (May 23)  
Deer level more cover, appear similar. Ho level to first day survey (May 15)  
No calf observed  

Final survey
2) Description of habitat

Dimensions: length _______% or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________


3) Description of habitat

Dimensions: length _______% or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
### Amphibian Habitat Site Assessment

**Date:** 25 Sept 2002  
**Site #** M5 P  
**Site Name** —

**Surveyors:**  
Survey time: start 11:30  
end 11:45  
Total survey time 15 min  
Sighting: Yes  No

**Total Site Length:** —  
**Elevation:** 4280'  
**UTM:** start  
end —

**Air Temp:** 75°  
**Water Temp:** shore N/A  
**at depth** N/A  
**Ave. Water Velocity** N/A

**Cloud cover:** Clear (0-10%)  
Partly cloudy (11-50%)  
Cloudy (50-75%)  
**Wind Speed:** (Beaufort): 0-1  (2-4)  (5+)

**Ave. Creek (River) Gradient:** Low (<10°)  
**Mod.** (11-30°)  
**High** (>30°)  N/A

**Ave. Bank Gradient:** Low (<15°)  
**Mod.** (15-40°)  
**High** (>40°)  N/A

**Upland Habitat Type:** Mixed  
**Fish Observed:** —

**Herpetofauna Observed:** —  
**Other Species Observed:** —

**Impacts to Amphibian Habitat:**  
☐ grazing  
☐ recreation  
☐ logging  
☐ other:

### Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: —

### Aquatic Habitat Features:

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the **dominant** (and co-dominant) type and underline the **sub-dominant** type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat** —

- **Location:** Pond - Lined (Dominant, H2?)
- **Current Day:** No survey conducted

**Dimensions:** length __________ or % of site __________ width __________ depth __________

- **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

- **Emergent vegetation:** __________ Type: sedge, rush, pondweed, algae, willow, other __________

- **Submerged vegetation:** __________ Type: sedge, rush, algae, other __________

- **Margin vegetation:** __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________

- **Terrestrial cover:** __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________

- **Aquatic cover:** __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other __________

- **Shade:** __________ Type: understory (willow, dogwood, alder, maple, other __________), canopy cover

- **Basking sites:** __________ Type: exposed bank, boulder, log, other __________

- **Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:

**Additional comments:**  
One Large, Lined Spot Is Present - Which is Currently Only Vegetation Remains Along, Marking

A Bot. Second Gram - A Couple Mushrooms Are Assumed Present - Is Also Present - This is Also Currently Dead
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 5/29/02  Site #: 205  Site Name: E. Creek
Surveyors: AB, RH  Survey time: start ___  end ___  Total survey time ___________  Sighting: Yes  No
Total Site Length: 1,160m  Elevation: 3,000 ft  (UTM: start) ___  end ___  0218854  4290
Air Temp: ___________  Water Temp: shore 10-12°C  at-depth ___________  Ave. Water Velocity _
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-100%), Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  had sections of all 3 categories
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Mixed conifers  Fish Observed: trout
Herpetofauna Observed: R. adult  T. couchii adult
Other Species Observed: winter厦
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: [Hedge, electric, high-maintenance]

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: ________

Dimensions: length ___________ (W/S)  width ___________  depth ___________  Ave. 5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other

Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: [ ] Type: understory (willow, dogwood, alder, maple, other)

Basking sites: [ ] Type: exposed bank, boulder, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: [ ]

(15/5/5)

[ ]

[ ]
2) Description of habitat

Dimensions: length: 65% or % of site: 55% width: M depth: AVG: 10-30 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1 Type: sedge, rush, algae, other
Margin vegetation: 2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 2 Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: 4 Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites: 2 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Impact or precaution: Maintenance below minimum. 50

3) Description of habitat

Dimensions: length:__________ or % of site:__________ width:__________ depth:__________
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation:__________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation:__________ Type: sedge, rush, algae, other
Margin vegetation:__________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover:__________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover:__________ Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade:__________ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites:__________ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 5/29/02 Site # 210DT Site Name: Ogilby Canyon Creek
Surveyors: SI, LR Survey time: start 10:30 end 11:45 Total survey time 4.5 hrs Sighting: Yes
Total Site Length: 1.05 mi Elevation: UTM: start end
Air Temp: 21°C Water Temp: shore 11-13°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (>50%) Wind Speed (*Beaufort) (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)
Upland Habitat Type: Foothill hardwood forest Fish Observed: Trout
Herpetofauna Observed: TADPOLE: 60 adults, 7 eggs, massed, 3 juveniles (some adults), 3 TH
Other Species Observed: —
Impacts to Amphibian Habitat: [ ] grazing [ ] recreation [ ] logging [ ] other: [ ] low to [ ] mod. impact

Habitat Type
- [ ] Diverted tributary
- [ ] Tributary: ephemeral, intermittent, or perennial
- [ ] Reservoir
- [ ] River
- [ ] Wet meadow: flowing water, standing ponds
- [ ] Pond/Lake
- [ ] Other: [ ]

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: [ ] low-gradient riffle/run and step pools
   Dimensions: length ____, part % of site 50% width ____, depth ____. Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
   Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
   Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other horsetail, grass/fo
   Submerged vegetation: [ ] Type: sedge, rush, algae, other
   Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other sedge
   Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
   Aquatic cover: [ ] Type: rooted aquatic veg, woody debris, boulder, undercut banks, other
   Shade: [ ] Type: understory willow, dogwood, alder, maple, other
   Basking sites: [ ] Type: exposed bank, boulder, log, other
   Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Pools were shallow and good cover and fairly abundant

Additional comments: This habitat was great for frogs. Trend
2) Description of habitat: Bedrock cascades, slides, & plunge pools

Dimensions: length, width

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Deep plunge pools with fish, lots of native TRID in shallow bedrock pools.

Additional comments: EYLF habitat poor to non-existent in these wetlands (which occurred in 1980s & 1990s) where aggradation increased stream width & depth, near D4 on site however, the cascades may serve as dispersal barriers.

3) Description of habitat:

Dimensions: length, width, depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 06-27-2002  Site # 215  Site Name: Short Place Tributary
Surveyors: Lm. mcv Survey time: start 1030 end 1215 Total time 150min Sighting: yes  no
Total Site Length: 0.50 M Ave. Width: 0.5 M Elevation: 3297-3277 (994-1096 m)
Air Temp: 33°C  Water Temp: shore 62°F at depth 62°F Ave. Water Velocity
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)
Ave. Creek Gradient - Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient - Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Chaparral/Pine Forest  Fish Observed: only brown trout
Herpetofauna Observed: Frogs, lizards
Other Species Observed: Caddis fly, banana slugs
Impacts to Amphibian Habitat: Grazing  Recreation  Logging  Other:

Habitat Type
- Diverted tributary
- Tributary, ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow:
  - flowing water,
  - standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitat Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. - 11 to 30%, 3) low to moderate amt. - 31% to 50%, 4) moderate to high amt. - 51-70% and 4) abundant - >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
10507 19682  Start 50 m from confluence. East side of
42.94850 UTM  Tributary
Aquatic Habitat: (4) border w/3) cobble bar. Side pools and
edge water pools w/elephant ears, willows and grass.
1) Pandanus pine, Dwarf fir, Sugar pine, bush willow, manzanita,
Amphibian Habitat Site Assessment

Black oak, Alder, willow, grapes, dogwood, cedar, 3 leaf maple. No water at the confluence, overgrown blackberry, wild grape, willows and wood debris.

Overall overgrown vegetation over creek. 50 cm maximum width, w/ crevacious pools 30 cm in depth, average. Pools have suit bottom. Intermittent tributary w/ water flowing underground 80%-30%. Road crossing at 0.13 mile from confluence. Boulder edge, terrain w/ mallee, willow and wood debris as coverage. 80% Canopy cover, and

Unit/Section 2:

only able to see creek 60% of length. By pass creek. 0.1 miles due to overgrown vegetation. Overall high gradient tributary w/ low to moderate cascades (bedrock and boulders) w/ trickling water, low to moderate amount of pools, 1x70 cm, in length (4-5 throughout) and 35 x50 (6 approx. throughout). Abundant coverage (wood debris and vegetation). Last 0.1 mile was bypass due to overgrown vegetation.

Unit/Section 3:

Comments:

*Beaufort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
## Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 20 June 07</th>
<th>Site # 820 R-16</th>
<th>Site Name: Blackland prairie Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Site Length: 950 m</td>
<td>Ave. Width:</td>
<td>Elevation: 3875 ft. UTM Sec. 16 E, 2477.20</td>
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<tr>
<td>Air Temp: 64°F</td>
<td>Water Temp: shore 18°C at depth Ave. Water Velocity</td>
<td></td>
</tr>
<tr>
<td>Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (&gt;50%)</td>
<td>Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)</td>
<td></td>
</tr>
<tr>
<td>Ave. Creek Gradient - Low (&lt;10°)</td>
<td>Mod (11-30°)</td>
<td>High (&gt;30°)</td>
</tr>
<tr>
<td>Ave. Bank Gradient - Low (&lt;15°)</td>
<td>Mod (15-40°)</td>
<td>High (&gt;40°)</td>
</tr>
<tr>
<td>Upland Habitat Type: Foothill hardwood/conifer</td>
<td>Fish Observed: Foothill hardwood/conifer</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed:</td>
<td>Sierra (Aquatic) garter snake</td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td>decepted) 607 spp., total 9 spp.</td>
<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other:

### Habitat Features
For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.

- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. - 11 to 30%, 3) low to moderate amt. - 31% to 50%, 4) moderate to high amt. - 51-70% and 4) abundant >70%

### Habitat Features:
1. Dimensions: length, width, depth
2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other
6. Canopy and Understory Cover: willow, dogwood, alder, conifer, maple, other
7. Basking Sites: exposed bank, boulder, log, other
8. Presence of sidepools, backwater pools, or edgewater areas

### Unit/Section 1:
- Left bank
  - Area: 10720.55/142.46
  - Length of unit 1 was 600 m.
  - Average width
    - of substrate area was 30 m.
    - and depth was 2-3 ft. Aquatic Substrate included a mix of sand, gravel, cobble with some boulder along the main channel. Terrestrial substrate was leaf litter and soil.
  - Primary emergent here was sedge sedge with grasses, sedge, and moss on the submerged rocks. Terrestrial cover consisted of woody debris and little to no aquatic cover or canopy was available. Exposed rock and boulder were primary basking sites. Unit 1 had 50 ft.
Amphibian Habitat Site Assessment

Primary aquatic habitat was bedrock cobble bar with
inherently shallow pools. No amphibians were seen.

Unit/Section 2: Left bank
UTM S 1072900 42°34'57"2. Length of unit 2 was 25 m.
Width of river was 25 m, and average depth was 2 m.
Aquatic vegetation was sand, cobble, terrestrial vegetation was
red oak and grass. Emergent vegetation was salix. With
grapes, cedars, and coniferous plant (Salix alba). Aquatic cover
consisted of salix and pine, laurel. Breeding sites were exposed
rock and soil. 1 Rana aurora was seen. UTM: 1072900
42°34'57"2. This area was bordered by pine, salix, alder and oak.
The Rana jumped into the edge water of the river and
then hopped submerged rocks. A large frog was seen
25 m. down stream. This could be the entire length
of unit 2. No good amphibian habitat with slow flow
and instead of shallow pools. No juveniles or egg rows were seen.
Abundance could be reported as minimal.

Unit/Section 3: Right bank
UTM: 1072965 42°34'57"2 63° 150 20' 0" 12:25 pm
Unit 3 was a cobble sand bar of 10-15 m. with large
rocks and a slow moving current. Channel Unit 3 was
20 m. in width and had depths ranging from 6 m. to 31 m. (pools)
Salix was the dominant emergent vegetation with some alder/juniper, and
species as aquatic cover. Woody debris was seen throughout unit 3.
Coyote common of about 70% by most cases. Breeding sites were
exposed rock and edge water. Sand, cobble, and substrate
consisted of abundant edge water pools. 1 Rana aurora was identified
30 m. upstream from the end of unit 3. Narrow shallow water
channel separated Unit 3 from similar condition amphitheater habitat
found on the right bank. Abundance estimate could
be higher than minimal.

 Comments:
Besides certain sections of R/L river banks that were
deeper edge water channels or consisted of bed rock. This
section of river had abundant amphibian habitat
consisting of long stretch of cobble sand bar with adequate
rocks. Tall pine cover was dominant, and salix was dominate
within the channel and banks. Estimated river flow is 5-7 mph
Area could support more amphibians than the 1 caught and
seen. No eggrons or juveniles were seen throughout the survey.

* Beausfort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises
dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 5/28/02  Site #: 2951  Site Name: Plum Crk

Surveyors: SH, RH  Survey time: start 0000  end 1330  Total survey time: 3.5 hr  Sighting: Yes  No
Total Site Length: 5 mi  Elevation: 975 ft  UTM: start  end
Air Temp: 19°C  Water Temp: shore 11-13°C  at depth  Ave. Water Velocity
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort) (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: mixed  conifer  Fish Observed: Trout
Herpetofauna Observed: 1 TMC  0 TATC
Other Species Observed: __________

Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other: __________
None observed

Habitat Type
- Divided tributary
- Tributary ephemeral
- intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: __________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1. absent (<10%), 2. minimal (11 to 30%), 3. moderately low (31 to 50%), 4. moderately high (51 to 70%), or 5. abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat
   Low-meat grade riffle/run/pool w/short cascades and pools
   Dimensions: length __________ width 3-10m  depth __________
   Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
   Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
   Emergent vegetation: __________ Type: sedge, rush, pondweed, alga, willow, other __________
   Submerged vegetation: __________ Type: sedge, rush, alga, other __________
   Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
   Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other undercut banks
   Aquatic cover: __________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________
   Shade: __________ Type: understory (willow, dogwood, alder, maple, other)  canopy cover __________
   Basking sites: __________ Type: exposed bank, boulder, log, other __________
   Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________
   Additional comments: __________

Completed shallow (<3m) sidepools w/coarse substrates slightly lacking cover, other than illustrate gaps.

Site where woodcockrocker were most abundant. Silted in the later section too.

Except for the lack of diversity in some types, there is good FYE habitat (except boulder areas).

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Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 5/24/02  Site #: 230 DT  Site Name: Bull Creek

Surveyors: SH/AB  Survey time: start 11:30  end 14:00  Total survey time 2.5 hrs  Sighting: Yes  No

Total Site Length: 0.95 mi  Elevation: 82-120 (283-1256 m)  UT: start  end

Air Temp: 50-71°F  Water Temp: shelf 8-9.5°C  at depth  Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort: 0-1) 2-4  5+

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type: mixed conifer  Fish Observed: No

Herpetofauna Observed: ENES adult, TATOO eggs, REPT.

Other Species Observed: __________

Impacts to Amphibian Habitat:  □ grazing  □ recreation  □ logging  □ other: hydroelectric

Habitat Type
- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary: ephemeral, intermittent, or perennial
- River
- Other: ________
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat: Low grade riffle/run/pool w/ occasional cascade +

Dimensions: length _______ or % of site after flute _______ width _______ or % of site + channel _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______

Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: _______

Type: sedge, rush, algae, other

Margin vegetation: _______

Type: forest grass, shrubs (blackberry, willow, etc.), other
(first 0.25 m is bare)

Terrestrial cover: _______

Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Undercut bank

Aquatic cover: _______

Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: _______

Type: understory (willow, dogwood, aspen, maple, other), canopy cover

Basking sites: _______

Type: exposed bank, (boulder) log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Data of shallow pools w/ slow water and good cover

Additional comments: Site consists of a number of bedrock/boulder cascades with silt/laid dominated pools. Drain in the upper portion of the site, shallow, narrow riffle/run at upper section. Very nice! FLY fish. Certain LIT occurs.
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-25-09  Site # 235R  Site Name: SEAamerican River
Surveyors: 31 MV  Survey time: start 1426H end 1505  Total time 39 min  Sighting: yes  no
Total Site Length: 322m  Ave. Width: 2-5m  Elevation: 1280 (ft)  UTM 10s0732324 429456
Air Temp: 26-39°C  Water Temp: 19°C  Ave. Water Velocity: 1 ft/sec
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%)  Wind Speed (Beaufort scale): 0-1 2-4 5+
Ave. Creek Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Foothill hardwood/Conifer  Fish Observed: Trout
Herpetofauna Observed:  T. couchii
Other Species Observed: dead rodent
Impacts to Amphibian Habitat - grazing  recreation  logging  other: fire on right bank, development

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amnt. 11 to 30%, 3) low to moderate amnt. 31% to 50%, 4) moderate to high amnt. 51-70% and 5) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
Boulders and cobbles margin approx. 12m wide. Veg. abundant (sedge, willows, alders, grasses, sedges, forbs)
Boulders 1" substrates sand (secondary) cobble. Margin veg. abundant
Willow + sedge, scattered liriodendro, Sedge around
Boulders and cobbles. No Submerged veg. Terrestrial
Cover: prim, vegetating as sedges on margin.
No canopy cover, abundant understory that did not provide shading. Mod. (high) basking sites (isolated)
sidepools w/ flocculent material shallows w/ full sun exposure and
basking sites nearby. Nice stretch.
Unit/Section 2:

Lateral boulders bar w/ no side pools. Shallow units along the margin. Roughly 20cm long.
No veg. (Emerg. or submerged). Min. terr. couples, host boulder gaps. Scale per aquatic cone.
Boulders embedded in sand, so not a lot of gaps.
Abundant basking, no canopy but abundant vegetation and calcite substrates on banks. No shading in shallows.

Unit/Section 3:

Pocket water w/ sedge. Water shallow 20-30cm and flowing 1ft/sec. (avg. avg). Often sedge.
Sedge clumps around boulders provide large mod. benthic cover. Margin veg.
Low-mod. Basking available as (sand bars and boulders, a few 1-2 isolation) sand filled side pools w/o veg. cover but still warm water. Tidal covers reach if these, as sedge clumps or willow

Comments:

Left bank section 100m long consisted of sedge/sand
clumps w/in 3-5m of water with a small and
shallow/very water along the bank. Sedge and willow
plant provide abundant terrestrials in this area but
aquatic covers run (sedge clumps) and fish can swim
along slow in most areas. Water is fairly c
swift 1ft/sec. Habitat is pretty wide variability

* Beaufort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
**Amphibian Habitat Site Assessment**

**Date:** 5/30/02  
**Site #:** 245 DT  
**Site Name:** Mill Crk

**Surveyors:** SH LR  
**Survey Time:** start 1115  
**End:** 1500  
**Total Survey Time:** 60 min  
**Sighting:** Yes (No)

**Total Site Length:** 1.07 mi

**Elevation:** 3440 ft  
**UTM:** start 199408  
**UTM:** end 199408  

**Air Temp:** 79°F  
**Water Temp:** shore 50°F  
**Water Velocity:**

**Cloud Cover:** clear (0-10%)  
**Partly Cloudy:** (11-50%)  
**Cloudy:** (>50%)  
**Wind Speed (Beaufort):** 0-1  
**2-3**  
**5+**

**Ave. Creek (River) Gradient:** Low (<10°)  
**Moderate:** (10-30°)  
**High:** (>30°)

**Ave. Bank Gradient:** Low (<15°)  
**Moderate:** (15-40°)  
**High:** (>40°)

**Upland Habitat Type:** Transitional shrub & herb/woodland  
**Remarks:**

**Fish Observed:** Rainbow Trout  
**Herpetofauna Observed:**

**Other Species Observed:**

**Impacts to Amphibian Habitat:**  
☐ grazing  
☐ recreation  
☐ logging  
☐ other: fire

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: __________

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat: Bedrock cascades/slides w/plunge pools at steep boulders/cascades

- **Dimensions:** length _80-90%_ width 15 m  
  - _5 m_
  - depth

- **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

- **Emergent vegetation:** ☐  
  - Type: sedge, rush, pondweed, aigal, willow, other
- **Submerged vegetation:** ☐  
  - Type: sedge, rush, algae, other

- **Margin vegetation:** ☐  
  - Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- **Terrestrial cover:** ☐  
  - Type: vegetation, leaf litter, burrows, woody debris, boulder, other

- **Aquatic cover:** ☐  
  - Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

- **Shade:** ☐  
  - Type: understory (willow, dogwood, alder, maple, other), canopy cover

- **Basking sites:** ☐  
  - Type: exposed bank, boulder, log, other

- **Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:

**Additional comments:**

No EYLF habitat in these sections. Plus this environment likely precludes frog - fish passage.

*This site was mostly impermeable (rock or boulder). The bedrock cascades & slides were tall (1-3 m) & steep and dangerous. The present first wipped out all canopy so only dense understory was present in riparian corridor.*
2) Description of habitat

Dimensions: length __________ or % of site ________ width ________ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length __________ or % of site ________ width ________ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 5/30/02  Site # 250DT  Site Name: Alden Creek
Surveys: AP RH Survey time: start 11:15 end 12:20  Total survey time 1:05  Sighting: Yes No
Total Site Length: 0.75 m  Elevation: 3528 - 3529  UTM: start 0733676, 424050 end 0733851, 4241999
Air Temp: 20°C  Water Temp: shore 14.5°C 17°C at depth 17°C  Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (*Beaufort) 0 (1) 2-4 (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)  Low first half, higher at cascade
Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)
Upland Habitat Type:  Mixed cover  Fish Observed:  Trout
Herpetofauna Observed:  THCO  (6 adult, 3 juv, 1 dead juv)
Other Species Observed:  American Dver, winter covered
Impacts to Amphibian Habitat:  □ grazing  □ recreation  □ logging  □ other:  Hydroelectric, residential

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Pond/Lake
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, ledge, boulder margin, etc.

1) Description of habitat: Cascade/pool - Interimisco w/ occasional riffles
Dimensions: length 0.75 m or % of site 160° width 10-200m depth Ave > 30 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1) Type: sedge, rush, pondweed, algae, willow, other grass
Submerged vegetation: 1) Type: sedge, rush, algae, other
Margin vegetation: 2) Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3) Type: vegetation, leaf litter, burrows, woody debris (boulder), other
Aquatic cover: 4) Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 1) Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 5) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Water level still fairly high might be a good idea to take advantage of in fall and winter
Amount of debris, many insects, but very few fish observed
Shallow water environment fairly limited at time of survey.
2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: __________ Type: sedge, rush, algae, other __________
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other __________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other __________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: __________ Type: sedge, rush, algae, other __________
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other __________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other __________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 06-25-2002 Site #: 255R Left Site Name: Twenty mile Guad. Station
Surveyors: Lorf, DeB Survey time: start 1:25 end 1:50 Time = 90min Sighting: yes
Total Site Length: 0.36 mile Ave. Width: 25 m Elevation: 3696 ft UTM
Air Temp: 84°F Water Temp: shore 63°F at depth 6 Ave. Water Velocity 4 sec
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (50%+) Wind Speed (*Beaufort scale); (0-1) (2-4) (5+)
Ave. Creek Gradient: Low (<10%) Mod. (11-30%) High (>30%) Ave. Bank Gradient - Low (<15%) Mod (15-40%) High (>40%)
Upland Habitat Type: Cedar, ponderosa pine Fish Observed: Minnow (dry)
Herpetofauna Observed: Faced lizard
Other Species Observed: Mall
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. 11 to 30%, 3) low to moderate amt. 31% to 50%, 4) moderate to high amt. 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg., woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
Substrate consists primarily of boulder followed by cobble and sand. Only two cobble bars and 3 big side pools
10x10 m / 6.5 x 3 m and 12 x 15 m. Low amt of vegetation on bank composed mainly by willows and alder
left bank characteristics: () Bordered substrate and cobble
Amphibian Habitat Site Assessment

Stream characteristics: Wide, swift water, 50% at the site, 50% with cobble, gravel, and sand. Silt, 50% riffle, 30% run, 15% cascade, 5%

Pond: Brown 80%, Boulder 10%, Sand, 5%, Bedrock, 5%, Cobble

Average width 25m, Depth ranging from 1.5 to 2.0m within the main channel. Substrate composed mainly by cobble and sand, 70/30, mainly riffle and run. Aquatic types with scattered tree pools, emergent and emergent vegetation

Unit/Section 2: Almost absent. Only scattered willow trees max. of 1m. Terrestrial cover composed only by scattered

logs and boulders. No vegetation on terrestrial cover.

Site benches characterized by large boulders. Understory cover absent. Banking site only composed by large boulders.

Approximately 5% of all site was edgetwater with very

shallow still water. Primary Terrestrial - Boulder

(3) Left Bank Start 105072, 0469 80°F Air 62°F H20

Left Bank End, 105072, 2972 84°F Air 64°F H20

UTM 4293891

UTM 4294173

Comments:

*Beaufort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 6-21-02 Site # 260R Site Name South Fork Amer. River
Surveyors: KES Survey time: start 12:35 end 12:00 Total survey time 15 min Sighting: Yes (No)
Total Site Length: 45 m Elevation: 3720 ft UTM: start 0730447 493383 end 0807331 3843785
Air Temp: 25°C Water Temp: shore 15°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-3) (5+)
Ave. Creek (River) Gradient Low (<10%) Mod. (11-30%) High (>30%)
Ave. Bank Gradient: Low (<15%) Mod (15-40%) High (>40%)
Upland Habitat Type: wooded hard wood/conifer Fish Observed: dead rainbow trout
Herpetofauna Observed: angler fish, lizard, frog, lizard, snake
Other Species Observed:
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Pond/Lake
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (>50% to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat Left bank - Shallow edgewater, pocket water + sidepools:
Dimensions: length % of site depth 40% width 3 m depth 2-5 m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, maple, other)
Canopy cover
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
One or two side pools 2x1.5 m dia, 20 cm deep w/ fluorescent material

Additional comments: The remaining 30% was deep, quiet pocket water that came very right up to shore. Some forced boulder dominated and high gradient.
An island was present at 1/2 section of site.
The right bank had a lot of good shallow edgewater with good cover and basking.
2) Description of habitat

Dimensions: length: 0.3 m or % of site: 100% width: 2.3 m depth: 0-5 cm (16)

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobbles, boulders bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobbles, boulders, bedrock
Emergent vegetation: 2 (low) Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1 Type: sedge, rush, algae, other
Margin vegetation: 2 (low) Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulders, other
Aquatic cover: 4 Type: rootwad, aquatic veg, woody debris, boulders, undercut banks, other
Shade: 2 Type: understory (willow, dogwood, alder, conifer, maple, other

Basking sites: 5 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobbles, boulders, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobbles, boulders, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulders, other
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulders, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other

Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

<table>
<thead>
<tr>
<th>Date: 5 June 2002</th>
<th>Site #: 265SR</th>
<th>Site Name: NO NAME</th>
<th>QUAD: KURT</th>
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<td>Surveyors:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey time:</td>
<td>start 0940</td>
<td>end 1430</td>
<td>Total time 3:50</td>
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<tr>
<td>Sighting:</td>
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<td>Total Site Length:</td>
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<td>Air Temp:</td>
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<td>Water Temp: 11C</td>
<td>Ave. Water Velocity</td>
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<td>Cloud cover:</td>
<td>clear (0-10%)</td>
<td>partly cloudy (11-50%)</td>
<td>cloudy (&gt;50%)</td>
<td>Wind Speed (*Beaufort): (0-1) (2-4) (5+)</td>
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<td>Ave. Creek (River) Gradient: Low (&lt;10°) Mod. (11-30°) High (&gt;30°)</td>
<td>Water depth: 1m</td>
<td>Ave. Bank Gradient: Low (&lt;15°) Mod. (15-40°) High (&gt;40°)</td>
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<tr>
<td>Upland Habitat Type: NIXED CONIFER</td>
<td>Fish Observed: None</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Herpetofauna Observed: T蹈hyth (1)</td>
<td></td>
<td>Other Species Observed:</td>
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</table>

**Impacts to Amphibian Habitat**: Grazing, Recreation, Logging, Other: WATER OVERFLOW IN AREA TO THE FUTURE

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:    

**Aquatic Habitat Features**: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

- From confluence to furnace - Dominated by Sedge, Rail, Carex, & Pond
- Width: 1 m
- Depth: 10-20 cm

- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 2. Type: sedge, rush, pondweed, algae, willow, other FORAS GRASS

- Submerged vegetation: 2. Type: sedge, rush, algae, other

Margin vegetation: 4. Type: forbs, grass, shrubs (blackberry, willow, etc.), other

- Terrestrial cover: 3. Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 4. Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: 5. Type: understory (willow, dogwood, elder, maple, other CONIFER), canopy cover

Basking sites: 2. Type: exposed bank, boulder, log, other CANAL RED

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

**Additional comments**: Staff gauge located below furnace = 0.46
2) Description of habitat

**FLUME TO END POINT (0.05 MILE)**  
- CARLAGE Pool - Dominant in a few low gradient ripples

Dimensions: length 0.05 mile or % of site _______ width 1 in. ______ depth 0-3 in. ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Significant portion of this covered by Durnan Trees & Woody debris

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3) Description of habitat

**CONFLUENCE W/ SPRING**  
(300 DOWNSTREAM 500 UPSTREAM)

Dimensions: length ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Downstream of confluence - no backwaters or side pools, have found dirty water

**UPSTREAM** - small stream (30-40) SLOW-flow, slow flow, slowly flowing, flow, other - water level still 2-3 in.  

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (rares dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-5-03 Site # 270 DT Site Name: Carpenter's Creek
Surveyors: SH JH Total Site Length: 5 mi Total Ave. Width: 1.5 m Elevation:
Air Temp: 21°C Water Temp: 11°C Ave. Water Velocity 30 cm/sec
Ave. Creek Gradient - Low (0-2°) Mod (2-4°) High (4-10°)
Ave. Bank Gradient - Low (6-15%) Mod (15-40%) High (40+)
Upland Habitat Type: Mixed Conifer
Fish Observed: Trout
Herpetofauna Observed: None
Other Species Observed: None
Impacts to Amphibian Habitat: Grazing Recreation Logging Other: None

Habitat Type
- Diverted tributary
- Tributary: ephemeral
- Intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow:
- Flowing water,
- Standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Abundance estimates consist of: 1) absent < 10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedges, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootswad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:
Whole reach a series of step pools, riffle - run, small cascades (1-2 ft) with plunge pools. Pool depth 3-5 ft. Silt/clay and twigs in pool, the pools, other cobble/gravel dominated. Overall, site is dominated by boulders. Emergent/submerged veg. lacking. Margin veg. minimal consisting of scattered grass clumps. Margin, tech. cover abundant; woody debris, gaps in boulders. Vegetation exposed, undercut banks. Aquatic cover: min to mod.
Unetreating during second 2010 m, exposed vegetation consisting primarily of logs (log jams), boulders, gaps, undercut banks. Entire reach width only about 8 ft. Vegetation:
As noon approached (sun overhead), exposed boulders & banks provided backing sites. Understory (dogwood mostly) was lacking.

Comments: Bugs were very abundant - knats, mosquitoes, mag, hares, flies
Amphibian Habitat Site Assessment

Date: 5-15-02 Site # 2905 Site Name ___________

Surveyors: SHAP Survey time: start 10:30 AM end 10:30 AM Total survey time 30 min Sighting: Yes __ No __

Total Site Length: 300 ft Elevation: 4200' A UTM: start __ end __

Air Temp: __3° F __ Water Temp: shore __ at depth __ Ave. Water Velocity __

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)

Upland Habitat Type: Forest hardwood/conifer Fish Observed: No __

Herpetofauna Observed: 2) Ensatina - juveniles (ENS) Other Species Observed: ____________

Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: Low impact ______

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of rill, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: spring that trickles downstream into a pool

Dimensions: length 6 m • width 16 m • depth 1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg., woody debris) boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other ), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of side pools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: This spring is on a pretty good gradient and little wood debris in aquatic. Thin little basking. The stream is very uniform and slightly deeper after a flood.
Amphibian Habitat Site Assessment

Date: 7-22-02  Site #: 305R  Wb: Site Name: South Fork Amer. River
Surveyors: 83.54  Survey time: start 0855  end 1055  Total survey time 2.1 hrs  Sighting: Yes  No
Total Site Length: 450.4  Elevation: 5260  UTM: start 044437354  end 044412535
Air Temp: 16-21°C  Water Temp: 14°C  at depth 15°C  Ave. Water Velocity 44.15 sec
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<15°)  Mod. (15-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Mixed Conifer  Fish Observed: Rainbow Trout
Herpetofauna Observed: T. elegans (1)
Other Species Observed: Amer. Dipper
Impacts to Amphibian Habitat - □ Grazing □ Recreation □ Logging □ Other: mod. impact

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Riffle run w/ short cascades, pocket water along shore
Dimensions: length 20' or % of site 15% width 1-2m depth 0.3-0.7m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1 Type: sedge, rush, algae, other
Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 5 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 7 Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 2 Type: understory (willow, dogwood, alder, maple, other
Basking sites: 5 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
A few side pools w/ cobble, substrates or no veg. Very little aquatic cover
Additional comments: The main channel in upper section and the valley was high along where in many places a pack unit or slighted edgewater was boulder substrates would provide habitat for fish but not for trout. Trout was in shallows and ag. trout in deeper pools.
2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ______ Type: sedge, rush, algae, other__________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other__________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ______ Type: sedge, rush, algae, other__________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other__________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

_________________________________________________________________________

_________________________________________________________________________

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-22-02  Site # 3107  Site Name: Upper Trinity
Surveyors: DA SH  Survey time: start 11:15 end 12:25  Total survey time 1 hr 10 min  Sighting: Yes  No
Total Site Length: 5 mi  Elevation: 520 ft 00' UTM: start  end
Air Temp: 65° - 74° C  Water Temp: start 16° C at depth  Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<15°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Mixed Deciduous  Evergreen  Fish Observed: Rainbow Trout
Herpetofauna Observed: None
Other Species Observed: None
Impacts to Amphibian Habitat: ☐ grazing  ☐ recreation  ☐ logging  ☐ other:

Habitat Type
- Diverted tributary
- Reservoir
- Tributary ephemeral
- River
- Intermittent, or perennial
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Boulder pile-ups with trickle over small cascades [riffle/run/pool]
Dimensions: length 5 m or % of site  width 1 - 2 m  depth 20 cm to 30 in pools
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ☐ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ☐ Type: sedge, rush, algae, other
Margin vegetation: ☐ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ☐ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ☐ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ☐ Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: ☐ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: The site is relatively high and gets much deeper as one travels up the channel. Some shallow (<20cm) pools at the boulder bar, substrate along edge of channel. Some deep (75cm) pools also present.
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: ____________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: ____________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
# Amphibian Habitat Site Assessment

**Date:** 07-02-2002  
**Site #** 315T  
**Site Name:** Station Creek  
**Surveyors:** DEB, LME  
**Survey time:** start 1630, end 1600  
**Total survey time:** 30 mins  
**Sighting:** Yes  
**Total Site Length:** 1.21  
**Elevation:** 5719 UTM: start 4296870 and 4295490  
**Air Temp:** 66°F  
**Water Temp:** shore 54°F at depth 54°F  
**Ave. Water Velocity:**  
**Cloud cover:** clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  
**Wind Speed** (*Beaufort): (0-1) (2-4) (5+)  
**Ave. Creek (River) Gradient:** Low (<10°)  
**Mod. (11-30°) High (>30°)  
**Ave. Bank Gradient:** Low (<15°)  
**Mod. (15-40°) High (>40°)  
**Upland Habitat Type:** Coniferous forest  
**Fish Observed:** Trout - rainbow 6-8"  
**Herpetofauna Observed:** Western Territorial garter snake (Thamnophis gularis)  
**Other Species Observed:**  
**Impacts to Amphibian Habitat:**  
- □ grazing  
- □ recreation  
- □ logging  
- □ other  

## Habitat Type

- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir  
- River  
- Wet meadow: flowing water, standing ponds  
- Pond/Lake  
- Other:  

## Aquatic Habitat Features:

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

**Dimensions:**  
- **length:** 1.21  
- width: large 3-5 m  
- depth: 30 cm - 1 m w/ sporadic pools close to 1.5 m  

- **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
- **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
  
- **Emergent vegetation:** 2  
  - Type: sedge, rush, pondweed, algae, willow, other  
  - Submerged vegetation: 2  
  - Type: sedge, rush, algae, other  

- **Margin vegetation:** 3  
  - Type: forbs, grass, shrubs (blackberry, willow, etc.), other  
  - Alders, Fern  

- **Terrestrial cover:** 3  
  - Type: vegetation, leaf litter, burrows, woody debris, boulder, other  

- **Aquatic cover:** 2  
  - Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other  

- **Shade:** 2  
  - Type: understory (willow, dogwood, alder, maple, other Fern), canopy cover  

- **Basking sites:** 2  
  - Type: exposed bank, boulder, log, other  

- **Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:  
  - At least 25% of pools - high to medium gradient cascades deep (m - 1.5 m)  

**Additional comments:**  
Moderate to high gradient in flow with 25% of high gradient cascades w/ boulder and boulder pools.  

**Water run off**  
- More like an oxygenated trout habitat and pools/runs  

Back
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-25-02 Site #: 320T Site Name: Ferni Crk
Surveyors: SH LR Survey time: start 9:55 end 11:55 Total survey time 2 hrs
Total Site Length: 0.71 miles Elevation: 470 - 620 UTM: start 290612 end 423612
Air Temp: 23°C Water Temp: start 13°C at depth 12°C Ave. Water Velocity >30 cm/s
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) (0-1) 2-4 (5+)
Ave. Creek (River) Gradient: Low (<10%) Mod. (11-30%) High (>30%) Erosion: Cascade pool predominant
Ave. Bank Gradient: Low (<15%) Mod (15-40%) High (>40%) Upland Habitat Type: Conifer: Douglas fir, Ponderosa Pine, Fish Observed: Trout fry in river

Herpetofauna Observed: [ ]
Other Species Observed: [ ]
Impacts to Amphibian Habitat - [ ] grazing [ ] recreation [ ] logging [ ] other: Residential pipe through creek

Habitat Type
- Diverted tributary
- Regulated tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Boulder cascade pool, a few 5% braided sections
Dimensions: length 0.71 width 1.5 to 2.00 m depth 0.5 to 2.00 m channels >50 cm, average 20 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock (non-wet banks)
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow other
Submerged vegetation: [ ] Type: sedge, rush, algae other
Margin vegetation: 5 Type: forbs, grass, shrubs, blackberry, willow, etc., other
Terrestrial cover: 5 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 5 Type: undercut banks, other
Shade: 5 Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 2 Type: exposed bank, boulder, log other

Presence of sidepools, backwater pools, eddiewater areas. Description of size, depth, and substrate:
Scattered coniferous, shallow sidepools w/ cobble substrate. 1 m² = 0.10-1.5 cm mound

Presence of sidepools, backwater pools, eddiewater areas. Description of size, depth, and substrate:
Boulder cascade pool, a few 5% braided sections

Additional comments:
Left bank river is a - confined, has limited area. Right bank is generally deeper and wider.
Creek is generally wider where grade became high and habitat was almost entirely cascades.

Pic 1. SEAR US looking downstream to where creek enters river
Pic 2. Looking US of creek @ confluence
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 2 Jun 2022  Site #: 223 T  Site Name: Corn Creek
Surveyors:  A. Baldwin  H. Hennessey  Total survey time: 5.75 hrs  Sighting: Yes
Air Temp: 74°  Water Temp: sh eal 115  at depth 13.5  Ave. Water Velocity
Cloud cover: Clear (0-10%) partly cloudy (11-50%) cloudy (50%)
Ave. Creek (River) Gradient: Low (<10°)  Moderate (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Moderate (15-40°)  High (>40°)
Upland Habitat Type: C dmer  Fish Observed: Yes - Salmon  (Wading, side-wading)
Herpetofauna Observed: None
Other Species Observed:
Impacts to Amphibian Habitat: ☐ grazing  ☑ recreation  ☐ logging  ☐ other: Water infrastructure

Habitat Type
- Diverted tributary  • Reservoir  • Pond/Lake
- Tributary (ephemeral, intermittent, or perennial)  • River  • Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), 5) ab undant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
- If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, se e/boulder margin, etc.

1) Description of habitat  B rick Creek and Pascal Pool are dominant feature
Dimensions: length 0.2 m  width 2.3 m  depth 1 m  B rick Creek Pool: 0.2 m  2.3 m  1 m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder  bedrock
Terrestrial substrate: organic debris, silt/clay, soil, gravel, cobble, boulder, bedrock
Emergent vegetation: ① Type: sedge, rush, pondweed, algae, willow, other ②
Submerged vegetation: ③ Type: sedge, rush, algae, other
Margin vegetation: ④ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ⑤ ⑥
Terrestrial cover: ⑦ Type: vegetation leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ⑧ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ⑨ Type: understory (willow, dogwood, alder, maple, other)
Basking sites: ⑩ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: This section enters from downstream on Strawberry Creek to Brick Creek Pool (length 0.2 m)

Background Notes: This section enters from Strawberry Creek to Brick Creek Pool (length 0.2 m)

WATER QUALITY:
- DO: 8.3 mg/L  pH: 7.5  Temperature: 20°C  Dissolved Oxygen: 8.3 mg/L
- Salinity: < 1  TSS: < 1  0GS: < 1  Turbidity: < 0.1
- Oxygen: 8.3 mg/L  Dissolved CO2: < 0.1  BOD: < 0.1  COD: < 0.1

Published references:
- Trout in Creek (1984) to be cleaned from stream, carry crapper - we had this observed in this section
- Trout in Creek (1984)
2) Description of habitat

Dimensions: length 10' or % of site 1/4 width 2-3' depth 1-2' 

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other 
Submerged vegetation: Type: sedge, rush, algae, other 
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other 
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other 
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other 
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover 
Basking sites: Type: exposed bank, boulder, log, other 

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length 10' or % of site width depth 

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other 
Submerged vegetation: Type: sedge, rush, algae, other 
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other 
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other 
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other 
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover 
Basking sites: Type: exposed bank, boulder, log, other 

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8-2-02  Site #: 405  Site Name: Sayles Creek

Surveyors: JF & TH; Survey time: start 9:10 end 12:00; Total survey time 2:50; Sighting: Yes / No

Total Site Length: 1.22 miles; Elevation: 3,900 - 5,100 UTM: start 4328726 end 4315603 S3 ft

Air Temp: 71° and 78°; Water Temp: shore 65° and 68° at depth N/A; Ave. Water Velocity 4' in 4.5 sec

Cloud cover: Clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: Mixed conifer forest

Fish Observed: Brook trout, Brown trout

Herpetofauna Observed: None

Other Species Observed: American dipper

Impacts to Amphibian Habitat: ☐ Grazing ☐ Recreation ☐ Logging ☐ Other: Few man-made dams

Habitat Type

- Diverted tributary
- Reservoir
- Tributary ephemeral, intermittent, or perennial
- River
- Pond/Lake
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat Mod-high gradient trib w/many boulders

Dimensions: length 1.22 miles % of site width 2-10m, max 6m; depth 10 cm - 130 cm, 50 cm average

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder bedrock
Emergent vegetation: absent; Type: sedge; rush, pondweed, algae, willow, other
Submerged vegetation: minimal Type: sedge, rush, algae, other mosses
Margin vegetation: mod-high Type: forbs grass, shrubs (blackberry, willow, etc.), other alder
Terrestrial cover: mod-high Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: abundant Type: rootwed, aquatic veg, woody debris (boulder) undercut banks, other
Shade: mod-high Type: understory (willow, dogwood, alder, maple, other ), canopy cover
Basking sites: mod-low Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Very few sidepools, Average 2 m by 3 m and 10-30 cm deep

Additional comments: looked like good frog habitat but no frogs found. Tons of boulder and fast moving water. Many cascades and small pools.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length____ or % of site________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other____________
Submerged vegetation: _______ Type: sedge, rush, algae, other____________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other____________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other____________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other____________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other____________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other____________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3) Description of habitat

Dimensions: length____ or % of site________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other____________
Submerged vegetation: _______ Type: sedge, rush, algae, other____________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other____________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other____________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other____________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other____________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other____________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

*Beaufort scale: 0-1: (0-1 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8/21/01  Site # H105  Site Name: Bayside

Surveyors: J.M.  Start time: 9:30  End time: 13:00  Total survey time: 3.5  Sighting: Yes  No

Total Site Length: 0.88 miles  Elevation: 547.90  Surveyed by J.M.  End time: 13:00

Air Temp: 210°F  Water Temp: shore 10°F  at depth 10°F  Ave. Water Velocity: 1.4 ft/s

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type: Mixed conifer  Fish Observed: Yes  Trout  Sp

Herpetofauna Observed: 6

Other Species Observed: 6

Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other: Ski Resort  Ski Run

Habitat Type

- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary: ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds
- Other: 6

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat:

Dimensions: length _______ or % of site _______ width 3.1 ft depth 1.5 ft

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (6) Type: sedges, rush, pondweed, algae, willow, other

Submerged vegetation: (6) Type: sedge, rush, algae, other  Cane, Dogwood, Alder

Margin vegetation: (6) Type: forbs, grass, shrubs (blackberry, willow, etc.), other  Alder

Terrestrial cover: (6) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: (6) Type: rootwad, algal, woody debris, boulder, undercut banks, other

Shade: (6) Type: understory (willow, dogwood, alder, maple, other)  Canopy cover 3

Basking sites: (6) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: This is a ski resort area 6 and 4 has 3 runways. 5a caves that allow a road to pass over them.

Photos 6-2
Amphibian Habitat Site Assessment

2) Description of habitat

Wetland with wetted substrate and small low flow channel.

Dimensions: length _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: Type: sedge, rush, algae, other __________
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover __________
Basking sites: Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: Type: sedge, rush, algae, other _______
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover _______
Basking sites: Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-6-02 Site # 415 L Site Name: Lake Audrain outlet (FS road)

Surveyors: RH, JH Total Site Length: 500 ft Ave. Width: 40 ft Elevation: 746 ft (222 m)

Air Temp: 29.5°C Water Temp: shore lake 19°C at depth lake 17°C Ave. Water Velocity: 0.02 m/s

Ave. Creek Gradient: Low (<10°) Mod. (11-40°) High (>40°)
Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)
Upland Habitat Type: Conifer lodgepole Fish Observed: MT. Sucker
Herpetofauna Observed: Pseudacris, Toad+ eggs, Thamnophis spp.
Other Species Observed: Osprey

Impacts to Amphibian Habitat - ☐ grazing ☒ recreation ☐ logging ☐ other: PCT leads to lake 715 yrs ago

Habitat Type
- Diverted tributary - Wet Meadow - Other:
- Tributary ephemeral, intermittent, or perennial
- Pond/lake - River
- Reservoir - Wet meadow: flowing water, standing ponds

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.

- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: rife, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.

1. Dimensions: length, width, depth
2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
7. Basking Sites: exposed bank, boulder, log, other

Subsite 1
Unit Section: 15 mi (24 km)

Time: Begin 1000 End 1130 Air Temp: 59°F Water Temp: 14

Aquatic Substrate: sand, gravel (vegetation) Dominant: absent, boulders - minimal
Terrestrial Substrate: sand, buff (leaf litter) abundant
Emergent veg: grass (facultative carex) Dominant: forbs, reeds: moderate, (approaching 50%)
Submerged veg: algae (dominant), macro, grass (or pulvinus carex): moderate
Emergent veg: forbs, shrubs, alder, grass (or pulvinus carex) abundant
Terrestrial cover: leaf litter, wood debris, minimal
Aquatic cover: aquatic veg. undercut banks, wood debris: abundant & wooded debris most prevalent near the interface of the trib and lake Audrain
Canopy: alder (dominant), conifer: moderate (approaching 50%)

Basking sites: logs (dominant), boulder, exposed bank: moderate
Amphibian Habitat Site Assessment

Unit/Section 2:

Average Channel Width: 1.5 m  |  Bankfull Width: 3 to 5 m
Avg. Channel Depth: 20-40 cm  |  Pool: 350 cm  |  Incised Channel: 1 | Undercut Bank: 2  |  Became Shallow
The Current Flow: Low  |  Bank Current: Low
Other Fish Observed: Triops, Minnows, and Creek Chub
Surroundings: Contaminated, Mixed Canopy
Aquatic Habitat Type: Run (stream)  |  Water flowing through incised channels
Pools = Water Developed at Various Locations

Vegetation: Perennial Forbs to Dwarf Shrubs on the Edge
Tarn at Ridge

Wetland Type: Low  |  Water Type: Clear

Unit/Section 3:

Site: Survey by D.B. Set
Shallow shoreline shallows 30 m deep
in a 25m wide
along the perimeter. Band of shallows on east side approx. 30m. Aquatic + terr. substrate abundant. Silt/mud. Emergent veg. moderate. Submerged veg. moderate consisting of grasses and water lilies shoots. Once they break the surface emergents will be abundant. Important long. Small woody debris provide aquatic Macro+ basking sites. Abundant woody shrubs on perimeter provide terr. cover. Shallow meandering inlets run into lake from the east + southeast side. Terrestrial cover abundant consisting also of woody debris, shrubs, leaves, litter. No canopy cover but moderate understory consisting primarily of dogwood + Currant #4. Mix Moderate amounts of floating sedges, branches, logs

Comments:

[Handwritten annotations and diagrams indicating shallow areas, vegetation types, and water depth]
Amphibian Habitat Site Assessment

Date: 8/1/03  Site #: 420  Site Name: Huckleberry Flat

Surveyors: [Names]  Survey time: start 9:00 end 13:00  Total survey time 4 hrs  Sighting: Yes [ ] No [ ]

Total Site Length: 1.7 km  Elevation: 2100 UTM: start 10275559 2E end 10555246 2E

Air Temp: 58° F  Water Temp: shore 72° F  at depth [ ]  Ave. Water Velocity [ ]

Cloud cover: clear [ ] partly cloudy [ ] cloudy [ ] Wind Speed (*Beaufort) [ ]


Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: [ ] Mixed conifer  Fish Observed: [ ]

Herpetofauna Observed: [ ]

Other Species Observed: [ ]

Impacts to Amphibian Habitat: [ ] grazing [ ] recreation [ ] logging [ ] other: [ ] development [ ]

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: [ ]

Aquatic Habitat Features:

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

- [ ] Heavy boulder for 30m

1) Description of habitat

Dimensions: length [ ] km or % of site [ ] width [ ] m  depth [ ] m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: [ ] Type: sedge, rush, algae, other

Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: [ ] Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other

Shade: [ ] Type: understory (willow, dogwood, alder, maple, other), canopy cover [ ]

Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

[Handwritten notes:]

Clean has been maintained throughout with little interference.

Some predators of frogs are present (e.g., Muskrats, otters).
2) Description of habitat:

Dimensions: length __400__ m, width __50__ m, depth __2__ ft

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat:

Dimensions: length __400__ m, width __50__ m, depth __2__ ft

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:
Amphibian Habitat Site Assessment

Date: 20 June 2002  Site # 425L  Site Name ——

Surveyors: [Signature]  Survey time: start 09:20  end 13:00  Total time 3 1/2 Sighting: yes

Site Length: 425.4 ft  UTM

Air Temp: End 80.5 Water Temp: shore at depth 61.5  Ave. Water Velocity N/A

Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)

Ave. Creek Gradient - Low (<10°) Mod. (11-30°) High (>30°) N/A
Ave. Bank Gradient - Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: Conifer (dominant) & shrub  Fish Observed: None

Herpetofauna Observed: Hyla (treefrog), T. Elephas (frog)  Salamander (Ambystoma)

Other Species Observed: Requires additional notes 3 - 6 species observed

Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake / marsh
- Reservoir
- River
- Wet meadow:
  - flowing water,
  - standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. - 11 to 30%, 3) low to moderate amt. - 31% to 50%, 4) moderate to high amt. - 51-70% and 4) abundant - >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgetwater areas

Unit/Section 1:

[Diagram of habitat features with symbols and notes]

Overall Terrain

Undetercted from 500 ft in this vicinity.
Amphibian Habitat Site Assessment

Unit/Section 1:

At 11:30 AM, an unidentified frog was observed by W. Clevenger & J. Canale. (See attached description by W. Clevenger.)

The frog was observed at the base of a willow; it jumped twice into cover provided by the willow. The willow - orange-brown - was placed on each side of the willow. GPS coordinates: 42° 59’ 35” N 83° 42’ 42” W

South of the willow, a small stream is located. A standing water to 2-3 cm in depth

Located about 15-20 cm from the nearest significant pond & pool (likely pools) is located in the

South of the willow, less than 2 m from the observation point, 3 frogs

Search area for potential sites, RTQ from 20 minutes - unable to relocate the frog - continued survey

Returned to location after swim; was completed - no frogs were observed

Need to conduct future surveys.

Unit/Section 2:

Aquatic habitat: Pond, surroundings inundated/saturated; seep mgesa

At 11:30 AM, an unidentified frog was observed by W. Clevenger & J. Canale. (See attached description by W. Clevenger.)

Following the observation, the area was searched for 5-10 minutes before arriving at the observation point.

The frog was observed at the base of a willow; it jumped twice into cover provided by the willow. The willow - orange-brown - was placed on each side of the willow. GPS coordinates: 42° 59’ 35” N 83° 42’ 42” W

South of the willow, a small stream is located. A standing water to 2-3 cm in depth

Located about 15-20 cm from the nearest significant pond & pool (likely pools) is located in the

South of the willow, less than 2 m from the observation point, 3 frogs

Search area for potential sites, RTQ from 20 minutes - unable to relocate the frog - continued survey

Returned to location after swim; was completed - no frogs were observed

Need to conduct future surveys.

Walter Clevenger

WALTER@WEBTROPOLIS.COM
(530) 367 4053
Amphibian Habitat Site Assessment

Date: 8-1-02  Site # 430  OT  Site Name: Echo Creek

Surveyors: THO + DA  Survey time: start 9:20  end 11:40  Total survey time 2:20  Sighting: No

Total Site Length: 85 m  Elevation: 630 - 6500 UTM: start 430336 21 264 end 430334 63 26

Air Temp: 87°C  Water Temp: shore 41°C  16°C at depth N/A  Ave. Water Velocity

Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1)  (2-4)  (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)

Upland Habitat Type: Mixed Conifer  Fish Observed: YES - 2 Dead 1 Live

Herpetofauna Observed: 1 T. elegans

Other Species Observed: 0

Impacts to Amphibian Habitat: 0 Grazing  0 Recreation  0 Logging  0 Other: Erosion adjacent to Hwy 50

Habitat Type

- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: LOW GRADIENT Cobble/Gravel STREAM

Dimensions: length 20 m  width 5-1 m  depth 10 cm - 1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 0 Type: sedge, rush, pondweed, algae, willow, other 0 Absent

Submerged vegetation: 4 Type: sedge, rush, algae, other

Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.)

Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 2 Type: rooted aquatic veg, woody debris, boulder, undercut banks, other

Shading sites: 4 Type: understory (willow, dogwood, alder, maple, other)

Basking sites: 2 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: A couple of backwater pools ~ 15 cm deep, organic debris/silt

Additional comments: STREAM BRAIDED IN THE LOW GRADIENT AREA

One T. elegans identified
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ________ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other
Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: [ ] Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepoles, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: AT END OF SURVEY STREAM BECOMES INTERMITTENT, DISAPPEARS UNDERGROUND. 2 FISH OBSERVED HAD A STRANGE APPEARANCE, A FISH IN A BROOK OBSERVED CATHARTIC & APPARENTLY HAD DARKENED, CLOTCHY SKIN.

3) Description of habitat

Dimensions: length ________ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepoles, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 4 June 2002  Site #: 435 M  Site Name: Osgood Swamp  Quaran ECHO Lake

Surveyors: YES  NO Survey time: start 10:45 end 10:20  Total survey time 55" Sighting: YES  NO

Total Site Length: 442 UTM: start 0758273.5 409297  end 0758313.7

Air Temp: Water Temp: shore 72  82  at depth 82  82  Ave. Water Velocity

Cloud cover: partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): 2-4 (5+)

Ave. Creek (River) Gradient: Low (<0°) Mod. (11-30°) High (>30°) H/A

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: mixed conifer  Fish Observed: none

Herpetofauna Observed:  Turtles  (2-species)  Hyla (toad)  (4-wheel)

Other Species Observed:  Algae, Crust, Mollusks  Enders, H, MEH, PEG, OSU, SACR, RENI, MEH, ANRO, INEA

Impacts to Amphibian Habitat:  [ ] grazing  [ ] recreation  [ ] logging  [ ] other:

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length 30m or % of site width 50m depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 3  Type: sedges, rush, pondweeds, algae, willow, other
Submerged vegetation: 2  Type: sedges, rush, algae, other
Margin vegetation: 4  Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 2  Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 4  Type: understory (willow, dogwood, elder, maple, other vegetables), canopy cover
Basking sites: 4  Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, eddige areas: Description of size, depth, and substrate:

Additional comments: Lake is 1.5 km  dead trees along the lake, marsh

Permanently Brackish Activity: marsh willow, striped orange beaver dam - sedges, grass, 1 tree pioneer

Abandoned Drumlin 1 aquatic cover in this location - submerges depth to 2.3 m on avg, 1 m deep on all
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________________________

Additional comments: __________________________

__________________________________________

__________________________________________

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________________________

Additional comments: __________________________

__________________________________________

__________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-31-02  Site #: 44917T  Site Name: Upper

Surveyors: SH TH  Survey time: start 07:55  end 11:10  Total survey time 3:15  Sighting: Yes  No

Total Site Length: 1,050 m  Elevation: 320 m  UTM: start 075237  4303466

Air Temp: 30°-34°  Water Temp: shore 15°C at depth  Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) 0-1 (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)

Upland Habitat Type: subalpine tundra  Fish Observed: Brown trout

Herpetofauna Observed:  P. regilla

Other Species Observed:

Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other:  Low impact

Habitat Type

- Diverted tributary  - Reservoir  - Pond/Lake
- Tributary ephemeral, intermittent, or perennial  - River  - Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step-run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Low-gradient riffle/run w/ scattered cascades

Dimensions: length 0.6 mi or % of site width 1 m depth

Aquatic substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock soil and shrubs

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other  alder, willow

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwat, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Much of creek was completely overgrown with willow and alder. East end of it was incompletely (25%). The west end willow growing along one side.
2) Description of habitat

Subsite f (continued)

Dimensions: length ______________ or % of site ______________ width ______________ depth ______________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other ______________

Submerged vegetation: __________ Type: sedge, rush, algae, other ______________

Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______________

Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______________

Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______________

Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other ______________), canopy cover

Basking sites: __________ Type: exposed bank, boulder, log, other ______________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______________

Additional comments: ______________

3) Description of habitat

Dimensions: length ______________ or % of site ______________ width ______________ depth ______________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other ______________

Submerged vegetation: __________ Type: sedge, rush, algae, other ______________

Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______________

Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______________

Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______________

Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other ______________), canopy cover

Basking sites: __________ Type: exposed bank, boulder, log, other ______________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______________

Additional comments: ______________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-31-02 Site # 4407/1/62 Site Name: Cagwin Lake
Surveyors: SH JH Survey time: start 1540 end 15:45 Total survey time 35 min Sighting: Yes No
Total Site Length: Elevation: 37-30 UTM: start 0752 100 end 4302 16
Air Temp: Water Temp: shore 23°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Fish Observed: Brown Trout
Herpetofauna Observed: 0
Other Species Observed: Mallards 2 w/ 4 young
Impacts to Amphibian Habitat - □ grazing - □ recreation - □ logging - □ other

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of ruffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length 80 m width 60 m depth 1-2 m width 20-30 cm deep
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedges, rush, pondweed, algae, willow, other
Submerged vegetation: Type: (seagrass) rush, algae, other
Margin vegetation: Type: forbs, grasses, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewise areas: Description of size, depth, and substrate:

Additional comments:
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/30/02  
Site #: 440  
Site Name:  

Surveyors: [AB]  
Survey time: start 11/5 end 16:00  
Total survey time 2.5 hrs  
Sighting: Yes  

Total Site Length:  
Elevation:  
UTM: start sec  
end sec  

Air Temp:  
Water Temp: shore sec  
at depth sec  
Ave. Water Velocity  

Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-70%), Wind Speed (Beaufort): (0-1), (2-4), (5+)  

Ave. Creek (River) Gradient: Low (<10°), Mod. (11-30°), High (30°-70°)  
Ave. Bank Gradient: Low (<30°), Mod. (15-40°), High (40°+)  

Upland Habitat Type:  
Fish Observed:  

Herpetofauna Observed:  
Other Species Observed:  

Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: NONE SEEN  

Habitat Type  
- Diverted tributary  
- Reservoir  
- Tributary: ephemeral, intermittent, or perennial  
- River  
- Wet meadow: flowing water, standing ponds  
- Pond/Lake  
- Other:  

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.  
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.  

1) Description of habitat  
Dimensions: length 20 m, or % of site width 4/10 m, depth 2 m  

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Emergent vegetation:  
Type: sedge, rush, pondweed, algae, willow, other  
Submerged vegetation:  
Type: sedge, rush, algae, other  
Margin vegetation:  
Type: forbs, grass, shrubs (blackberry, willow, etc.), other  
Terrestrial cover:  
Type: vegetation, leaf litter, burrows, woody debris, boulder, other  
Aquatic cover:  
Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other  
Shade:  
Type: understory (willow, dogwood, alder, maple, other), canopy cover 1. Conifer  
Beskng sites:  
Type: exposed bank, boulder, log, other  

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:  
Pond has reduced in size as compared with earlier photo markings  

Additional comments:  
UTM 12034852 10753818 X and Y accuracy 7480 ft (2280 m)  

1113 - 1145 = 32 m  
Calamagrostis, mass 1-2 cm, with in fallen log.  
Pond has reduced in size as compared with earlier photo markings.  

Hundreds of Hyale tadpoles / info adults  
T. elegans (5)
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _______ width _______ depth _______
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other
Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: [ ] Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover
Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgedwater areas: Description of size, depth, and substrate:

Additional comments:

UTM: 107-2-388 430-230 2300 4.2-3.2
Time: 1715 1715 1715
Type: leafpores. Amblyopsis fontanelis. Sunsite S13710
Water depth: 2.5m

3) Description of habitat

Dimensions: length _______ width _______ depth _______
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other
Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: [ ] Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover
Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgedwater areas: Description of size, depth, and substrate:

Additional comments:

UTM: 107-2-388 430-230 2300 4.2-3.2
Time: 1715 1715 1715
Type: leafpores. Amblyopsis fontanelis. Sunsite S13710
Water depth: 2.5m

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-31-02 Site # 4401T2-d Site Name

Surveyors: JH JH Survey time: start 13:10 end 13:30 Total survey time = 20 min Sighting: Yes No

Total Site Length: __________ Elevation: 7400 ft (224 m) start 6752 m 2884303 ft end

Air Temp: 24°C Water Temp: shore 21°C at depth Ave. Water Velocity = __________

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: subalpine granite Fish Observed: NO

Herpetofauna Observed: P. regilla Carlsbad

Other Species Observed: __________

Impacts to Amphibian Habitat - □ grazing □recreation □logging □other: __________

Habitat Type

- Diverted tributary
- Reservoir
- Tributary: ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: __________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Snow melt pond Subalpine

Dimensions: length 40 m or % of site width 15 m depth deepest 70 cm and 20 cm

Aquatic substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: reeds, sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: reeds, sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwat, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other)

Basking sites: Type: exposed boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: __________
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other___________
Submerged vegetation: _______ Type: sedge, rush, algae, other___________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other___________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other___________
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other___________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other___________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:___________

Additional comments: _______________________________________
_________________________________________________________________
_________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other___________
Submerged vegetation: _______ Type: sedge, rush, algae, other___________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other___________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other___________
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other___________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other___________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:___________

Additional comments: _______________________________________
_________________________________________________________________
_________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 31 Jun 2002  Site #: HUGEL  Site Name: UPPER & LOWER ECHO LAKE

Surveyors: JB, JH  Survey time: start 10:00 end 15:30  Total survey time 5 hrs  Sighting: Yes  No

Total Site Length:  7400' UTM: start 792394 439239 end

Air Temp: 22°C  Water Temp: shore 21°C  at depth  Ave. Water Velocity  n/a

Cloud cover: (clear 10-20%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-3) (4+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)  n/a

Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)

Upland Habitat Type: Musk Rever Fish Observed:   Canoe
Herpetofauna Observed:  Teleofauna (1 in each vocal)

Other Species Observed:  Ostracod, common meadow, (S. 5-10 years), Mail  (invasive 9 of 10 years)

Impacts to Amphibian Habitat:  □ grazing  □ recreation  □ logging  □ other:

Habitat Type
- Diverted tributary  •  Reservoir  •  Pond/Lake
- Tributary: ephemeral, intermittent, or perennial  •  River  •  Wet meadow: flowing water, standing ponds

Aquatic Habitat Features:  Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Cirlce the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat UPPER ECHO LAKE NORTH Side  Time: 10:30 AM  End: 12:30 PM  Total: 2 1/2

Dimensions: length or % of site width % of site depth % of site

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (1) Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: (1) Type: sedge, rush, algae, other
Margin vegetation: (4) Type: (forbs, grass, shrubs, blackberry, willow, etc.), other
Terrestrial cover: (4) Type: (vegetation), leaf litter, burrows, woody debris, boulder, other
Aquatic cover: (4) Type: (rootwad), aquatic veg, woody debris, boulder, undercut banks, other

Shade:  (see above) Type: understory (willow, dogwood, elder, maple, other), canopy cover
Basking sites: (2) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
1) Backwater area of Edward Pond (edge) - backwater water (edge) - backwater of EMERAIL (water)

Additional comments:  Recreation impacts visible vegetation

Understanding: (4) rapid  Willing  Overstory: (3) canopy

Bank Gradient: (1) 1:00  END of MEASUREMENT

Minimum Water Level (20 cm) extended out less than 15 ft from shore in next area.
Heats: (4) Teleofauna, (1) Newts

Starting point: 020874 1937381 10.03
2) Description of habitat

Dimensions: length __________ km or % of site __________ width __________ km or % of site __________ depth __________ m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Any Do after something is meant begin to work up by site width until we get ________

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ or % of site __________ depth __________ or % of site __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/31/02 Site #: 455 LP Site Name: Echo Lake, UPPA
Surveyors: ____________ Survey time: start 4:50 end 5:50 Total survey time: 1:00 Sighting: Yes, No
Total Site Length: 550 Elevation: 711 UTU: start 4:50 end 5:50
Air Temp: 60° Water Temp: shore 21° at depth 71° Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Mixed Forest Fish Observed: _______
Herpetofauna Observed: _______
Other Species Observed: _______
Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other: _______

Habitat Type
- Diverted tributary • Reservoir • Pond/Lake
- Tributary: ephemeral, intermittent, or perennial • River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat _______
Dimensions: length __________ or % of site __________ width __________ depth __________
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, maple, other ______), canopy cover _______
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

[Additional data and diagrams]
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: ____________________________________________________________

3) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: ____________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8-6-02  Site #: 505R  Site Name: Pyramd Creek
Total Site Length: 1.25 miles  Elevation: 715' - 493'  UTM: start 1299214  end 1299234  acc 1299249
Air Temp: 58°F  Water Temp: shore 59°F  at depth N/A  Ave. Water Velocity N/A  n 3.86
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1)  (2-4)  (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type:  other
Fish Observed: Trout  Rainbow
Herpetofauna Observed:  None
Other Species Observed: Trout
Impacts to Amphibian Habitat:  □ grazing  □ recreation  □ clogging  □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ____________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat
- Cold, fast moving, good sized creek
- Dimensions: length 1.25 miles or % of site  width 2m - 15m  depth 25cm - 2.5m
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: minimal  Type: sedge, rush, pondweed, algae, willow, other ____________
- Submerged vegetation: absent  Type: sedge, rush, algae, other ____________
- Margin vegetation: minimal  Type: forbs, grass, shrubs (blackberry, willow, etc.), other ____________
- Terrestrial cover: med-high  Type: vegetation, leaf litter, burrows, woody debris, boulder, other ____________
- Aquatic cover: mod-low  Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ____________
- Shade: mod-lw  Type: understory (willow, dogwood, alder), maple, other ____________  canopy cover ____________
- Basking sites: minimal  Type: exposed bank boulder, log, other ____________
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ____________

Additional comments: This trib has many bakes and at some areas it had four different channels. Quite a bit of bedrock and alder
2) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: Type: sedge, rush, algae, other_________
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other_________
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: Type: exposed bank, boulder, log, other_________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

3) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: Type: sedge, rush, algae, other_________
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other_________
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: Type: exposed bank, boulder, log, other_________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9/11/02  Site # A1  Site Name Lake Alvin

Surveyors: JU, JS  Survey time: start 9:50 end 3:20  Total survey time 5:30  Sighting: Yes ( ) No ( )
Total Site Length: 150 m  Elevation: 920 ft  UTM: start 165074 3187455 end 167243 3174812
Air Temp: 23°C  Water Temp: shore 13°C at depth 6 in  Ave. Water Velocity N/A
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type:  [ ] Mountain, [ ] Valley, [ ] Coastal, [ ] Prairie, [ ] Other:  
Herpetofauna Observed:  [ ] salamander, [ ] frog, [ ] toad, [ ] other:  
Fish Observed:  [ ] trout, [ ] bass, [ ] salmon, [ ] other:  
Other Species Observed:  [ ] bird, [ ] mammal, [ ] other:
Impacts to Amphibian Habitat:  [ ] grazing, [ ] recreation, [ ] logging, [ ] other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:  

Aquatic Habitat Features:  Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat:  shallow, isolated, pools

Dimensions: length 270 ft  or % of site 25%  width 15 x 25 ft  depth 3 ft
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1  Type: sedge, rush, pondweed, algea, willow, other:  grasses
Submerged vegetation: 1  Type: sedge, rush, algea, other
Margin vegetation: 2  Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 2  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 1  Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 1  Type: understory (willow, dogwood, alder, maple, other:  rock), canopy cover
Basking sites: 4  Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:  see above

Additional comments:  isolated pools could be potential habitat
Amphibian Habitat Site Assessment

2) Description of habitat

**Perimeter of lake**

Dimensions: length _150 ft_ or % of site _97%_ width _N/A_ depth _3-4 ft_

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _1 Type: sedge, rush, pondweed, algae, willow, other _

Submerged vegetation: _1 Type: sedge, rush, algae, other _

Margin vegetation: _2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other _

Terrestrial cover: _4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other_

Aquatic cover: _4 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_

Shade: _1 Type: understory (willow, dogwood, elder, conifer, maple, other _

Basking sites: _5 Type: exposed bank, boulder, log, other _

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length __or % of site __width __depth __

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __Type: sedge, rush, pondweed, algae, willow, other __

Submerged vegetation: __Type: sedge, rush, algae, other __

Margin vegetation: __Type: forbs, grass, shrubs (blackberry, willow, etc.), other __

Terrestrial cover: __Type: vegetation, leaf litter, burrows, woody debris, boulder, other __

Aquatic cover: __Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __

Shade: __Type: understory (willow, dogwood, elder, conifer, maple, other __

Basking sites: __Type: exposed bank, boulder, log, other __

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)*
Amphibian Habitat Site Assessment

**Date:** 9/11/02  **Site #:** 550 LP  **Site Name:** ALOHA

**Surveyors:**  **Survey time:** start 10:24AM end 2:09PM  **Total survey time:** 3:45  **Sighting:** Yes  **No**

**Total Site Length:**  **Elevation:** UTM: start 10S 874425 end 10S 874163

**Air Temp:** 24°C  **Water Temp:** shore 15°C  **at depth** 2°C  **Ave. Water Velocity**

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-3) (2-4) (5+)

**Ave. Creek (River) Gradient:** Low (<10°)  **Mod. (11-30°) High (>30°)** N/A

**Ave. Bank Gradient:** Low (<15°)  **Mod. 15-40°) High (>40°)**

**Upland Habitat Type:**  **Fish Observed:** trout

**Herpetofauna Observed:**

**Other Species Observed:**

**Impacts to Amphibian Habitat:** □ grazing □ recreation □ logging □ other: fluctuating water levels

### Habitat Type

- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir  
- River  
- Pond/Lake  
- Wet meadow: flowing water, standing ponds

### Aquatic Habitat Features

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat:** lake with granite boulder edge

**Dimensions:** length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (1) Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: (1) Type: sedge, rush, algae, other

Margin vegetation: (1) Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: (1) Type: vegetation, leaf litter, burrows, woody debris, boulder, other scattered lodgepole pine

Aquatic cover: (2) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: (1) Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: (1) Type: exposed bank, boulder, log, other bedrock banks

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: (12) approx. 5 ft pool 1-3 ft deep 10 x 5 m, silty willow debris

**Additional comments:** photo #1 150-140 (repro. shallow area), photo #2 200-140 (repro. deep area), photo #3 140-140 (repro. deep area)

*variable habitat - shallow 13, deep 13, shallow 13 from 13 to 1*
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length______ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ______ Type: sedge, rush, algae, other__________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other__________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3) Description of habitat

Dimensions: length______ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ______ Type: sedge, rush, algae, other__________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other__________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9-11-02  Site # 55048  Site Name Lake Alpha
Surveyors: SR, BF  Survey time: start 10:20 end 14:45  Total survey time 5 hours
Sighting: Yes  No
Total Site Length:  
Elevation: 8120' UTM: start 0343121 4241266 end 0343229 4258232 (+8)
Air Temp: 24'c  Water Temp: shore -- at depth --  Ave. Water Velocity
Cloud cover: clear partly cloudy (%) cloudy (%) Wind Speed (*Beaufort): 4
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°) High (>40°)
Upland Habitat Type: Subalpine/Granite Substrate  Fish Observed: trout (brook trout or brown trout)
Herpetofauna Observed: MYLF (rainbow trout)
Other Species Observed: COME, MALL
Impacts to Amphibian Habitat: ☑ grazing ☐ recreation ☐ logging ☑ other: FIRE, WO LEVEL

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: 

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat granitic shoreline or lake
Dimensions: length width depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 (o) Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1 (o) Type: sedge, rush, algae, other
Margin vegetation: 1 (o) Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 2  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 2  Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 1  Type: understory (willow, dogwood, elder, maple, other ), canopy cover
Basking sites: 5  Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
15 sidepools, side substrate, shallows (3.3-cm)

Additional comments: no depth dropped off to water or more water quickly, shallow areas were
inlets, a significant portion of the water's edge was boulder fall

undercut & vegetation, absent
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_______

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other_______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other_______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_______

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other_______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other_______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9-11-02 Site # 550LD-C3 Site Name Lake Aloha C - west
Surveyors: SH, RH Survey time: start 0930 end 1430 Total survey time 4 hrs Sighting: Yes/No
Total Site Length: _______ Elevation: _______ UTM: start _______ end _______
Air Temp: 19°C Water Temp: shore 22°C at-depth _______ Ave. Water Velocity _______
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: graminoid/sapling
Fish Observed: No
Herpetofauna Observed: H. c. ymatera, H. n. nevillii, T. elegans
Other Species Observed: _______
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ Other: _______

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: _______

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat _______ channels

Dimensions: length _______ % of site _______ width 7-10m depth > 1m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (1) Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: (2) Type: sedge, rush, algae, other in shallow water areas only

Margin vegetation: (1) Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: (2) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: (1) Type: understory (willow, dogwood, alder, maple, other _______), canopy cover
Basking sites: (5) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: shallow edgewater areas vary

Additional comments: _______
2) Description of habitat: **CONTIGUOUS + ISOLATED POOLS (2/10)**

**Dimensions:** length, or % of site: **50%**, width: **10m x 30m**, depth: **0.5 m**

- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

**Emergent vegetation:**
- Type: sedge, rush, pondweed, algae, willow, other

**Submerged vegetation:**
- Type: sedge, rush, algae, other

**Margin vegetation:**
- Type: forbs, grass, shrubs (blackberry, willow, etc.), other

**Terrestrial cover:**
- Type: vegetation, leaf litter, burrows, woody debris, boulder, other

**Aquatic cover:**
- Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

**Shade:**
- Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

**Basking sites:**
- Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

- Shallow unim pools w/ think layer of fluorescent

Additional comments:

---

3) Description of habitat:

**Dimensions:** length, or % of site: width: depth:

- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

**Emergent vegetation:**
- Type: sedge, rush, pondweed, algae, willow, other

**Submerged vegetation:**
- Type: sedge, rush, algae, other

**Margin vegetation:**
- Type: forbs, grass, shrubs (blackberry, willow, etc.), other

**Terrestrial cover:**
- Type: vegetation, leaf litter, burrows, woody debris, boulder, other

**Aquatic cover:**
- Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

**Shade:**
- Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

**Basking sites:**
- Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

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*B: Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9-11-02  Site #: C-2  Site Name: Lake Almanor C South

Surveyors: 12:30 Survey time: start 9:30 end 3:30 Total survey time 4.5 hrs Sighting: Yes No

Total Site Length:  End:

Air Temp: 19°C Water Temp: shore 23°C at depth 20°C Ave. Water Velocity 0

Cloud cover: Clear (10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): 0 (0-1) 2 (2-4) 5+

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<13°) Mod (15-40°) High (>40°)

Upland Habitat Type: Fish Observed: 0

Herpetofauna Observed: *H. vasta, T. elegans

Other Species Observed: 0

Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: Wuffy mane

Habitat Type

- Diverted tributary - Reservoir - Pond/Lake
- Tributary: ephemeral, intermittent, or perennial - River - Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat Silty Shallow (1-2m) Small isolated pool w/ boulders

Dimensions: length 10 m or % of site 1 width m depth 10 cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 1 Type: sedge, rush, algae, other

Margin vegetation: 1 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: 1 Type: understory (willow, dogwood, alder, maple, other boulder), canopy cover

Basking sites: 5 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Island 3 pool

Additional comments: Snail found eating my 12 cm gastropod on 6-17 Hyla torquata

颞上角 (temporal aspect 1) tern
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length 23m, width 4m, depth 30cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: type: sedge, rush, algae, other
Margin vegetation: type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: type: vegetation, leaf litter, burrows, woody debris, boulder, other, bedrock
Aquatic cover: type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other, bedrock crevices
Shade: type: understory (willow, dogwood, alder, conifer, maple, other, bedrock), canopy cover
Basking sites: type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Frog nephews originated in rain dry pond.

249 pm air 71, 21°C
120T: 23°C

3) Description of habitat

Dimensions: length 40m, width 10m, depth 10m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: type: sedge, rush, algae, other
Margin vegetation: type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: type: understory (willow, dogwood, alder, conifer, maple, other, bedrock), canopy cover
Basking sites: type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Frogs could sit on stone or bottom

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 28 June 20 Site #: Loos Site Name: Lower Fork Amer. Riv.
Surveyors: SH/MV Survey time: start 9:15 am end 12:45 pm Total time 3.5 hr Sighting: yes
Total Site Length: 750 ft Ave. Width: 30 ft Elevation: 120 ft UTM See description below
Air Temp: 31°C Water Temp: shore 15°C at depth 11°C Ave. Water Velocity 5 - Temp
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)
Ave. Creek Gradient - Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient - Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Per forest Fish Observed: Esox sp.
Herpetofauna Observed: Sceloporus occidentalis, Thamnophis couchii
Other Species Observed: Digger bird spp. unknown
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: □ development

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other: diverted channel

Habitat Features: For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of: 1) absent <10%, 2) minimal amt. 11 to 30%, 3) low to moderate amt. 31% to 50%, 4) moderate to high amt. 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other
  6. Canopy and Understory Cover: willow, dogwood, alder, conifer, maple, other
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
Unit was fairly homogeneous in structure. We considered the entire section surveyed one unit. Habitat was dominated by build by bur (31-50%) with small areas of bedrock (11-30%). 31-50% of habitat was cobble/sand bar with good edgewater habitat.
Amphibian Habitat Site Assessment

- **Primary Aquatic Habitat:**
  - Bedrock 11-30%
  - Boulder Bar 31-50%
  - Pebble Bar 31-50%
  - Emergent veg. 11-30%
  - Submerged veg. 11-30%
  - Marginal veg. 31-50%
- **Terrestrial Cover:** Dominated by woody debris 51-70%

**Unit/Section 2:**
- Aquatic cover 11-30% areas of sheer cliff at upper.
- Most survey area with secondary channel forming islands with m 11-30% aquatic cover.
- Canopy understory - Boulder and bedrock prevented canopy close to shore edge water 11-30%.
  - Pine spp., dogwood, maple, grape, alder.
- Basking sites 90% of exposed bank and cover good basking sites throughout survey area.
- Presence of side pools 11-30% and secondary channel.

**Unit/Section 3:**
- Sand Bar (edge water habitat 11-30%)
- Cobble/bedrock edge water habitat

- Although this site was considered one unit.
- A distinct secondary channel (brand?) provided much more habitat than the main channel.
- Had nice perch points pools and (see fig.)
- This section of river was had either prime amphibian habitat or relatively little amphibian breeding habitat (bedrock/cascades).

Development and logging has impacted this section of river with near boulder bar/flood control

**Comments:**
- Depressed close to housing.

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*Beaufort Scale*
- 0-1: 0-3 mph, calm to light air (rising smoke drift)
- 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper)
- 5+: 19+ mph, fresh breeze (trees sway)
## Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 3/08/02</th>
<th>Site #: 610T</th>
<th>Site Name: Bearville Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors:</td>
<td>Survey time: start 94 end 1249</td>
<td>Total survey time 4:29:21</td>
</tr>
<tr>
<td>Total Site Length: 2K</td>
<td>Elevation: 290 UTM: start 423996 106449 end 423996 106449</td>
<td></td>
</tr>
<tr>
<td>Air Temp: 1°C</td>
<td>Water Temp: shore 18°C at depth 20°C Ave. Water Velocity</td>
<td></td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (&gt;50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)</td>
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</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°) Med. (11-30°) High (&gt;30°)</td>
<td></td>
<td></td>
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<tr>
<td>Ave. Bank Gradient: Low (&lt;15°) Med. (15-40°) High (&gt;40°)</td>
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<td></td>
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<tr>
<td>Upland Habitat Type: Forest</td>
<td></td>
<td></td>
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<tr>
<td>Herpetofauna Observed:</td>
<td>Fish Observed:</td>
<td></td>
</tr>
<tr>
<td>Other Species Observed: Bearville Siva</td>
<td></td>
<td></td>
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<tr>
<td>Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other:</td>
<td></td>
<td></td>
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</tbody>
</table>

### Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ____________

### Aquatic Habitat Features

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

#### 1) Description of habitat

Dimensions: length 750 m or % of site 33% width 1 m depth 1-1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: □ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: □ Type: sedge, rush, algae, other

Margin vegetation: □ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: □ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: □ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: □ Type: understory (willow, dogwood, alder, maple, other ____________), canopy cover

Basking sites: □ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ____________

### Additional comments:

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Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length 1250 ft or % of site, width 2 - 3.5 ft, depth 1 - 1.5 ft

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobbles, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobbles, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Brown algae
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Ferns, dogwood

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
5. conifer

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Most of this unit seemed good amphibian habitat.

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobbles, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobbles, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 06-22-2002  Site # 65K-Rb  Site Name: China Flat  Flight Bank
Surveyors: DRE. Loe  Survey time: start 9:20 am end 11:25 am Total time: 2.25 hours  Sighting: yes
Total Site Length: 0.38 miles  Ave. Width: 25 m  Elevation: 4707 ft
Air Temp: 68°  Water Temp: shore 58°  at depth 57°  Ave. Water Velocity
Cloud cover: clear (0%)  partly cloudy (1-50%)  cloudy (>50%)  Wind Speed (*Beaufort scale): (0-1) 2-4 5+
Ave. Creek Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Coniferous  Fish Observed: Rainbow Trout very abundant
Herpetofauna Observed: Western aquatic garter snake  Feeder lizard
Other Species Observed: Deer, American Robin, Steller's Jay
Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other: fishing

Habitat Type
- Diverted tributary
- Tributary; ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River  Wet meadow:
  - flowing water, standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. - 11 to 30%, 3) low to moderate amt. - 31% to 50%, 4) moderate to high amt. - 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
* 42°50'13"004
42°37'6"7
Low to moderate cobble bars and islands, abundant riffle and run aquatic habitat. Through stream, site starts at a cascade w/ block terrestrial substrate. However...
Amphibian Habitat Site Assessment

Through surveyed stream there was only minimal amount of bedrock on right bank, w/ low to moderate amount of cobble bar and sand bar. Also low to moderate amount of sandy beaches. Eighty to 90% of substrate was composed by cobble, low to moderate.

Frequent vegetation composed mainly by grasses, willows and "elephant ears." Minimal amount of weed debris, mostly composed by down logs and bark. Major vegetation providing only with 10-20% canopy cover composed by:

Unit/Section 2:
Willows, alder, Alder and pines (ponderosa and sugar). Contour forest is the main vegetation type for the site. Low to moderate amount of side pools and edge water and low to moderate amount of breaking sites, mainly composed by boulders and down logs, as well as lots of elephant ears, boulders and gravel.

Unit/Section 3:

Comments:

*Beaufort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 06-28-2002  Site #: 615 R-16 Site Name: China Flat Left Bank
Surveyors: DEB Line Survey time: start 1132  end 1302  Total time 180  Sighting: yes no
Total Site Length: 2306  Ave. Width: 25m  Elevation: 4700 UTM *
Air Temp: 68  Water Temp: shore 58°  at depth 57°  Ave. Water Velocity
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)
Ave. Creek Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Coniferous / Chvalric Fish Observed: Rainbow Trout
Herpetofauna Observed: Western aquatic
Other Species Observed: House Finch, American Robin, Deer
Impacts to Amphibian Habitat: ☐ grazing ☐ recreation ☐ logging  ☐ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other: seasonal marsh now dry

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amount - 11 to 30%, 3) low to moderate amount - 31% to 50%, 4) moderate to high amount - 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg, woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
* 1050737549
4292922
High to moderate glide and run aquatic habitat w/ Sporadic cobble bars and sand bars. Minimal amount of Emergent vegetation composed mainly by willow, sedge, and elephant ears. Minimal amount of Terrestrial Cover, mainly woody debris (logs). Moderate amount of Aquatic Cover composed mainly by boulder gaps, undercut banks and elephant ears. About Conroy Cover for the length of the stream. The entire river was present at sidepools. Low amount of basking
Amphibian Habitat Site Assessment

Sites composed mainly by boulders and down logs.
Low to moderate site composed by elephant ear and
boulders 1x1m and 2x1 through the whole length of
site.
Moderate site composed by boulder and boulder non-
minimal vegetation coverage. However, boulder provides
w/ cranios as well as site bottoms on 2x1 m pools
and 50 cm deep.

Unit/Section 2:
Moss area on left bank w/ Willow, alder, aspen, sage
murry pods and gravel pools (ruddy color) 30 cm in depth
maximum 64° Water temperature on pools
1030737332
4242923 4726 elevation

Unit/Section 3:
"Marsh" is dry with no aquatic habitat

Comments:

*Beaufort Scale 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 6-7-02  Site #: 20T  Site Name: Middle Creek
Surveyors: 84/AB  Total Site Length: 1.3 km  Ave. Width: 60 ft  Elevation: 280-280 ft
Air Temp: 65° F  Water Temp: shore 11° C  at depth 24° C  Ave. Water Velocity 15 cm/sec
Ave. Creek Gradient - Low (0-10°)  Mod. (11-40°)  High (>40°)
Ave. Bank Gradient - Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Shrubland  Fish Observed: 1/10000
Herpetofauna Observed: 2 T. elegans, 1 Distichna bedfordi, 1 Dendrohris longicaudatus, numerous fence lizards
Other Species Observed: 10 Myotis, 3 Myotis mitratus
Impacts to Amphibian Habitat: 0 grazing 0 recreation 0 logging 0 other

Habitat Type
- Diverted tributary
- Tributary, ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow, flowing water, standing ponds
- Other:

Habitat Features
For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Abundance estimates consist of: 1) absent <10%, 2) minimal - 1 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg, woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:
First 3 km was bedrock falls w/ bedrock slides + plunge pools. Bedrock width ~10m with water falling only in center. Abundant bedrock substrate w/mud, silt + pools. Vig. on Hazen. Minimal "elephant ear" emergents in locations. Moderate canopy cover, high gradient stream + banks. The numerous bedrock cascades come up to 10m tall w/vertical drops serve as barriers to fish movement and likely MYOT dispersal as well. One unidentified fish found in a plunge pool prior to a natural fish barrier. The steep gradient bedrock/bedrock cascades gave way to a slow-gradual step-run habitat w/rooms + pools found (see next section). The one fish and the frogs were separated by an impassable waterfall.
Amphibian Habitat Site Assessment

Unit/Section 2: Remaining section (where all the frogs found) was low gradient, 1.5m wide, and depth 20cm. Deeper pools were about 2m. Creek fully exposed with shrubland on both sides. Habitat was a series of riffles and runs with boulder/cobble substrate. Dating veg. shrubland consisting of forbs, grasses, rush, emerg veg. minimal, submerged veg. less.

Juncus cruentus abundant consisting of veg. boulder gaps, woody debris. Aquatic gravel moderate. (pH 7.0-7.5) consisting of boulder gaps and veg. mats. No canopy or understory present. Rocking sites abundant consisting of boulders, grassy and gran.

Unit/Section 3: Depth of 15cm deep, no flow, full sun exposure. NYLE tads found in this pool.

Comments:
Amphibian Habitat Site Assessment

Date: 7/2/02  Site #: 625  Site Name: Long Canyon, CA

Surveyors: [Name]  Start time: 9:20  End time: 4:45  Total survey time: 7:20  Sighting: Yes

Total Site Length: 1.5 miles  Elevation: 2400' A.M.S.L.  UTM: Start: [Coordinates]  End: [Coordinates]

Air Temp: 70°F  Water Temp: shore 60°F  at depth  N/A  Ave. Water Velocity 14 ft/s

Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) 2-3 (5+)

Ve. Creek (River) Gradient: Low (<10°)  Mod. (15-40°)  High (>40°)

Be. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)

Plant Habitat Type: Mixed Conifer, Evergreen Fish Observed: N/A

Invertefauna Observed: Alligator lizard, Pacific Tree Frog

Other Species Observed: Digger Bird

Impacts to Amphibian Habitat: Grazing, Recreation, Logging, Other:

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following scores: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

- Primary aquatic habitat type changes considerably during the length of the survey. Describe each section separately. Aquatic habitat types may consist of ruffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or Island, sedge/boulder margin, etc.

Description of Habitat

- Substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Stratigraphic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Int. vegetation: Type: sedge, rush, pondweed, algae, willow, other
- Emergent vegetation: Type: sedge, rush, algae, other
- Vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Al. cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- C. cover: Type: root wad, aquatic veg., woody debris, boulder, undercut banks, other
- U. cover: Type: understory (willow, dogwood, elder, maple, other)
- canopy cover: Type: exposed bank, boulder, log, other
- Ice of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Little water
- Sed. main channel: 100m. long, depth, gravel, sand
- Main comments: Unit I was 1.5 acres, moderately low amphibian
- Vegetation type: Sedges, Carex, Festuca, Saxifraga, and Ranunculus
- Undercut bank at upriver end of unit
- Canopy and shade cover:
Amphibian Habitat Site Assessment

2) Description of habitat

High gradient, primarily bedrock/boulder with intermittent cobble substrate.

Dimensions: length 1 mile, width 1/2 m, depth 0.25 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: (3) Type: sedge, rush, pondweed, algae, willow, other.

Submerged vegetation: (2) Type: sedge, rush, algae, other.

Margin vegetation: (4) Type: forbs, grass, shrubs (blackberry, willow, etc.), other.

Terrestrial cover: (6) Type: vegetation, leaf litter, burrows, woody debris, boulder, other.

Aquatic cover: (3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other.

Shade: (4) Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.

Basking sites: (2) Type: exposed bank, boulder, log, other.

Presence of sidepools, backwater pools, edgewise areas: Description of size, depth, and substrate: Bedrock/boulder.

Additional comments:

Intermittent amphibian habitat, 90m between bedrock/boulder cascades. This unit had high creek gradient, water flow rapid along bedrock and through boulder.

3) Description of habitat

Creek channel disappears under massive boulder rock.

Dimensions: length 250 m, width 1 m, depth 1/3

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: (1) Type: sedge, rush, pondweed, algae, willow, other.

Submerged vegetation: (1) Type: sedge, rush, algae, other.

Margin vegetation: (3) Type: forbs, grass, shrubs (blackberry, willow, etc.), other.

Terrestrial cover: (5) Type: vegetation, leaf litter, burrows, woody debris, boulder, other.

Aquatic cover: (3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other.

Shade: (5) Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.

Basking sites: (2) Type: exposed bank, boulder, log, other.

Presence of sidepools, backwater pools, edgewise areas: Description of size, depth, and substrate: Entire wetted substrate inaccessible due to larger boulders.

Additional comments:

Unit 3 was impassable. Dangerous rock scramble, with unstable, woody debris. Channel could be seen 2-5 m below top of boulders.

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8/9 Site #: 630 R Site Name: Silver Fork
Surveyors: _Survey time: start __ _ end __ Total survey time: 1 hr Sighting: Yes No
Total Site Length: 5 mile Elevation: __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ 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Amphibian Habitat Site Assessment

2) Description of habitat: **Bedrock** / **Boulder** high gradient banks narrow channel

Dimensions: length: **25 mi** or % of site: **50** width: **5-10 m** depth: **2-5 m**

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other [ ]

Submerged vegetation: [ ] Type: sedge, rush, algae, other

Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: [ ] Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: [ ] Type: understory (willow, dogwood, alder, conifer, maple, other______), canopy cover

Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: - banks predominantly bedrock/moderate slope

3) Description of habitat:

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ______ Type: sedge, rush, algae, other

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other______), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-10-03  Site #: 63T  Site Name: Girard Creek

Surveyors: SH, AB  Total Site Length: 1.43 mi  Ave. Width: 3 m  Elevation:

Air Temp: start 79°C end 22°C  Water Temp: start 10°C end 13°C  Ave. Water Velocity 30 cm/sec

Ave. Creek Gradient - Low (0-2°)  Mod (2-4°)  High (4-10°)

Ave. Bank Gradient - Low (<15%)  Mod (15-40%)  High (>40%)

Upland Habitat Type: Conifer  Fish Observed: None

Herpetofauna Observed:  Amer. Dipper, Common Crow

Other Species Observed:

Impacts to Amphibian Habitat -  grazing  recreation  logging

Habitat Type

- Diverted tributary
- Tributary, ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.

- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:

First 6 miles was predominately bedrock **cascades**  up to 10'  and several boulders covering and bedrock plunge pools (up to 10').  Some shallow (shallow) side pools w/silt and organic debris were present.  Silt river veg was minimal consisting of scattered forbs and clumps of clover, grass, fern.  Margin veg was also minimal.  Terrestrial cover consisted primarily of bedrock gaps but was minimal over all.  Aquatic cover was lacking because of all the bedrock.  Only where it did exist, it consisted of small woody debris.  Understory cover was moderate and consisted of alder.  Canopy cover was moderate consisting of pines.  A modest amount of basking habitat was available (shallow, bedrock) but was not often present in combination with suitable aquatic/terrestrial cover.
Amphibian Habitat Site Assessment

Unit/Section 2:
7. Second 8 mi was low-gradient riffle-run with side- and main-channel pools. It contained stretches of cobble/boulder step-runs as well. There was an increase in submerged veg (aquatic veg + algae), which was moderate. Minimal macro-mottain veg consisting of grasses, sedge, and forbs. Undercut banks were moderate. Ephemeral cover was moderate. Covering primarily as forbs, gaps, woody debris (downed log), and veg (aquatic cover) was modest. Consisting of boulder gravel/veg, banks and aquatic veg. No understory but a minimal amount of canopy cover (acorns). Racking sites were very abundant consisting of exposed boulder, gravel/veg, banks.

A few stretches of bedrock slide but no min. ant.

Unit/Section 3:

Comments:
Amphibian Habitat Site Assessment

Date: 7-1-02  Site # 031  Site Name: Liriodendr Creek
Surveyors: LMV  Survey time: start 9:30am end 4:30pm Total survey time 7 hr  Sighting: Yes  No
Total Site Length: 1.5 mile  Elevation: 4645' 42.59995' N  122.8645' W  UTM: start 10740107E end 15303357E
Air Temp: (60°F)  Water Temp: shore 58°F at depth N/A  Ave. Water Velocity 6 sec/4 ft
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Container Forests  Fish Observed: N/A
Herpetofauna Observed: P. regilla (adult + juvenile) C. horridus (coeruleus)
Other Species Observed: decreased flying squa
Impacts to Amphibian Habitat: grazing  recreation  logging  other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

- Bedrock / boulder with little canopy, high gradient 1-3m cascades
- Dimensions: length 150, width 1m, depth 0.5m
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: (2) Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: (2) Type: sedge, rush, algae, other
- Margin vegetation: (2) Type: forbs, grass, shrubs (blackberry, willow, etc.), other, wild rose, grape, fern
- Terrestrial cover: (4) Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: (4) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: (2) Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
- Basking sites: (4) Type: exposed bank, boulder, log, other
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Unit 1 was dominated by bedrock and boulder with a high gradient. Good habitat could be found between cascades. Falls along bedrock and cobble. Few edgewater pools were seen, mostly boulder bar.
Amphibian Habitat Site Assessment

2) Description of habitat: low gradient with wide edgewater area and little
boulder/bedrock

Dimensions: length 0.1 mile, width 2 m, depth 0.25 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ______ Type: sedge, rush, algae, other

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover

Basking sites: ______ Type: exposed bank,(boulder, log, other woody debris

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: ____________

3) Description of habitat:

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ______ Type: sedge, rush, algae, other

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 16-12-04 Site # 635T Site Name: Hill's Delight Mine
Surveyors: LH Total Site Length: 470 m Ave. Width: 5 m - 20 m Elevation:
Air Temp: start 79°C, end 9°C Water Temp: start 11°C, end 15°C Ave. Water Velocity: 5 - 35 cm/sec
Ave. Creek Gradient - Low 15°, Mod. 45°, High 150°
Ave. Bank Gradient - Low 45°, Mod. 45°, High 45°
Upland Habitat Type: Mixed Conifer, Evergreen, Wet Fir
Fish Observed: None
Herpetofauna Observed: P. regilla adult x ted, Fence Lizard
Other Species Observed: American Dipper
Impacts to Amphibian Habitat: Grazing Recreation Logging Other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg., woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:
First 26 mi. Abundant bedrock cascades bedrock slides, shutes and plunge pools, width of stream approx. 15 m. Depth was shallow (20 cm) on cascaded but deeper in plunge pools (2 m). Aquatic terr. substrate primarily bedrock, boulders with slate and clay minerals in shallow side pools. Occasional silt/sand sidebars. Emergent & submerged veg. absent. Margin veg. minimal consisting of sedge, grass, poor. Either minimal consisting in scattered veg. gaps in substrate. Aquatic cover minimal consisting of scattered gaps in substrate. Aquatic cover minimal consisting of scattered gaps. Understory absent. Canopy cover minimal consisting of shrubs. Fishing sites abundant (bedrock, boulders, gravel, sand banks) but lacked other important habitat features for M/H/LF (cover etc.)
Amphibian Habitat Site Assessment

Unit/Section 2:

Between .25 - .35 mi w/s a confluence gradient went from mod to low. Primary aquatic habitat consisted of pool/run, riffle, run and step pool elements. Aquatic substrate primarily cobble/small boulder interspersed with lesser amounts of gravel. Emerg. vege. minimal, consisting of Eilepna, eel clumps. Submerged vege. absent. Terrestrial cover minimal to low mod. consisting of sedges, grass, gaps in substrate. Aquatic cover moderate, aquatic debris on substrate and some red algae. Composed about name. Occasional boulder cascades (2m tall) scattered. Channel width 1 to 2m, depth about 1 to 2m.

Unit/Section 3:

Section .35 to .75 mi heavily logged. Boulder content increased as did creek gradient (from low to moderate). All veg. types absent. Abundant downed logs and woody debris. High-gradient banks highly eroded and bare, allowing siltation in creek. A moderate number of sand/drift point and lateral bars formed around boulders.

Comments:

Section 4 from road culvert to (.75 mi to 1.22 mi)
End of reach, highly graded channel with cobble run over granite with algae (abundant) banks eroding with some undercut veg. on margin primarily short grasses. No understory
Canopy lift depressed up to 1 ft deep in areas interspersed w/cobble areas. P. regilla adults found in stream.

An old stock pond with win. aquatic + margin veg. located adj to creek at culvert. Numerous P. regilla tadpoles in pond.
Amphibian Habitat Site Assessment

Date: 8-1-02  Site #: 640T  Site Name:  Bank Shovel Creek

Surveyors: SHAB  Survey time: start 09:50 end 15:40  Total survey time: 5hrs 20min

Total Site Length: 1540 ft  Total survey time: 5hrs 20min

Air Temp: 20°C - 21°C  Water Temp: 14°C at depth 19°C  Ave. Water Velocity: 3.57

Cloud cover: clear 0-10%  partly cloudy 10-50%  cloudy 50%  Wind Speed (Miles): 0

Ave. Creek (River) Gradient: Low (<10%)  Mod. (10-30%)  High (30+)

Upland Habitat Type: Mixed Conifer  Fish Observed: Trout - various age classes (not observed above 7"

Herpetofauna Observed: Tenebrionidae (spp), Carabidae (Spp), Cicindelidae (Spp), Thysanoptera, Hemiptera, Hymenoptera, Orthoptera

Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other

Habitat Type

- Diverted tributary
- (1) Tributary ephemerally intermittent, perennial
- Reservoir
- Wet meadow: flowing water, standing clumps
- Pond/Lake
- Other: ______

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat: From contingency to #1  Main gradient: Broad, irregular, grassy, low, interpreted with

Dimensions: length 0.75, width 1-2 m, depth 0.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, bedrock

Emergent vegetation: 2 Low Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 2 Type: sedge, rush, algae, other

Margin vegetation: 3 Type: forbs, grass, shrubs (blackberry, willow, etc.), other Equisetum, Umbelliferae, Menyanthes, Sesamum

Terrestrial cover: 3 Type: vegetation, leaf litter, burrows (woody debris), boulder, other

Aquatic cover: 4 Type: rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other

Shade: Light 50% Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: 3 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, eddies: Description of size, depth, and substrate:

Additional comments: Study conducted on 8-13-02, examination of possible point source habitat

Bank Gradient: High  Creek Gradient: Low  Moderate  Intense  Very Intense  Low  Moderate  High

Water levels not available to be measured.
2) Description of habitat
Dimensions: length 0.50 m or % of site _______ width 1.5 m depth _______
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other ---------
Submerged vegetation: _______ Type: sedge, rush, algae, other -----------
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ---------
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other -----------
Aquatic cover: _______ Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other ---------
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other) -------
Basking sites: _______ Type: exposed bank, boulder, log, other -----------
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
Additional comments:

3) Description of habitat
Dimensions: length _______ or % of site _______ width _______ depth _______
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other ---------
Submerged vegetation: _______ Type: sedge, rush, algae, other -----------
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ---------
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other -----------
Aquatic cover: _______ Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other ---------
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other) -------
Basking sites: _______ Type: exposed bank, boulder, log, other -----------
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

<table>
<thead>
<tr>
<th>Date: 7-2-02</th>
<th>Site # 641</th>
<th>Site Name: Mule Creek</th>
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</thead>
</table>

**Surveyors:** StHo Survey time: start 01:10 end 16:00 Total survey time 05:20:32 Sighting: Yes No (100%)

**Total Site Length:** 1.1 mi Elevation: 5320' UTM: start 4379951 end 4379498

**Air Temp:** 25°C - 28°C Water Temp: start 15°C at depth 3°C Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) 0-1) 2-4) 5+

**Ave. Creek (River) Gradient:** Low (<10°) Mod. (11-30°) High (>30°) steep-like y low and high sections

**Ave. Bank Gradient:** Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: Conifer/evergreen Fish Observed: Trout, und. fry

Herpetofauna Observed: Rattlesnake, fence lizard, saguaro, tree froggy

Other Species Observed: American Dipper

Impacts to Amphibian Habitat - grazing: Recreation: Logging:_tree froggy

Exposed upland created

$\text{\textcopyright}2002$ during 2nd half of

**Habitat Type**

- Diverted tributary
- Tributary, ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ____________

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedgen/boulder margin, etc.

1) **Description of habitat**

<table>
<thead>
<tr>
<th>Bedrock cascades</th>
<th>1/2</th>
<th>plunge pools</th>
<th>3/4</th>
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</thead>
</table>

**Dimensions:** length 35 m, or % of site ______ width 1 - 2 m depth 3.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)

**Canopy cover** 1810 - 1200

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: numerous, deep plunge pools (21m) and shallow, sand dominated side pools

**Additional comments:** Trout observed,
Amphibian Habitat Site Assessment

2) Description of habitat: Low-gradient riffle/run/pool unit
Dimensions: length 35 ft or % of site 100, width 1-2 m, depth 10-25 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rockweed, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Creek meanders and basins in places. Some sections were low-gradient and others were moderate.

3) Description of habitat: Boulder-Bedrock cascade/low-gradient riffle/run
Dimensions: length 35 ft or % of site 100, width 1-2 m, depth 10-25 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rockweed, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Last half mile habitat alternated between the two types. Habitats included a lot of boulders where no suitable aquatic habitat existed. You could almost bow-walked boulders in areas with little aquatic cover. Cobble-boulder riffle run areas less than 30 ft. or entire side. Most habitat had lack of amph. hab. feature.

Flora and fauna became unpeneetrable and alternated with high gradient boulder cascades up just a narrow stream flowing through. Would have to travel up and around surmounting to continue.

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 12 JUNE 2002</th>
<th>Site #: B-42-T</th>
<th>Site Name: Maquin Cale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors: S. Cannon</td>
<td>Survey time: start 11:20</td>
<td>Total time: 7 hours</td>
</tr>
<tr>
<td></td>
<td>end 11:30</td>
<td>Sighting: yes (10)</td>
</tr>
<tr>
<td>Total Site Length: 1.21 miles</td>
<td>Ave. Width:</td>
<td>Elevation: 5328.3 ft</td>
</tr>
<tr>
<td></td>
<td>Ave. Water Velocity</td>
<td>UTM 0742062 4282723</td>
</tr>
<tr>
<td>Air Temp: 23</td>
<td>Water Temp: shore 13</td>
<td>Ave. Water Velocity</td>
</tr>
<tr>
<td>Cloud cover: clear (0%)</td>
<td>partly cloudy (1-50%)</td>
<td>cloudy (&gt;50%)</td>
</tr>
<tr>
<td>Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave. Creek Gradient: Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod (15-40°)</td>
<td>High (&gt;40°)</td>
</tr>
<tr>
<td>Upland Habitat Type: Mixed Conifer</td>
<td>Fish Observed: Trout (western lake cut)</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed: J.W. Aligator, Lizard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat:</td>
<td>Grazing</td>
<td>Recreation</td>
</tr>
</tbody>
</table>

**Habitat Type**
- Diverted tributary
- Tributary ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Other:

**Habitat Features** For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. 11 to 30%, 3) low to moderate amt. 31% to 50%, 4) moderate to high amt. 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

**Unit/Section 1:** At Confluence: Exposure appears low. Downstream of confluence, water warms. Do not swim west of confluence due to prevalence of steel residue until west of Confluence. Water somewhat murky in upstream and midstream. Water current is low. Water color is clear. Trout observed. Canopy is complex and minimal.
Amphibian Habitat Site Assessment

Unit/Section 2:

From WETT 1 to WEIR 3. (WETT 1: 079185 4323333, ALL-ROCK)

Aquatic Habitat Dominated by BEARDED CASCADERS + ASSOCIATED FRESH POND.

Emergent Vég: CAREX, SEDGE, (MINERAL) Substrate: MORROCK, SAND & ROCK

Lenticular Vég: FOSSIL, GREEN, (MINERAL) Substrate: ROCK & FIXED ROCK

Water Depth: 0-1 m

Unit/Section 3:

From WEIR 3 to Forest Service Road (WETT 4: 0940894 432314, ALL-ROCK)

Creek Gradient: Low

Water Width: 0.1-1 m

Aquatic Substrate: SAND & ROCK

Emergent Vég: CAREX, SEDGE, (MINERAL) Substrate: MORROCK, SAND & ROCK

Water Depth: 0.1-1 m

AQUATIC HABITAT TYPES: Low Gradient: DISEASED (COBBLE-SLUDGE) CASCADERS

Comments:

Bare Bedrock Most Frequently (Cobble & Silt) in Section 3

*Beaufort Scale*

- 0-1: 0-3 mph, calm to light air (rising smoke drift)
- 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper)
- 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 1 July 2002  Site #: 645 T  Site Name: SHERMAN Cmv

Surveyors:  J Hune  Survey time:  start 12:15  end 17:30  Total survey time 5:15  Sighting: Yes

Total Site Length:  0.12 mile  Elevation: 550 - 580  UTM:  start 525212, 94620 end 524653, 949377  Acre 0.20

Air Temp: 50°F  Water Temp: 50°F  at-depth 15  Ave. Water Velocity 0.1

Cloud cover:  (0%) clear (10%) partly cloudy (50%) clouded (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (30°+)

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (40°+)

Upland Habitat Type: Mixed Conifer  Fish Observed: Yes - Trout (Varied Age Classes)

Herpetofauna Observed: None

Other Species Observed: American Garter, Red Backed Salamander

Impacts to Amphibian Habitat:  □ grazing □ Recreation □ Logging  □ Other: Recreation - Site of Tree Farm (open)

Habitat Type

- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Boulder cascades/rock intertide

Dimensions: length 12 m  width 8 m  depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other)

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:  Other aquatic habitat features present include lateral cobble bar, low gradient riffle, Point Sandbar

Boulder cascades/Plunge pool, Rockface, Bank 1 step runs
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length_______ or % of site ________ width _________ depth _________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other___________

Submerged vegetation: ________ Type: sedge, rush, algae, other___________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other___________

* Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other___________

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other___________

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other___________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

__________________________________________________________

__________________________________________________________

__________________________________________________________

3) Description of habitat

Dimensions: length_______ or % of site ________ width _________ depth _________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other___________

Submerged vegetation: ________ Type: sedge, rush, algae, other___________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other___________

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other___________

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other___________

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other___________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other___________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

__________________________________________________________

__________________________________________________________

__________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 06/14/01  Site # 6467  Site Name: North Tragedy

Surveyors: Site #6467  Total Site Length: 0.53m (1.5k)  Ave. Width: 10m  Elevation: 5670 - 6000 ft

Air Temp: start 17°  end 19°  Water Temp: start 12.5°  end 14°  Ave. Water Velocity 1.1 ft/sec

Ave. Creek Gradient - Low (<10°)  Mod (15-40%)  High (>40°)
Ave. Bank Gradient - Low (<15%)  Mod (15-40%)  High (>40%)

Upland Habitat Type: Mixed conifer, shades  Fish Observed: 2 very small - looked like tadpoles
Herpetofauna Observed: 3 free lizards

Other Species Observed: Am. dipper

Impacts to Amphibian Habitat - [ ] grazing  [ ] recreation  [ ] logging  [ ] other: None significant

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.

- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.

  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:

Step pools, 6 cascades, a few riffles  TO 0.17 miles from confluence, Width approximately 7-10 ft

Depth in pools avg 0.5 m, shallower in between (steps, cascades, riffles)
Aquatic Substrate: 80% boulder 15% cobble 5% gravel and sand
Emergent veg - none  Submerged - minimal (algae)  Margin veg - willow, aspen, other
Shade/forb Minimal
Canopy minimal (mixed conifer)  Understory minimal (alder, willow)
Bathing sites: boulder, exposed banks, low-maneo

Low mod 31-50%  high mod 51-70%
Amphibian Habitat Site Assessment

Unit/Section 2:

mostly cascades, some step pools, steeper 10-18° slope

0.17 - 0.31 miles Avg. width 8m Depth up to

2m in boulder pools avg. depth 0.5m
Aquatic and terrestrial substrate same as #1
3) Same as previous
4) Same as previous
5) <10%, boulders primarily
6) Same as previous
7) Same as previous

#3 from 0.31 - 0.42 miles same as habitat 1 except width avg = 25m

Unit/Section 3:

from 0.42 miles - 0.53 miles

bedrock cascades and riffles into step pools
width avg. 12m depth - one pool 72m avg. 0.5 - 0.75m
Terrestrial substrate almost all bedrock
Aquatic: 90% bedrock, 10% boulders, cobbles, gravel, sand
cover/strains avg. <10%, sparse = minimal, danger, willow, smaller
Terrestrial cover minimal; boulders only
Aquatic cover = minimal; jogs in bedrock substrate
Canopy, understory cover < 10%, a few trees, shrubs
bedrock, stones, boulders, bedrock, minimal

Comments:

Lower part seems to be decept habitat, jogs habitat
#1, #2, #3, #4 may be too swift, although characteristics
very similar to #3 other than slope, #4 not good other than
large pools, not enough cover and water channeled in
broken many places
Amphibian Habitat Site Assessment

Date: 7 Aug. 2002  Site # 703R  Site Name

Surveyors: [Name]  Survey time: start 11:20 end 15:20  Total survey time 3 h 10 min  Sighting: Yes (No)

Total Site Length: 500 m  Elevation: 1,470 ft  UTM: start 0424795, end 0424795 4753717
Air Temp: 80°F  Water Temp: shore 12°C at depth 8°F  Ave. Water Velocity

Water cover: Clear (0-10%), partly cloudy (11-50%), cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: (Low) (<1°)  (Mod) (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  (High) (>40°)

Upland Habitat Type: Mixed conifer (Cedrus, Pinus, etc.)  Wet meadow: flowing water, standing ponds

Herpetofauna Observed: Calotes viridis (heard not seen)  W. Fence ( Gavin
Other Species Observed: American Beaver

Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Swamp
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedges, rush, pondweeds, algae, willow, other _______
Submerged vegetation: _______ Type: sedges, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, maple, other _______), canopy cover _______
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, eddy areas: Description of size, depth, and substrate:
Small side channels cobble with sand/edge in deep _______

On North side river never greater than 3 ft _______

Low bank (and river) _______

KEY TO SECTIONS

Description 1 - Refer to North side of river between B & C
Description 2 - Refer to North side of river between A & B
Description 3 - Refer to both North & South sides of river between A & B
Description 4 - Refer to South side of river between B & C
Dimensions: length 33  width Same as Unit 1. depth 1-2 m.
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, Boulder, bedrock.
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other.
Submerged vegetation: Type: sedge, rush, algae, other.
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other.
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other.
Aquatic cover: Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other.
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.
Basking sites: Type: exposed bank, boulder, log, other.
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
Additional comments: Approx 40-60 ft. waterfall & end of survey area.

3) Description of habitat: 3-10 ft. undercut bank, inside channel 125-150 m deep.
Dimensions: length 33  width 10 m  depth 15-25 m.
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other.
Submerged vegetation: Type: sedge, rush, algae, other.
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other.
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other.
Aquatic cover: Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other.
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.
Basking sites: Type: exposed bank, boulder, log, other.
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
Additional comments: Low river gradient, high bank gradient.
Margin veg. on banks and bare islands.
Low gradient riparian in Spray area 1.0 acre.
Greater courage 0.5 acre.
Side pools 1 m x 2 m, high embedded with main channel in flow of RW.

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway).
Amphibian Habitat Site Assessment

Date: 7 Aug 2023  Site #: 705 R

Surveyors: [Name]  
Survey time: start ___ end ___ Total survey time ___  
Sighting: Yes  No

Total Site Length: ___  Elevation: ___  UTM: start ___ end ___

Air Temp: ___  Water Temp: shore ___ at depth ___ Ave. Water Velocity ___

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type:  
Fish Observed:  
Herpetofauna Observed:  
Other Species Observed:  

Impacts to Amphibian Habitat - grazing, recreation, logging  □ other:  

Habitat Type
- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir
- River
- Pond/Lake  
- Wet meadow: flowing water, standing ponds  
- Other:  

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

Two Primary Habitats: South Side River

Dimensions: length ___ or % of site ___ width ___ depth ___

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble/boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble/boulder, bedrock

Emergent vegetation:  
Submerged vegetation:  
Margin vegetation:  
Terrestrial cover:  
Aquatic cover: 
Shade: 
Basking sites:  

Presence of sidepools, backwater pools, eddies, and other areas: Depth, size, and substrate:

Additional comments:

[Diagram of survey results and observations]

[Handwritten notes and observations]
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: __________ Type: sedge, rush, algae, other __________
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other __________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other __________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________

Additional comments: __________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: __________ Type: sedge, rush, algae, other __________
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other __________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other __________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________

Additional comments: __________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sege/boulder margin, etc.

1) Description of habitat

Dimensions: length __________ or % of site ________ width NE 15-24 m depth SE 10-20 cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: (3) Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: (4) Type: sedge, rush, algae, other
Margin vegetation: (5) Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: (2) Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: (3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: (4) Type: understory (willow, dogwood, alder, maple, other___________), canopy cover
Basking sites: (2) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Has of shade does not significantly shade from the canopy canopy

Canopy extends about 25 ft into the meadow ( abusive precision of canopy)
2) Description of habitat

Dimensions: length: 8.4 m or % of site ______ width: 20 m depth: 1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

---

3) Description of habitat

Dimensions: length: 37.2 m or % of site width: ______ depth: 1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-17-02  Site #: 111  Site Name: Oyster Lake
Surveyor: J.H.O.  Survey time: start 10:15 am and 12:15 pm  Total survey time 2 hrs  Sighting: Yes  No
Total Site Length:  End  Elevation: 72.40  UTM: start 42842.38
Air Temp: 19.5°F  Water Temp: shore 11.5°F  depth 17.5°F  Ave. Water Velocity: 0.2
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: mixed conifer  Fish Observed: none
Herpetofauna Observed: Hyla and Ambystoma (H. Y. R., A. M. M. A.)
Other Species Observed: Mallard
Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant type (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Shallow lake. Fed by sub-surface flow.
Dimensions: length 230 m or % of site width 104 m depth 1 meter
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Abundant Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: mod.-high Type: sedge, rush, algae, other mosses
Margin vegetation: abundant Type: forbs (grass) shrubs (blackberry, willow, etc.), other
Terrestrial cover: abundant Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: mod. low Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: minimal Type: understory (willow, dogwood, alder, maple, other)
Basking sites: minimal Type: exposed bank, boulder, other exposed stumps
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Shallow
Inlet where water flowed into the lake. Submerged veg was dominant.

Additional comments: Lake was full of algae. Campgrounds on both sides. Fed by seeping water from Silver Lake. Water was colder than expected.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______

Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: 

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______

Submerged vegetation: _______ Type: sedge, rush, algae, other _______

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______

Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______

Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: 

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Date: 7/25/92  Site # 7152  Site Name: Silver Sunk America P
Surveyors:    712  Survey time: start 10:20 end 13:20  Total survey time 2:40  Sighting: Yes  No
Total Site Length: 283.5m Elevation: 720' UTM: start 475649' (N) end 476349' (N)
Air Temp: 19°C  Water Temp: shore 15°C  at depth  0°C  Ave. Water Velocity
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-70%), Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: 2
Herpetofauna Observed: Thamnophis sirtalis  gundlachii
Other Species Observed: 3
Impacts to Amphibian Habitat - × grazing  ● recreation  □ logging  □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: 2

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: River
Dimensions: length or % of site  width  15 m  depth (shoreline shallows and pools 0.4 m deep)
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedges, rush, pondweeds, algae, willow, other
Submerged vegetation: 1 Type: sedges, rushes, algae, other
Margin vegetation: 1 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 1 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 1 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 1 Type: understory (willow, dogwood, alder, maple, other), canopy cover 5%
Basking sites: 5 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: 2 small pools in beaver + boulders, avg. depth 9 cm, edgewater

Additional comments: LOTS OFgeber. Lots of fish, high Rec.少量的insects with days observed.
2) Description of habitat

Dimensions: length________ or % of site ______ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: ________ Type: sedge, rush, algae, other________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: _________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: _________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:
________________________________________
________________________________________
________________________________________

________________________________________

3) Description of habitat

Dimensions: length________ or % of site ______ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: _______ Type: sedge, rush, algae, other________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: _________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: _________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:
________________________________________
________________________________________
________________________________________

________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/17/02   Site #716 L A, B, C, D   Site Name

Surveyors:   "Survey time: start 1000 end 1345   Total survey time 3:45   Sighting: Yes   No
Total Site Length: 215 m    Elevation: 7440 UTM: start   See desc.   end   See desc.
Air Temp: 80° F   Water Temp: shore 3°F   at depth 1°F   Ave. Water Velocity 12
Cloud cover: clear (0-10%)   partly cloudy (11-50%)   cloudy (>50%)   Wind Speed (*Beaufort): (0-1) 2-4 (5+)
Ave. Creek (River) Gradient: Low (<10°)   Mod. (11-30°)   High (>30°)
Ave. Bank Gradient: Low (<15°)   Mod (15-40°)   High (>40°)
Upland Habitat Type: wood canopy   Fish Observed: D. Undisturbed areas
Herpetofauna Observed: A. regilla   L. macrodactylum, T. elegans
Other Species Observed:

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Pond/Lake
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat 716 L 0
Dimensions: length 50m or % of site width 25m depth 0.5 - 1m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other
Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: [ ] Type: understory (willow, dogwood, elder, maple, other), canopy cover
Basking sites: [ ] Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: UTM: 4283982 N 102119818
Photos - Film or disposable. Photos need to be scanned and down loaded.
Heilala - 17
Topo - 210
Maps - 1981
Heilala - 17.9
Heilala - 17.9
Heilala - 17.9
Lodgepole m, various life stage

No impacts seen.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _______ m or % of site _______ width _______ m depth _______ m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algæ, willow, other
Submerged vegetation: _______ Type: sedge, rush, algæ, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: UTM - 428382 7N 10249052 E

3) Description of habitat

Dimensions: length _______ m or % of site _______ width _______ m depth _______ m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algæ, willow, other
Submerged vegetation: _______ Type: sedge, rush, algæ, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: UTM - 428382 7N 10249052 E

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* Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date:</th>
<th>Site #</th>
<th>Site Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors:</td>
<td>Survey time: start</td>
<td>end</td>
</tr>
<tr>
<td>Total Site Length:</td>
<td>Elevation:</td>
<td>UTM: start</td>
</tr>
<tr>
<td>Air Temp:</td>
<td>Water Temp: shore</td>
<td>at-depth</td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%)</td>
<td>partly cloudy (11-50%)</td>
<td>cloudy (51-70%)</td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°)</td>
<td>Mod (11-30°)</td>
<td>High (&gt;30°)</td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod (16-40°)</td>
<td>High (&gt;40°)</td>
</tr>
<tr>
<td>Upland Habitat Type:</td>
<td>Fish Observed:</td>
<td></td>
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<tr>
<td>Herpetofauna Observed:</td>
<td></td>
<td></td>
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<tr>
<td>Other Species Observed:</td>
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<tr>
<td>Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other:</td>
<td></td>
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</tr>
</tbody>
</table>

### Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>width</th>
<th>depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>75m or % of site</td>
<td>30m</td>
<td>5-1m</td>
</tr>
</tbody>
</table>

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veget, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other), canopy cover (conifer)

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater, pools, eddies, eddies, description of size, depth, and substrate:

Additional comments: nhm-42502732 187462584

No observed snake. 1. frogs, 1. lizards
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8/29/03 Site #: 2181 a-c Site Name: (Near Quarry of Hoy 88)

Surveys: SH AB Survey time: start 09/30 end 13/5 Total survey time 45 min Sighting: Yes \( \frac{1}{2} \) No

Total Site Length: see below Elevation: \( \frac{1}{2} \) UTM: start \( \frac{1}{2} \) below end

Air Temp: 12°C Water Temp: shore see below at depth Ave. Water Velocity \( \frac{1}{2} \)

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (Beaufort): (0-1) \( \frac{1}{2} \) (2-4) \( \frac{1}{2} \) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: mud, conifer Fish Observed: No

Herpetofauna Observed: H. regilla, metamorphs, free swimming (1), A. macrodactylum

Other Species Observed: running shrimp, water boatman, D. robbin

Impacts to Amphibian Habitat - \( \frac{1}{2} \) grazing \( \frac{1}{2} \) recreation \( \frac{1}{2} \) deforestation \( \frac{1}{2} \) other: active quarry near (x)

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Pond/Lake

1) Description of habitat [NAD 83 0349120, 42 08517]

Dimensions: length 30m or % of site width 15-30m depth 20-50 cm

Aquatic substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: root wad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other)

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Part of pond was shallow 1.5m, deeper at center 2.5m point

Additional comments: Sand marsh, plants in pond that was very dense, mission Kaiwi, around pond was one designated brown trout (mission tarlet), an enlarged head, and brown mouth. Swan about 2-3m above boulder. Pond stilled, metamorphosis


This pond had old wood & greenish hue and was isolated from a large

quarry granite pile, it was encircled in quarry tailings.

Pond 17°C
Amphibian Habitat Site Assessment

2) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>width</th>
<th>depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>18m</td>
<td>7m</td>
<td>0.8m</td>
</tr>
</tbody>
</table>

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type (seagrass, pondweed, algae, willow, other)
Submerged vegetation: Type (seagrass, algae, other)
Margin vegetation: Type (forbs, grass, shrubs (blackberry, willow, etc.), other)
Terrestrial cover: Type (vegetation, leaf litter, burrows, woody debris, boulder, other)
Aquatic cover: Type (rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other)
Shade: Type (understory (willow, dogwood, alder, conifer, maple, other))
Basking sites: Type (exposed bank, boulder, log, other)

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Pond drying up & shallow throughout.

Additional comments:

A. macrodactylum, metamorposing larvae (both sets of limbs + gills)

Pond is drying up and muddy boulders shore-in a couple weeks. Width 8m.

Pond 21.5°C

3) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>width</th>
<th>depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>20m</td>
<td>4m</td>
<td>0.3m</td>
</tr>
</tbody>
</table>

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type (seagrass, pondweed, algae, willow, other)
Submerged vegetation: Type (seagrass, algae, other)
Margin vegetation: Type (forbs, grass, shrubs (blackberry, willow, etc.), other)
Terrestrial cover: Type (vegetation, leaf litter, burrows, woody debris, boulder, other)
Aquatic cover: Type (rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other)
Shade: Type (understory (willow, dogwood, alder, conifer, maple, other))
Basking sites: Type (exposed bank, boulder, log, other)

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Pond is drying up & shallow throughout.

Additional comments:

Pond in shrinking, remaining an extensive muddy shore (3m). Water visual was highest loss (seagrass & boulders would have provided food, long algal growth). Pond appears to be at breeding stage. A. macrodactylum with a full clutch of eggs in the background. Also no mudpuppy

Pond 23°C

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 11 Jun 2002  Site #:  Site Name: (STONETOWN MUNICIPAL CAMI)
Surveyors:  Survey time: start 12:40  end 2:00 pm  Total survey time: 1:20  Sighting: Yes (No)
Total Site Length: 78 m  Elevation: 720' UTM: start 102872.98, 487519.90  end 102871.85, 487521.24  Alt. 684'
Air Temp: 68°F  Water Temp: shore <98°F at depth ≤25°F Ave. Water Velocity: 1 cm/sec
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°). High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type:  Fish Observed:  
Herpetofauna Observed:  none
Other Species Observed:  
Impacts to Amphibian Habitat:  grazing  Recreational  Logging  other: historical diversion of water at print.

Habitat Type

<table>
<thead>
<tr>
<th>Diverted tributary</th>
<th>Reservoir</th>
<th>Pond/Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary: ephemeral, intermittent, or perennial</td>
<td>River</td>
<td>Wet meadow: flowing water, standing ponds</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (or co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, ledge/boulder margin, etc.

1) Description of habitat

Dimensions: length 2.5 m, or % of site 25%, width 2 cm, depth 8 to 10 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1  Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1  Type: sedge, rush, algae, other
Margin vegetation: 5  Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 1  Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 1  Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 5  Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: none

Additional comments: 

1 GPS point 122.43m N, 81.85m W, looking at meadow
2 GPS #2  field point 114. spring field point start @ 021 flint
3 GPS #3 1.71 north mid, end
4 end air temp 82' F
5 end water temp 50' F
Amphibian Habitat Site Assessment

2) Description of habitat: Shallow stream, few pools, low gradient, abundant forbes.

Dimensions: length _____m, width _____m, depth _____cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: none

Additional comments: Intermittent

3) Description of habitat: Subsite a

Dimensions: length _____m, width _____m, depth _____cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: none

Additional comments: Entire site mostly unsuitable for adult males

*Beaufort scale: 0-1: (0-13 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-18-02  Site # 720 T  Site Name  Oyster Creek
Surveyors: SH & JG Survey time: start 10:10 A.M. and 12:15 P.M. Total survey time 2 hr 35 min. Sighting: Yes
Total Site Length: 2.0 Kms  Elevation: 7200 ft UTM: start 0750734  end 0749659
Air Temp: 44°F to 71°F Water Temp: shore 64°F and 65°F at depth 68°F Ave. Water Velocity: fast
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10%)  Mod. (11-30%)  High (>30%)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Mixed forest and meadows  Fish Observed: Rainbow Trout
Herpetofauna Observed: none
Other Species Observed: none
Impacts to Amphibian Habitat - ☐ grazing ☐ recreation ☐ logging ☐ other

Habitat Type
- Diverted tributary
- Tributary ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Low gradient stream, A lot of gravel on bottom. Meandering through meadows.
Dimensions: length _______ or % of site _______ width 1-5 meters  depth 10 cm - 1 meter
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Minimal Type: sedges, rush, pondweed, algae, willow, other  core: alder
Submerged vegetation: Minimal Type: sedge, rush, algae, other, flowering mats of moss (only in sandy areas)
Margin vegetation: abundant Type: forbs, grass, shrubs (blackberry, willow, etc.), other  Alder
Terrestrial cover: high Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: abundant Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: high Low Type: understory (willow, dogwood, alder, maple, other), canopy cover 10%
Basking sites: minimal Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: no sidepools, backwater pools, or edgewater areas.

Additional comments: Low gradient, fast moving, shallow stream. Fed by spring water from Silver Lake. I believe this stream was created when Silver Lake was made. So it is a young stream. It has a gravel and cobble bed most of the time. Even though the gradient is low, the water moves fast. Almost no boulders present. I think if there were more boulders, then there might have been frogs in it.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
### Amphibian Habitat Site Assessment

Date: 7/12/22  |  Site # 721  |  Site Name
---|---|---
Surveyors: | Survey time: start 12:00 end 12:30 | Total survey time 30 min Sighting: Yes
Total Site Length: | Elevation: 750 ft UTM: start 2212395N end 2212395N | N/A
Air Temp: 23°C | Water Temp: shore 25°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%) | partly cloudy (11-50%) | cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) | Mod. (11-30°) | High (>30°)
Ave. Bank Gradient: Low (<15°) | Mod (15-40°) | High (>40°)
Upland Habitat Type: **mixed upland**  | Fish Observed: |
Herpetofauna Observed: | HYRE TRAPED
Other Species Observed: |
Impacts to Amphibian Habitat □ grazing □ recreation □ logging □ other:

<table>
<thead>
<tr>
<th>Habitat Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diverted tributary</td>
</tr>
<tr>
<td>Tributary: ephemeral, intermittent, or perennial</td>
</tr>
<tr>
<td>Reservoir</td>
</tr>
<tr>
<td>River</td>
</tr>
<tr>
<td>Wet meadow: flowing water, standing ponds</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length 75</th>
<th>width 50</th>
<th>depth 1-2m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock: <strong>woody debris</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terrestrial substrates: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergent vegetation:</td>
<td>sedge, rush, pondweed, algae, willow, other</td>
<td></td>
</tr>
<tr>
<td>Submerged vegetation:</td>
<td>sedge, rush, algae, other: <strong>grass</strong></td>
<td></td>
</tr>
<tr>
<td>Margin vegetation:</td>
<td>forbs, grass, shrubs (blackberry, willow, etc.), other: <strong>pine</strong></td>
<td></td>
</tr>
<tr>
<td>Terrestrial cover:</td>
<td>vegetation, leaf litter, burrows, woody debris, boulder, other</td>
<td></td>
</tr>
<tr>
<td>Aquatic cover:</td>
<td>rootwad, aquatic veg, woody debris, boulder, undercut banks, other: <strong>floating debris</strong></td>
<td></td>
</tr>
<tr>
<td>Shade:</td>
<td>Type: understory (willow, dogwood, alder, maple, other), canopy cover</td>
<td></td>
</tr>
<tr>
<td>Basking sites:</td>
<td>Type: exposed bank, boulder, log, other</td>
<td></td>
</tr>
<tr>
<td>Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water way with intermittent wetted substrate:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments: H. regalis fed on tadpoles until fed 250-300
2) Description of habitat

Dimensions: length ______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other______________

Submerged vegetation: ______ Type: sedge, rush, algae, other__________

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________

Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other__________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length ______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other______________

Submerged vegetation: ______ Type: sedge, rush, algae, other__________

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________

Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other__________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 19 June 2002  Site #: 1224 (A)  Site Name ——

Surveyors:  A B.  D.  Henderson  Survey time: start 10:49  end 13:00  Total time 2.0 hrs  Sighting: yes

Total Site Length:  Ave. Width:  Elevation:  7400' UTM 09S 147740 142749 (A.1: 20 ft.
Air Temp:  Water Temp: shore  15° at depth  15°  Ave. Water Velocity: N/A
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)
Ave. Creek Gradient - Low (<10°)  Mod. (11-30°)  High (>30°)  N/A
Ave. Bank Gradient - Low (<10°)  Mod. (11-30°)  High (>30°)  N/A
Upland Habitat Type:  Conifer (5.0 ft. White Pine)  Fish Observed:  None
Herpetofauna Observed:  HYRAE RAND SIGNIA (320)  < in 3224 (A)  RAN 1-JUL
Other Species Observed:  HALL (3.1)  1-JUL
Impacts to Amphibian Habitat - Grazing  Recreation  Logging  Other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral,
intentional, or perennial
- Pond/Lake + Emergent, Submerged, and Margin Vegetation
- Reservoir

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and
abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step
run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. 11 to 25%, 3) low to moderate amt.
- 31% to 50%, 4) moderate to high amt. > 51-70% and 5) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed,
algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:

Notes:

FLOODS, R. I. SPARKLING 7424 (A) SIMULTANEOUSLY TO OUR EFFORTS AT 7224 (A)
7224 (A) WAS NOT SURVEYED ON 19 JUNE 2002

SITE A CONNECTED TO THE PRIMARY LAKE AND TWO CURRENT ASSOCIATED Ephemeral, Event-
Oasis, located at the end center of the lake

CONT. ON BACK
Amphibian Habitat Site Assessment

**Unit/Section 2:**

A small TAD, credits FALL (A) to 2GARATE UANE - APPARE LLWEL / SUBSTRATE. BOUNDER  CRANBNIB / SWEET ST.

**Unit/Section 3:**

**Round 1:** Dimensions: 15 x 10 m (width, length), WATER DEPTH: MORPHOLOGY: (out to 3 m) and 10-30 cm. HARD DEPTH: 0 cm.

- **Aquatic Substrate:** SU/SURFACE (MINIMUM) BOUNDER: ABSENT (WITH 2")
- **Emergent VEG:** VERY MINOR VEG: SUGARCHEE VEG: ABSENT
- **Aquatic Cover:** MINOR DEBRIS: MINOR. TERRITORIAL COVER: MINOR DEBRIS: MINOR.
- **Territorial Substrate:** SANDY FLAT / SCATTERED Boulders.

**Round 2:** Dimensions: 21 x 20 m. WATER DEPTH: AVE. 10-30 cm. HARD DEPTH: MINOR 30 cm. SEDIMENT: LOCAL.

- **Vegetation:** MINOR (MIN.), OASIS (MIN.) MINOR: MINOR. Emergent & Submerged VEG: ABSENT
- **Aquatic Substrate:** SU/SURFACE (MINIMUM) BOUNDER: ABSENT (WITH 2")
- **Emergent Cover:** MINOR DEBRIS: MINOR. TERRITORIAL COVER: MINOR DEBRIS: MINOR.
- **Aquatic Cover:** MINOR DEBRIS: MINOR. WATER TEMP: 17.5
- **Territorial Substrate:** SANDY FLAT / SCATTERED Boulders

**Remarks:** 5+10: SLOW, GENTLE TERRITORY. BOUNDER: MINOR. BEHAVIOR: MOVES IN SLOW

**Jun. Ramo observed at this point: 0.5 HR**

**GPS Coordinates:** 32.21832, -82.21632

**Location:** Center of point approx. 2m from observation location

Comments:

*Beaufort Scale* 0-1: 0-3 mph, calm to light air (rising smoke drift) 2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper) 5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

Date: 6-19-02 Site # 7221-b Site Name
Surveyors: SH SC WC Total Site Length: 600m Ave. Width: 40m Elevation: 7640'
Air Temp: 79°F Water Temp: shore 17°C at depth 18°C Ave. Water Velocity 0'
Ave. Creek Gradient Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Mixed conifer forest Fish Observed: none
Herpetofauna Observed: P. regilla tadpole (4/26)
Other Species Observed:
Impacts to Amphibian Habitat - O grazing @ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake Snowmelt
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, etc.
- Abundance estimates consist of: 1) absent <10%, 2) minimal amt. 11 to 30%, 3) low to moderate amt. 31% to 50%, 4) moderate to high amt. 51-70% and 4) abundant >70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
Segment: pond at deepest c 3.5m. Shallows occur in a band width of 6m-20m and are less than 5' deep. Aquatic substrate:
- silt/mud, terrestrial organic (duff), scattered boulders. Emerg. vegetation: absent but submerged sites abundant along shallow edge. No veg. in contact with pond (deepest point). No macro veg. here. Ground cover: grass, sedge, forest floor and pine litter. No mosses. Some shades and roughly 35%. Basking sites adjacent to exposed boulders which have rougher and steep angles. Some exposed bank but it has little substrate. Overall minimal amt. of protected basking sites.
Amphibian Habitat Site Assessment

Date: 3 July 2002  Site #: 722L - C  Site Name: 

Surveyors:  Survey time: start 10:50 end 11:30  Total survey time 40 min  Sighting: Yes No

Total Site Length: 60x12 m  Elevation: 7340' UTM: start 1651493 1361990 end N/A

Air Temp: 95°F  Water Temp: shore 72°F at depth 26°F  Ave. Water Velocity N/A

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (04) (24) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°) N/A

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type:  Fish Observed: None

Herpetofauna Observed:  Other Species Observed:  No wildlife found

Impacts to Amphibian Habitat:  ☐ grazing  ☐ recreation  ☐ logging  ☐ other: 

Habitat Type

<table>
<thead>
<tr>
<th>Diverted tributary</th>
<th>Reservoir</th>
<th>Pond/Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributary: ephemeral, intermittent, or perennial</td>
<td>River</td>
<td>Wet meadow: flowing water, standing ponds</td>
</tr>
</tbody>
</table>

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat  SHORT CUT POND - WET PERENNIAL

Dimensions: length 24m or % of site  width 42m depth 1-1.5 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 4 Type: sedge rush, pondweed, algae, willow, other 3 Young reeds

Submerged vegetation: 4 Type: sedge rush, algae, other

Margin vegetation: 3 Type: forbs, grass, shrubs (blackberry, willow, etc.), other Sedge Rush

Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 3 Type: rootwad, aquatic veg, water plants, boulder, undercut banks, other

Shade: 4 Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: 4 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: 1. Water 0.50m - 0.75m maximum. 2. Vegetation (adjacent riparian zone) from shore out to 2-3 m from shore. One water depth 5.0 to 6.0 m, this shallow area 0.5 m, extends out to 5-10 m.

Max depth: 0.75m 1-1.5 m
2) Description of habitat

Dimensions: length ______ or % of site ______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length ______ or % of site ______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 3 Jul 2002  Site: 722L - 0  Site Name

Surveyors: 0  Survey time: start 1200  end 1300  Total survey time 1  hour

Total Site Length: 84.5 m  Elevation: 7410'  UTM: start E 628386 N 364923  end N/A

Air Temp: 26°C  Water Temp: shore 10°C  at depth 10°C  Ave. Water Velocity: N/A

Cloud cover: Clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-3) (4+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  N/A

Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)  N/A

Upland Habitat Type:  0  Fish Observed:  none

Herpetofauna Observed:  American Bullfrog  0  Adult Panulirus

Other Species Observed:

Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other:  no visual sight

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Pond/Lake

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length 65 m  or % of site 25  width 2.5 m  depth 1.5 m

Aquatic substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 1 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 1 Type: sedge, rush, algae, other

Margin vegetation: 1 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 2 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 2 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: 1 Type: understorey (willow, dogwood, alder, maple, other), canopy cover

Basking sites: 5 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

2 Adult Panulirus observed - see from data sheet

No Panulirus masses or thromes observed

Location of frogs, observation:

All sitting, hopping, and moving

When frogs observed
2) Description of habitat

Dimensions: length _______ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________________________
Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________________________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________________________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________________________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________________________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other__________________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________________________

Additional comments:__________________________
__________________________
__________________________
__________________________

3) Description of habitat

Dimensions: length _______ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________________________
Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________________________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________________________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________________________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________________________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other__________________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________________________

Additional comments:__________________________
__________________________
__________________________
__________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9 Jun 2002  Site # 722L - E  Site Name

Surveyors: BRAGG  Survey time: start 12:15 end 13:10 Total survey time 50 min  Sighting: Yes  No
Total Site Length:  Elevation: 7600'  UTM: start 0731854 4281733_end
Air Temp:  69.5  Water Temp: shore 19 at depth —  Ave. Water Velocity N/A
Cloud cover: Clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (* Beaufort): (0-1) 2-4  (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  N/A
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Mixed conifer  Fish Observed: None
Herpetofauna Observed: Rana, Hyla (Tag)
Other Species Observed:
Impacts to Amphibian Habitat -  grazing  Recreation  Logging  other:  None

Habitat Type

- Diverted tributary  - Reservoir  - Pond/Lake  Snowmelt
- Tributary: ephemeral, intermittent, or perennial  - River  - Other:
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant and co-dominant type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat  Snowmelt Pond (41, see below)
Dimensions: length 41m or % of site  width 18m depth max 6.5cm
Aquatic substrate: organic debris, siltclay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, siltclay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 3 Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 2 Type: sedge, rush, algae, other
Margin vegetation: 2 Type: forb, grass, shrubs (blackberry, willow, etc.), other Fern, Sedge
Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Slight  Type: understory (willow, dogwood, alder, maple, other ), canopy cover
Basking sites: 5 Type: exposed bank, boulder, log, other Wood debris (long, branch, etc)
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Adult R. palustris observed (p. 72)

__ Additional Comments: 1) Adult R. palustris observed 1) 2) 3)___

__ Map of Ponds: 1) 2) 3) 4) 5)___

__ Diagram of Ponds: 1) 2) 3) 4) 5)___

__ Additional Diagrams: 1) 2) 3) 4) 5)___

__ Turn Over
## Amphibian Habitat Site Assessment

2) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>% of site</th>
<th>width</th>
<th>depth</th>
<th>Max: 30 cm</th>
<th>Ave Depth: 30 cm</th>
</tr>
</thead>
</table>

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 3 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 2 Type: sedge, rush, algae, other

Margin vegetation: 1 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 3 (%, %) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 5 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: see below Type: understory (willow, dogwood, alder, conifer, maple, other__), canopy cover

Basking sites: 4 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

---

3) Description of habitat

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>% of site</th>
<th>width</th>
<th>depth</th>
</tr>
</thead>
</table>

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other__), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

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Additional comments:

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)*
**Amphibian Habitat Site Assessment**

<table>
<thead>
<tr>
<th>Date: 12 Jun 2002</th>
<th>Site # 724 L</th>
<th>Site Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors:</td>
<td>724 L Survey time: start 12:45 end 13:30</td>
<td>Total survey time 45 min.</td>
</tr>
<tr>
<td>Sighting: Yes</td>
<td>Total Site Length: 700 m Elevation: ~780' UTM: start 435398.46 end 435456.90</td>
<td></td>
</tr>
<tr>
<td>Air Temp: 70°F Water Temp: shore 78°F (50%) at depth</td>
<td>Ave. Water Velocity</td>
<td></td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (&gt;50%) Wind Speed (*Beaufort): 0-1</td>
<td>2-4</td>
<td>5+</td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°) Mod. (11-30°) High (&gt;30°)</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°) Mod (15-40°) High (&gt;40°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upland Habitat Type: Mixed Conifer, Border</td>
<td>Fish Observed: None</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed: Hyla virescens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat - grazing recreation logging other: Some evidence of past grazing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: MED. SIZE LAKE BART OF GRANITE WALLS: MAX DEPTH 1 m, SETTLE ROCKS + BORDERS MOUNT.

Dimensions: length 260 m or % of site width 60 m depth 1 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 4 Type: Sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 1 Type: Sedge, rush, algae, other
Margin vegetation: 4 Type: Forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 2 Type: Vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 4 Type: Rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: 1 Type: Understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 5 Type: Exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Some (10%) shallow side pools in northern in them 10 cm deep

Additional comments: Plenty WA WA WA, THAT'S ALL

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<table>
<thead>
<tr>
<th><strong>Site</strong></th>
<th><strong>GPS Location</strong></th>
<th><strong>Date</strong></th>
<th><strong>Site Name</strong></th>
<th><strong>Surveyors</strong></th>
<th><strong>Survey Time</strong></th>
<th><strong>Total Survey Time</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>724 L</td>
<td>435398.46 435456.90</td>
<td>12 Jun 2002</td>
<td>Site # 724 L</td>
<td>724 L</td>
<td>12:45 - 13:30</td>
<td>45 min.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>Habitat</strong></th>
<th><strong>Type</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diverted tributary</td>
<td>Tributary: ephemeral, intermittent, or perennial</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>Aquatic Habitat Features</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (&lt;10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (&gt;70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.</td>
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</table>

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc. |

1) Description of habitat: MED. SIZE LAKE BART OF GRANITE WALLS: MAX DEPTH 1 m, SETTLE ROCKS + BORDERS MOUNT. |

Dimensions: length 260 m or % of site width 60 m depth 1 m |

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock |
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock |
Emergent vegetation: 4 Type: Sedge, rush, pondweed, algae, willow, other |
Submerged vegetation: 1 Type: Sedge, rush, algae, other |
Margin vegetation: 4 Type: Forbs, grass, shrubs (blackberry, willow, etc.), other |
Terrestrial cover: 2 Type: Vegetation, leaf litter, burrows, woody debris, boulder, other |
Aquatic cover: 4 Type: Rootwad, aquatic veg., woody debris, boulder, undercut banks, other |
Shade: 1 Type: Understory (willow, dogwood, alder, maple, other), canopy cover |
Basking sites: 5 Type: Exposed bank, boulder, log, other |

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Some (10%) shallow side pools in them 10 cm deep |

Additional comments: Plenty WA WA WA, THAT'S ALL |
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

**Date:** 7/12/02  
**Site #:** 72S(A)  
**Site Name:**  
**Surveys:**  
**Survey time:** start 10:30 end 11:15  
**Total survey time:**  
**Sighting:** Yes  
**No**  
**Total Site Length:**  
**Elevation:**  
**UTM:** start  
**End**  
**Air Temp:**  
**Water Temp:** shore  
**At depth**  
**Ave. Water Velocity:**  
**Cloud cover:** clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  
**Wind Speed:** Beaufort: (0-1) (2-4) (5+)  
**Ave. Creek (River) Gradient:** Low (<10°) Mod. (11-30°) High (>30°)  
**Ave. Bank Gradient:** Low (<1°) Mod. (15-40°) High (>40°)  
**Upland Habitat Type:** mixed conifer  
**Fish Observed:**  
**Herpetofauna Observed:** M. T. Carter Snake @ 721 H. Regilla Axilinct  
**Other Species Observed:** Northern Goshawk with nest  
**Impacts to Amphibian Habitat:** grazing recreation logging other:  

### Habitat Type
- Diverted tributary  
- Reservoir  
- Pond/Lake  
- Tributary: ephemeral, intermittent, or perennial  
- River  
- Wet meadow: flowing water, standing ponds  

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat:  
**Dimensions:** length 40m or % of site  
**width** 15m  
**depth** 1-2m  
**Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
**Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
**Emergent vegetation:**  
**Submerged vegetation:**  
**Margin vegetation:**  
**Terrestrial cover:**  
**Aquatic cover:**  
**Shade:**  
**Basking sites:**  
**Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:  

### Additional Comments:
**UTM:** 1075125 E 4281214 N 21°C 29°C 23°C  
**Elev:** 1082 4  
**Additional comments:**  

100-200 H. regilla tadpoles & vories development.
2) Description of habitat

Dimensions: length ___ or % of site _____ width _____ depth _____

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length _____ or % of site _____ width _____ depth _____

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 12 Jul 2002  Site # 725L Pond 6  Site Name
Surveyors: [Name]  [Name]
Survey time: start 10:45  end 11:30  Total survey time 45 min  Sighting: Yes [No]
Total Site Length:  [Distance]  Elevation: 7440  (UTM: start 075617  end 075617)
Air Temp: 23 Water Temp: shore 22  (°C)  at depth 22  Ave. Water Velocity N/A
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°)  High (>30°) N/A
Ave. Bank Gradient: Low (<15°) Mod(15-40°)  High (>40°) N/A
Upland Habitat Type: [Type] Fish Observed: [None]
Herpetofauna Observed: [Animal1] (Type1), [Animal2] (Type2)
Other Species Observed:
Impacts to Amphibian Habitat: [Grazing], [Recreation], [Logging], [Other]: No visible signs

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ______

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length 46 m or % of site 25 % width 25 m depth max > 1 m
Aquatic substrate: [Organic debris, silty clay, sand, gravel, cobble, boulder, bedrock]
Terrestrial substrate: [Organic debris, silty clay, sand, gravel, cobble, boulder, bedrock]
Emergent vegetation: 1) Type: [Type], rush, pondweed, algae, willow, other
Submerged vegetation: 1) Type: [Type], rush, algae, other
Margin vegetation: 2) Type: forbs, grass, shrubs (blackberry, willow, etc.), other (EgC)
Terrestrial cover: 2) Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 3) Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 5) Type: exposed bank, boulder, log, other (EgC)
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

[Comments]
2) Description of habitat

Dimensions: length or % of site width depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length or % of site width depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

**Date:** 11 Jun 2002  
**Site #:** 7254  
**Site Name:** 

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<th>Surveyors:</th>
<th>Survey time: start</th>
<th>end</th>
<th>Total survey time</th>
<th>Sighting: Yes</th>
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</table>

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<th>Total Site Length:</th>
<th>Elevation:</th>
<th>UTM: start</th>
<th>end</th>
</tr>
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<table>
<thead>
<tr>
<th>Air Temp:</th>
<th>Water Temp: shore</th>
<th>at depth</th>
<th>Ave. Water Velocity</th>
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</table>

<table>
<thead>
<tr>
<th>Cloud cover: clear (0-10%)</th>
<th>partly cloudy (11-50%)</th>
<th>Wind Speed (*Beaufort):</th>
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</table>

<table>
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<tr>
<th>Ave. Creek (River) Gradient: Low</th>
<th>Mod</th>
<th>High</th>
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<table>
<thead>
<tr>
<th>Ave. Bank Gradient: Low</th>
<th>Mod</th>
<th>High</th>
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</thead>
</table>

<table>
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<tr>
<th>Upland Habitat Type:</th>
<th>Fish Observed:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Herpetofauna Observed:</th>
<th>Other Species Observed:</th>
</tr>
</thead>
</table>

**Impacts to Amphibian Habitat:** 
- [ ] grazing  
- [ ] recreation  
- [ ] logging  
- [ ] other: NO VISUAL SIGN

---

**Habitat Type**

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: 

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

### 1) Description of habitat

**Ephemeral brooklet Pond**

- Pond 1: 4 x 7 m
- Pond 2: 4 x 3 m
- Pond 3: 5 x 3 m

**Dimensions:** length [ ] or % of site [ ]  
width [ ] depth MAX: Pond 1: 15 cm, Pond 2: 5 cm, Pond 3: 10 cm

**Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

**Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

**Emergent vegetation:** [ ] Type: sedge, rush, pondweed, algae, willow, other

**Submerged vegetation:** [ ] Type: sedge, rush, algae, other

**Margin vegetation:** [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other

**Terrestrial cover:** [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other

**Aquatic cover:** [ ] Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

**Shade:** [ ] Type: understory (willow, dogwood, alder, maple, other)  
[ ] canopy cover

**Basking sites:** [ ] Type: exposed bank, boulder, log, other

**Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:

---

**Additional comments:**

[ ] undercut [ ] low  
[ ] exposed bank  

All 3 ponds described made continuing part of a single pool—new research only
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length_______or % of site________ width___________ depth___________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other______________________
Submerged vegetation: ________ Type: sedge, rush, algae, other______________________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other______________________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other______________________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other______________________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other______________________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other______________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

3) Description of habitat

Dimensions: length_______or % of site________ width___________ depth___________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other______________________
Submerged vegetation: ________ Type: sedge, rush, algae, other______________________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other______________________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other______________________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other______________________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other______________________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other______________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 11 JUL 2001  Site #: 723 - Pond D  Site Name:

Surveyors: 10:00 AM  Survey time: start 13:36  end 14:36  Total survey time 60 MIN  Sighting: Yes (No)

Total Site Length: 1525'  Elevation: 7480'  UTM: start 0362050  4523459  end

Air Temp: 70º  Water Temp: shore 25' at depth  Ave. Water Velocity 1-1.5'

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (51-99%) Wind Speed (Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (16-40°) High (>40°) Low Eros

Upland Habitat Type: Mixed Conifer  Fish Observed: None

Herpetofauna Observed: AMIA (Unm)  THRE (Tan)  T. ELEGANS  1

Other Species Observed: Eggs sheared

Impacts to Amphibian Habitat - Grazing  Recreation  Logging  Other: Cow dung observed (Altricial young)

Habitat Type

- Diverted tributary
- Reservoir
- Tributary: ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat

Dimensions: length 55m or % of site  width 62m depth Max 1.5m Ave. Depth: 30 cm w/ emergent veg.

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 5 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 3 Type: sedge, rush, algae, other

Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 4 Type: vegetation leaf litter, burrows, woody debris, boulder, other

AQUATIC COVER: 5 Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: See below Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: 2 Type: exposed bank, boulder (log) other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

UNDERWATER (1): OVERWATER (2): COVER (LOGS, BRANCHES, LOG, PLO PKE)

EMERGENT VEGETATION (3): REFER TO AREA ALONG MAX W. MOD HIGH (4) FOR EMERGENT POND (5) SHADE (6) AQUATIC COVER (5) REFER TO AREA ALONG MAX W. MOD HIGH (4) FOR EMERGENT POND

55 m

X - Aerial Location of Wmpt 0762050 4523459
2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

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<th>Date: 12 JULY 2022</th>
<th>Site #: 726L</th>
<th>Pond E</th>
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<td>Air Temp:</td>
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<td>Water Temp:</td>
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<td>Start end</td>
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<td>Total survey time</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Sighting: Yes (No)</td>
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<td>Ave. Water Velocity</td>
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<td>Cloud cover:</td>
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<td>Partly cloudy (10-50%)</td>
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<td>Wind Speed (Beaufort): (0-1) (2-4) (5+)</td>
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<tr>
<td>Ave. Creek (Gradient): Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
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<td>Ave. Bank Gradient:</td>
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<td>Upland Habitat Type:</td>
<td>MINED CONIFER</td>
<td>Fish Observed: AVAILABLE</td>
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<tr>
<td>Herpetofauna Observed:</td>
<td>TAN</td>
<td>AMMA (1 LIND OBSERVED)</td>
<td>TELEMACUS (1) - 1 FEET WEST OF HYDE ST AVE</td>
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<td>Other Species Observed:</td>
<td>MALE (4 MATURE)</td>
<td>FAIRY SPOON (ABUNDANT)</td>
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<tr>
<td>Impacts to Amphibian Habitat:</td>
<td>Grazing</td>
<td>Recreation</td>
<td>Logging</td>
</tr>
</tbody>
</table>

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: __________

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

- **Dimensions:** length __________ width __________ depth __________
- **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Emergent vegetation:** Type: ___________ Type: ___________
- **Submerged vegetation:** Type: ___________ Type: ___________
- **Margin vegetation:** Type: ___________ Type: ___________
- **Terrestrial cover:** Type: ___________ Type: ___________
- **Aquatic cover:** Type: ___________ Type: ___________
- **Shade:** ___________ Type: ___________
- **Basking sites:** ___________ Type: ___________
- **Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:

**Additional comments:**

- **Understory:** 1) ___________ 2) ___________
- **Emergent VEG:** 1) ___________ 2) ___________
- **Aquatic VEG:** 1) ___________ 2) ___________

**Aquatic Code:**
1) Refer to area around shore (At least 2M or more); larger area or open water at center of pond - Overall (50% Pond) Aquatic Code = Minimal (2)
2) Description of habitat

Dimensions: length_________or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other_________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other_________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:_________

Additional comments:________________________
__________________________________________
__________________________________________
__________________________________________

3) Description of habitat

Dimensions: length_________or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: ________ Type: sedge, rush, algae, other_________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other_________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:_________

Additional comments:________________________
__________________________________________
__________________________________________
__________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Habitat Type

- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary: ephemeral, intermittent, or perennial
- River
- Other: ________
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: ________

Dimensions: length ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: [ ] Type:______ rush, pondweed, algae, willow, other______

Submerged vegetation: [ ] Type:______ rush, algae, other______

Margin vegetation: [ ] Type:______ forbs, grass, shrubs (blackberry, willow, etc.), other______

Terrestrial cover: [ ] Type:______ vegetation, leaf litter, burrows/woody debris, boulder, other______

Aquatic cover: [ ] Type:______ rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other______

Shade: [ ] Type:______ understory (willow, dogwood, alder, maple, other______), canopy cover

Basking sites: [ ] Type:______ exposed bank, boulder, log, other______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

- Open Water: ________
- Carpe: ________
2) Description of habitat

Dimensions: length____or % of site____ width____ depth____

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other______
Submerged vegetation: _______ Type: sedge, rush, algae, other_______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other_______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________

Additional comments:__________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

3) Description of habitat

Dimensions: length____or % of site____ width____ depth____

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other______
Submerged vegetation: _______ Type: sedge, rush, algae, other_______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other_________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other_______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________

Additional comments:__________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 10 JUL 2002 Site # 728 L Site Name

Surveyors: J REILAND J HOME Survey time: start 1500 end 1600 Total survey time 1'10" Sighting: Yes No

Total Site Length: ______________ Elevation: 3400' UTM: start east 3717.73 north 4203560 end

Air Temp: ______________ Water Temp: shore 21° at depth ______________ Ave. Water Velocity ______________

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°) N/A

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°) were small low spots, slight bank down, dominated by East sedge high, sedge cress dominates

Upland Habitat Type: Mixed Conifer Fish Observed: None

Herpetofauna Observed: AMNIA (LAVAL), HAPI (TAD), T. ELEPHANT (4)

Other Species Observed: MAHI (2) R. KANG, FARM SHREW

Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: NEARBY RECESSION (WINTER TRAMPLE) - NO TRACKS

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Wet meadow: flowing water, standing ponds

Pond/Lake

Other: ______________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat ______________

Dimensions: length 50 m or % of site ______________ width 25 m depth MAX DEPT 50-70

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______________ Type: sedge, rush, pondweed, algae, willow, other SAGITTARIA (Duckweed)

Submerged vegetation: ______________ Type: sedge, rush, algae, other SAGITTARIA

Margin vegetation: ______________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other SAGITTARIA

Terrestrial cover: ______________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ______________ Type: rootwad, aquatic vet, woody debris, boulder, undercut banks, other

Shade: ______________ Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: ______________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

UPLAND: □ SAGITTARIA (Duckweed) OVERSHADY □ APPROXIMATELY 15% SAGITTARIA (Duckweed) OUTSIDE

Emergent vegetation was not observed but there may be some duckweed, minimal (2) for entire pond

Aquatic cover: not was observed but there may be some duckweed, minimal (1) for entire pond

□ CAREX ST. DUCK POTATO (SAGITTARIA) DISPERSED THROUGHOUT OPEN WATER

□ 375.712.20-325
2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______
Amphibian Habitat Site Assessment

Date: 9 June 2002  Site #: 729 L  Site Name: 

Surveyors: A Balmer  Survey time: start 1410  end 1440  Total survey time 20 min  Sighting: Yes (o) No

Total Site Length: 

Air Temp: 2.8  Water Temp: shore 2.5  at depth —  Ave. Water Velocity N/A

Cloud cover: (c) clear  (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-3) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°) N/A

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type: Mixed conifer  Fish Observed: None

Herpetofauna Observed: None

Other Species Observed:

Impacts to Amphibian Habitat: Grazing  Recreation  Logging  Other: Signs of past cutting (circle) Appears light

### Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Pond/Lake: Southwest - Edgewater
- River
- Wet meadow: flowing water, standing ponds

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Ephemeral - Edgewater Pond

**Dimensions:** length 30% or % of site width 13% depth 5-20 cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 3 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 2 Type: sedge, rush, algae, other

Margin vegetation: 2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 1 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 4 Type: rootwat, aquatic veg, woody debris, boulder, undercut banks, other

Shade: See below  Type: understory (willow, dogwood, alder, maple, other)

Basking sites: 4 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

Aquatic cover: 3 is floating foliage not included

Understory: 1  Overstory: 2  Complex
2) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: _______ Type: sedge, rush, algae, other_________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other_________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length_________ or % of site_________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other_________
Submerged vegetation: _______ Type: sedge, rush, algae, other_________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other_________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other_________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other_________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

**NEAR SITE - SAWMILL POND, NOT DEPICTED ON QUAD - LOCATED EAST OF GRANITE LAKE**

<table>
<thead>
<tr>
<th>Date: 12 Jun 2002</th>
<th>Site #: 730L</th>
<th>Site Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys:</td>
<td>22 June</td>
<td>Survey time: start 11:45 end 12:15</td>
</tr>
<tr>
<td>Total survey time:</td>
<td>30 min</td>
<td>Sighting: Yes</td>
</tr>
<tr>
<td>Total Site Length:</td>
<td>740'</td>
<td>Elevation: 7600' UTM: start 035131 238255 end</td>
</tr>
<tr>
<td>Air Temp:</td>
<td>74°F</td>
<td>Water Temp: shore 83°F (30 cm) at depth 68°F (50 cm) Ave. Water Velocity:</td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%)</td>
<td>partly cloudy (11-50%) cloudy (&gt;50%)</td>
<td>Wind Speed (Beaufort): (0-1) (2-4) (5+)</td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°) Mod. (11-30°) High (&gt;30°)</td>
<td>Ave. Bank Gradient: Low (&lt;15°) Mod (15-40°) High (&gt;40°)</td>
<td></td>
</tr>
<tr>
<td>Upland Habitat Type:</td>
<td>mixed conifer</td>
<td>Fish Observed: none</td>
</tr>
<tr>
<td>Herpetofauna Observed:</td>
<td>hylar tadpoles</td>
<td>Other Species Observed:</td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat:</td>
<td>grazing, recreation, logging, other:</td>
<td></td>
</tr>
</tbody>
</table>

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

| Dimensions: length 35m or % of site 20% width 32m depth 0.2m (max) 0.4m (ave) |
| Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock |
| Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock |
| Emergent vegetation: 4 Type: sedges, rush, pondweed, algae, willow, other |
| Submerged vegetation: 1 Type: sedges, rush, algae, other |
| Margin vegetation: 3 Type: forbs, grass, shrubs (blackberry, willow, etc.), other sedge |
| Terrestrial cover: 2 Type: vegetation, leaf litter, burrows, woody debris, boulder, other |
| Aquatic cover: 3 Type: rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other |
| Shade: 2 Type: understory (willow, dogwood, alder, maple, other), canopy cover |
| Basking sites: 4 Type: exposed bank, boulder, log, other |
| Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: |

**Additional comments:**
- **Cancerus**: 2 pictures 28-26 (6pm) 25-21 (9pm)
- Fire on loam and on sedge, bottom, pine, small
- **Gyrinus**: 2 most often 05 075 17:54 228 18:53 462 03
- 3 Fireflies seen, two caught
Amphibian Habitat Site Assessment

2) Description of habitat__________________________

Dimensions: length__________ or % of site__________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________________________
Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________________________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________________________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________________________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________________________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other__________________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________________________

Additional comments:

________________________________________________________________________

3) Description of habitat__________________________

Dimensions: length__________ or % of site__________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________________________
Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________________________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________________________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__________________________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other__________________________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other__________________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________________________

Additional comments:

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/9/12  Site # 350 CP  Site Name Silver Lake  West Side
Surveyors: SA, TZ  Survey time: start: 8:00  end: 16:00  Total survey time 6:00  Sighting: Yes  No
Total Site Length: 500'  Elevation: 730'  UTM: start: W33 39 41 41'  end: W33 39 41 41'
Air Temp: 70°  Water Temp: shore 22° at depth 22°  Ave. Water Velocity 10/4
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-70%), Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Swamp  River  Fish Observed: minnow, Rainbow Trout
Herpetofauna Observed: Mountain yellow bellies, T. algeri, chasers, and T. carp
Other Species Observed: ____________________________
Impacts to Amphibian Habitat: ☐ grazing ☐ recreation ☐ logging ☐ other:

Habitat Type
- Diverted tributary  ☐ Reservoir  ☐ Road/Lake perimeter  ☐
- Tributary: ephemeral, intermittent, or perennial  ☐ River  ☐ Other: ____________________________
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: □️ Type: rocks, mud, and intermittent grass and willow areas, some weedy
Dimensions: length 5' or % of site width 6' depth 3'
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedge, rush, pondweeds, algae, willow, other grasses
Submerged vegetation: 2 Type: sedge, rush, algae, other 9/12/12
Margin vegetation: 2 Type: forb, grass/shrub (blackberry, willow, etc.), other
Terrestrial cover: 2 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 1 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 2 Type: understory (willow), dogwood, alder, maple, other 2/12/12
Basking sites: 5 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Few backwater areas, silt, clay bottom with grass and rushes

Additional comments:

__________________________
__________________________

__________________________
__________________________
Amphibian Habitat Site Assessment

2) Description of habitat

- Meandering or straight
- Near Silver Lake

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: _______ Type: sedge, rush, algae, other __________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________
Shade: _______ Type: understory (willow, dogwood, ailer, conifer, maple, other __________), canopy cover __________
Basking sites: _______ Type: exposed bank, boulder, log, other __________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: _______ Type: sedge, rush, algae, other __________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________
Shade: _______ Type: understory (willow, dogwood, ailer, conifer, maple, other __________), canopy cover __________
Basking sites: _______ Type: exposed bank, boulder, log, other __________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __________

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 10 Jul 2002  
Site #: 750 UP  
Site Name: Silver Lake - East shore

Surveyors: MS  
Survey time: start 1015 end 1300  
Total survey time 2.5 hr  
Sighting: Yes (No)

Total Site Length:  
Elevation: UTM: start east 410240 420379  
Water Temp: shore 21 at depth Ave. Water Velocity N/A

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  
Wind Speed (*Beaufort): 0 (4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°) N/A

Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)

Upland Habitat Type:  
Herpetofauna Observed:  
Other Species Observed:  
Impacts to Amphibian Habitat: grazing recreation logging other

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Wet meadow: flowing water, standing ponds
- Pond
- Lake

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat

Dimensions: length  
width  
% of % of site  
depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation:  
Submerged vegetation:  
Margin vegetation:  
Terrestrial cover:  
Aquatic cover:  
Shade:  
Basking sites:  
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

_[Substantially more emergent + submerged sedge + more extensive shallow water line than portion of eastern shoreline recorded on NY Full Sheet (According to MS)]_
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/9
Site # 7504P
Site Name: Slaurlk. - East Shore
Surveyors: Jv/Tj
Survey time: start 11:00am end 5:00pm
Total survey time
Sighting: Yes No
Total Site Length: 400m
Elevation: 7300 ft UTM: start 10712412 end 10720835
Air Temp: 29°C
Water Temp: shore 22°C at depth
Ave. Water Velocity: 1/2
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (51-70%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Mixed conifer
Fish Observed: Trout spp.
Herpetofauna Observed: Thamnophis elegans (Terr. Gila Snake) (10)
Other Species Observed: Osprey, Crayfish, morganer
Impacts to Amphibian Habitat: Grazing Recreation Logging Other:
Road stabilization, large Boulder bar

Habitat Type
- Diverted tributary
- Reservoir
- Pond/Lake
- Tributary: ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: High bank gradient with conifer and overgrown willow along.
Dimensions: length __________ or % of site __________ width __________ depth __________ cut bank:
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: __________ Type: sedge, rush, algae, other
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: __________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: __________ Type: understory (willow, dogwood, alder, maple, other __________), canopy cover __________
Basking sites: __________ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

No edgewater areas.

Additional comments: We surveyed the East Side of the lake. This Unit was a series of shallow coves with high gradient cut banks. Sunlit side had tall conifer.

No portion of entire survey area (East side of lake)
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _____ or % of site _____ width: 1 - 2m depth: 0 - 5m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 0 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 0 Type: sedge, rush, algae, other

Margin vegetation: 0 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 5 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 2 Type: rootwad, aquatic veg. woody debris/boulder, undercut banks, other

Shade: 0 Type: understory (willow, dogwood, alder, conifer, maple, other)

Basking sites: 0 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: None

Additional comments: This area was interspersed w/ privy usage. Some terrestrial cover consisting of cobble pine.

3) Description of habitat

Dimensions: length _____ or % of site _____ width: 1 - 2m depth: 3 cm - 15 cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 0 Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 0 Type: sedge, rush, algae, other

Margin vegetation: 0 Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 4 Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: 0 Type: understory (willow, dogwood, alder, conifer, maple, other)

Basking sites: 0 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Shallow

Additional comments: Shallow

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Date: 7/25/02  Site #750 LP  Site Name: TREASURE ISLAND, A SILVER Lakes
Surveyors: MV/KO  Survey time: start 1430  end 1530  Total survey time 1 hr  Sighting: Yes  No
Total Site Length: 1600m  Elevation: 7200'  UTM: start 4281938'  end 10750506'
Air Temp: 22°C  Water Temp: shore 23°C  at depth 26°C  Ave. Water Velocity 1 m/s
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<5°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: mixed conifer  Fish Observed: yes in lake
Herpetofauna Observed:
Other Species Observed: Canada goose, bald eagle
Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other:

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Island shore

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant and co-dominant type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Island shore line, low gradient bank, heavy submerged veg.
Dimensions: length 1600m or % of site width 15m depth 1m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: This unit was predominantly on the east and south shoreline of island. We surveyed bank and water through 360°. Water heavy aquatic veg with

and tree stumps.
2) Description of habitat: bedrock formations, steep bank, deep

Dimensions: length: length or % of site: width: m depth:

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: little habitat due to steep bedrock

3) Description of habitat

Dimensions: length: length or % of site: width: m depth:

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 11 June 20 Site # 751. Site Name
Surveyors: M.K. Survey time: start 800 end 1500 Total survey time 7 hrs. Sighting: Yes No
Total Site Length: 2 km Elevation: 7322 UTM: start 16750 2978 end 16751 630
Air Temp: 19.5°C Water Temp: shore 20°C at depth 17°C Ave. Water Velocity 34/14.4
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (51-90%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Mixed, Carpet Fish Observed: trout spp.
Herpetofauna Observed: D. elegans seen a confluence of Trib. Lk.
Other Species Observed:
Impacts to Amphibian Habitat - [ ] grazing [ ] Recreation [ ] Logging [ ] other:

Habitat Type
- Diverted tributary
- Tributary ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow; flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Deep channel of overgrown willow sand/gravel substrate.
Dimensions: length 200 m or % of site, width 2 m, depth 1-2 m
Aquatic substrate: organic debris, silty/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silty clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: [ ] Type: sedge, rush, algae, other
Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: [ ] Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: [ ] Type: understory (willow, dogwood, alder, maple, other), canopy cover [ ]
Basking sites: [ ] Type: exposed bank, boulder, log, other
Presence of sidepools, backwater areas, edgewater areas: Description of size, depth, and substrate:

Additional comments: DIRECTLY INTO SILVER LK, AREA OVERGRONG WITH WILLOW AND GRAVEL / COBBLE SUBSTRATE. UNIT 1 HAD A LENGTH OF 200 M FROM LK. TO BEDROCK CASCADE.

THIS WAS DEEP CHANNEL WITH CUT BANK LEADING
2) Description of habitat

**Bedrock / Boulder cascade, med. gradient.**

Dimensions: length 20m, width 2m, depth 5cm - 1-1.5m plus pools.

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other.

Submerged vegetation: Type: sedge, rush, algae, other.

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other.

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other.

Aquatic cover: Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other.

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.

Basking sites: Type: exposed bank, boulder, log, other.

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate.

Additional comments: Due to woody debris deep plunge pools formed.

**BOULDER CASCADE/WATERfall**

Multiple riffles on main 1.68 km from confluence.

CHANNEL IN THIS UNIT.

3) Description of habitat

**Above bedrock/boulder, cut bank, high veg density, high cover, channel, depth.**

Dimensions: length 13m, width 1m, depth 12 cm.

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other.

Submerged vegetation: Type: sedge, rush, algae, other.

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other.

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other.

Aquatic cover: Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other.

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover.

Basking sites: Type: exposed bank, boulder, log, other.

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate.

Additional comments: Undercut exposed bank with woody debris, build up causes.

Additional comments: Fish not present after first bedrock 1/3 mile.

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)"
**Amphibian Habitat Site Assessment**

<table>
<thead>
<tr>
<th>Date:</th>
<th>10 JUNE 2002</th>
<th>Site #:</th>
<th>TM 521T</th>
<th>Site Name:</th>
<th>Summit Meadow Creek</th>
</tr>
</thead>
</table>

**Surveyors:** TA, PA; **Survey time:** start 10:16 am, end 11:15 am; Total survey time 3 hours 58 minutes; **Sighting:** Yes, No.

**Total Site Length:** 2 km; **Elevation:** 7200-7500 UTM; start 42°82′90″, end 42°82′31″

**Air Temp:** 69°F; **Water Temp:** shore 59°F, 6°F at depth 11; **Ave. Water Velocity:** 10 cm/sec.

**Cloud cover:** Clear (0-10%), partly cloudy (11-50%), cloudy (>50%); **Wind Speed:** *Beaufort*: (0-1) (2-4) (5+)

**Ave. Creek (River) Gradient:** Low (<10°); **Mod.** (11-30°); **High** (>30°)

**Ave. Bank Gradient:** Low (<15°); **Mod.** (15-40°); **High** (>40°)

**Upland Habitat Type:** mixed conifer and woodland; **Fish Observed:** Large trout at connection with lake.

**Herpetofauna Observed:** Fence Lizard, Northern Alligator Lizard, etc.

**Other Species Observed:** Footprints of wood rats.

**Impacts to Amphibian Habitat:** Grazing, Recreational, Logging, Other:

**Habitat Type**
- Diverted tributary
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

   - **Bedrock:** Whether
cascades with deep pools, fast moving water

   **Dimensions:** length _3_ 0 %, width 2 meters, depth 2 feet

   **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

   **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

   **Emergent vegetation:** Absent
   - Type: sedge, rush, pondweed, algae, willow, other

   **Submerged vegetation:** Absent
   - Type: sedge, rush, algae, other

   **Margin vegetation:** Minimal
   - Type: forbs, grass, shrubs (blackberry, willow, etc.), other
   - Alder scrub, very little forbes

   **Terrestrial cover:** Mod. high
   - Type: vegetation, leaf litter, burrows, woody debris, boulder, other

   **Aquatic cover:** Mod. low
   - Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

   **Shade:** Absent
   - Type: understory (willow, dogwood, alder, maple, other
   - Canopy cover

   **Basking sites:** Abundant
   - Type: exposed bank, boulder, log, other

**Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate: small sidepools, a few backwater pools, narrow channel, pool depths ranged from 1-6 feet, many boulders and boulders.

**Additional comments:** Frog #1 was found at the base of a cascade. No veg at all, some algae. Some large trout in large pools.
2) Description of habitat: large, shallow, slow moving pools with low grad.

Dimensions: length ______ or % of site ______ width ______ meters depth ______ meters

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: Absent

Submerged vegetation: minimal

Margin vegetation: modest

Terrestrial cover: modest

Aquatic cover: modest

Shade: modest

Basking sites: modest

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Some pools were 10 ft wide and the deepest pool was around 4 ft.

Additional comments: We found 4 of 5 frogs in this habitat. First frog was on a log, next 2 were found on gravel bar, last frog was found on cobble near to a boulder wall. The water in this section was very clear. The stems were almost lined.

Both habitats were intermittent.

Habitat #1: 80% 10% 10% 60%

3) Description of habitat: 

Dimensions: length ______ or % of site ______ width ______ meters depth ______ meters

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock.

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______

Submerged vegetation: ______ Type: sedge, rush, algae, other ______

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______

Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ______

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover ______

Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: 

Additional comments: 


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 3/10/02  Site # 753  Site Name: Camp Silverado Cr.
Surveyors: NW 1/4 4000  Survey time: start 10:20 A.M.  end 3:00 P.M.  Total survey time 5
Total survey length: 2 Km  Elevation: 1050  UTM: start 4082153 N  1473412 E  end 4082353 N  1473441 E
Air Temp: 52° F  Water Temp: shore 210/16° C  at depth 1/5  Ave. Water Velocity 5 sec/4 ft
Cloud cover: clear (0-10%), partly cloudy (11-50%)  cloudy (50-100%)  Wind Speed (Beaufort): 0 (0-1) 2-4 (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: mixed conifer/lake conifer  Fish Observed: Brown Trout
Herpetofauna Observed: 1 exception of turtle
Other Species Observed: 10
Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other: creek east of bridge

Habitat Type
- Diverted tributary
- Reservoir
- Tributary: ephemeral
- Pond/Lake
- Intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of ruffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat  Law gradient high vegetation cobble/sand substrate with cut banks
Dimensions: length 1.5K or % of site width 1 m depth 50 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 3 Typer: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 4 Type: sedge, rush, algae, other cyma, filum matters
Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3 Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: 2 Type: understory (willow, dogwood, alder, maple, other), canopy cover 4
Basking sites: 3 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
- Directed side channels with little flow. Marginal habitat.

Additional comments: This habitat was broken up by two high gradient bedrock/boulder concretions. 75% of this habitat has since degree of cut bank, either 1 or 10%. High canopy cover provided most of the habitat with 250% shade. No amphibian found in this more than suitable habitat.
2) Description of habitat: High gradient boulder/bedrock cascade (some plunge pools)

Dimensions: length 25%, width 2m, depth 25cm

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

2. My site and in this habitat, habitat has extremely high gradient, not allowing fish to spill over upper (eastern) portion of creek

3) Description of habitat

Dimensions: length 25% or % of site width depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-11-02  Site #: 805M  Site Name: Jake Schneider Meadow
Surveyors: SH, SC  Survey time: start 11:40, end 12:15  Total survey time 35 min  Sighting: Yes (No)
Total Site Length: 220 x 400 m  Elevation: 1400’ (UTM: star)  end
Air Temp: Water Temp: shore 19°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (>50%)  Wind Speed (*Beaufort): (2-4), (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Mixed conifer  Fish Observed: 0
Herpetofauna Observed: Proscilla regina, T. couchii, Anaxi larval
Other Species Observed: Wani, Cani, Pole, Ana, Cam, Terra, Hana, STMA, Wood, Waple, Gen
Impacts to Amphibian Habitat: Grazing, Recreation, Logging, Other

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Pond/Lake
- River
- Wet meadow, flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Two adjacent disconnected pools on SE side of meadow
Dimensions: length _ or % of site _ width _ depth _
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 4 Type: sedge, rush, pondweed, algae willow, other
Submerged vegetation: 5 Type: sedge, rush, algae, other
Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 4 Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other
Shade: 2 Type: understory (willow, dogwood, alder, maple, other)
Basking sites: 3 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: (3) T. couchii, (3) Anaxi larval, P. regina (ads +)
2) Description of habitat: Snowbell Pond (Emerald) 5 x 7 m

Dimensions: length ___ or % of site ___ width ___ depth Ave. ~5-10 cm Max ~20 cm

Aquatic substrate: organic debris, silty clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silty clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 5 Type: sedge, rush, pondweed, algae, willow, other ____________

Submerged vegetation: 4 Type: sedge, rush, algae, other ____________

Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________

Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris, boulder, other ____________

Aquatic cover: 5 Type: rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other ____________

Shade: 2 (0%) Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover

Basking sites: 2 (0%) Type: exposed bank, boulder, log, other ____________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: spacer, tile, 192

3) Description of habitat: Snowbell Pond (Emerald) 5 x 10 m

Dimensions: length ___ or % of site ___ width ___ depth ___ 5-10 cm

Aquatic substrate: organic debris, silty clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silty clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 5 Type: sedge, rush, pondweed, algae, willow, other ____________

Submerged vegetation: 4 Type: sedge, rush, algae, other ____________

Margin vegetation: 4 Type: forbs, grass, shrubs (blackberry, willow, etc.), other ____________

Terrestrial cover: 3 (1%) Type: vegetation, leaf litter, burrows, woody debris, boulder, other ____________

Aquatic cover: 5 Type: rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other ____________

Shade: 1 Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover

Basking sites: 2 Type: exposed bank, boulder, log, other ____________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: water reuse, 192

Huge Tadpoles, observed

W. Fence lizard, observed in the vicinity

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 11 June 2002  Site #: B10S (Subsite A)

Surveyors: A. Barnoski  Total Site Length: 1000m  Ave. Width: 63.20m
Air Temp: 21°C  Water Temp: shore 21.5°C at depth 19°C Ave. Water Velocity n/a

Ave. Creek Gradient - Low (<10°)  Mod. (11-30°)  High (>30°) N/A
Ave. Bank Gradient - Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Wet Meadow  Fish Observed: None
Herpetofauna Observed: None (Lizard, Mole, T. couchi - Reptile, T. spumarius - Amphibian)
Other Species Observed: Coniferous trees - Trees for white-tailed deer (EROS DEER SAFARI)

Impacts to Amphibian Habitat - 
- Grazing  Recreation  Logging  Other

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, etc.
- Abundance estimates consist of: 1) absent (<10%), 2) minimal amount < 10%, 3) low to moderate amount < 30%, 4) moderate to high amount > 50% and 5) abundant > 70%
- Habitat Features:
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other
  8. Presence of sidepools, backwater pools, or edgewater areas

Unit/Section 1:
- Small area at SW corner - Divided from main water body by wooden barrier
- Approx size: 15 x 35m
  - Emergent Veg: High - Moderate  High  Moderate  Very High - Low to Moderate
  - Submerged Veg: Low - Moderate - High  Moderate - Very High - Low to Moderate
  - Terrestrial Cover: Moderate - Low to Moderate  High  Low  Moderate to High
  - Bank Vegetation: Low - Moderate  Moderate - Low  Moderate - High
  - Aver. Depth: 10-30 cm  Water clarity: Clear
  - Aquatic Substrate: Silt/Organic (50%)
  - Basking Sites: None, Flushed Watering - Low to Moderate
  - Aquatic Habitat Type: Low
Amphibian Habitat Site Assessment

Unit/Section 2:

**Dominate Water Body**

Aquatic Vegetation: Salt marsh = abundant
Boulders (10%) = absent

Territorial Vegetation: Cam/leaf litter (small)

Emergent Vegetation: Sunken = moderate to high
Marsh Vegetation: Sedges = minimal

Submerged Vegetation: Silted in algae = nil to high (possibly abundant)

Territorial Vegetation: Woody debris (low), Territorial Vegetation: leaf litter = low to moderate

Aquatic Cover: Woody debris, aquatic vegetation, algae = moderate to high

Canopy: Shrubs = minimal, understory = minimal

Bottom Vegetation: Low (low), Boulders (large), exposed sand = low to moderate

Water clarity = clear, bank gradient = low (1 foot)

Depth: 7' at center, depth at 3-4' = average, 1' = depth

No fish observed

A few ducks (unclear type) of cattle grazing observed (unmarked collar)

Unit/Section 3:

Unable to survey final portion of site due to lack of adequate time

Approach Trail

Spring

Summer (June 20-02 data sheet)
Amphibian Habitat Site Assessment

Date: 6-20-02 Site #: 810M Site Name
Surveys: SH DB Survey time: start 11:15 end 11:41 Total survey time 30 min Sighting: Yes No
Total Site Length: 4.01 km (41 km) Elevation: 6320' UTM: start end
Air Temp: 23°C Water Temp: shore 7-9°C at depth Ave. Water Velocity O
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort) 0-1 (2-4) (5+)
Ave. Creek (River) Gradient: Low (<1°) Mod. (11-30°) High (>30°) Low to moderate
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: wooded, conifer Fish Observed: O
Herpetofauna Observed: 0
Other Species Observed: O
Impacts to Amphibian Habitat - grazed recreation logging other: "in impact trail nearby"

<table>
<thead>
<tr>
<th>Habitat Type</th>
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</thead>
<tbody>
<tr>
<td>Diverted tributary</td>
</tr>
<tr>
<td>Tributary: ephemeral, intermittent, or perennial</td>
</tr>
<tr>
<td>Reservoir</td>
</tr>
<tr>
<td>River</td>
</tr>
<tr>
<td>Wet meadow: flowing water, standing ponds</td>
</tr>
<tr>
<td>Pond/Lake</td>
</tr>
<tr>
<td>Other: channel</td>
</tr>
</tbody>
</table>

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: spring-fed channel
   Dimensions: length 6.4 km or % of site width 5 - 1.5 m depth max = 7 cm
   Aquatic substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock
   Terrestrial substrate: organic debris, silt, clay, sand, gravel, cobble, boulder, bedrock
   Emergent vegetation: 5 Type: sedge, rush, pondweed, algae, willow, other grass
   Submerged vegetation: 1 Type: sedge, rush, algae, other No water (poled)
   Margin vegetation: 2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
   Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
   Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other No significant poled
   Shade: 4 Type: understory (willow, dogwood, elder, maple, other) canopy cover
   Basking sites: 2 Type: exposed bank, boulder, log, other
   Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: site lacks pools/wet

Additional comments:
2) Description of habitat

Dimensions: length ______ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: ______

___________________________________________________________

3) Description of habitat

Dimensions: length ______ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: ______

___________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 6-11-02</th>
<th>Site #: 815M</th>
<th>Site Name: Government Meadow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors: SH, SC</td>
<td>Total Site Length: 200m</td>
<td>Ave. Width: 70m</td>
</tr>
<tr>
<td>Air Temp: start ______</td>
<td>Water Temp: start ______</td>
<td>Ave. Water Velocity ______</td>
</tr>
<tr>
<td>Ave. Creek Gradient: Low (0-10%)</td>
<td>Mod. (11-30%)</td>
<td>High (&gt;30%)</td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (15%)</td>
<td>Mod (15-40%)</td>
<td>High (&gt;40%)</td>
</tr>
<tr>
<td>Upland Habitat Type: Mixed conifer</td>
<td>Fish Observed: None</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed: P. regilla eggs, larvae, adults, larvae, T. couchii</td>
<td></td>
<td></td>
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<tr>
<td>Other Species Observed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat:</td>
<td>grazing, recreation, logging, other</td>
<td></td>
</tr>
</tbody>
</table>

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet Meadow
- River
- Wet meadow: flowing water
- Standing water: dispersed water = 7/10 meadow

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rootwad, aquatic veg, woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other

Unit/Section 1:
- Meadow was about 200m x 70m, three-quarters of it had at least 20cm deep dispersed standing water, mostly on the SE side. A pond, 20m x 4m by 0.4m deep, also on the SE. The pond had abundant submerged veg and minimal emergent veg, consisting primarily of sedge with rush. Margin veg + trees, could abundant ledge.
- The water appeared to be fed by a tributary, although I didn't find the inlet or outlet (see topo) - Obviously intermittent Basking sites: minimal because weed is tall and there are few elevated basking surfaces.
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date:</th>
<th>Site #</th>
<th>Site Name</th>
<th>Total survey time</th>
<th>Sighting:</th>
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<tbody>
<tr>
<td>7-16-02</td>
<td>820M</td>
<td>Convict Meadow</td>
<td>30 min</td>
<td>Yes</td>
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<th>Surveyor/s:</th>
<th>Survey time: start</th>
<th>Survey time: end</th>
<th>Total survey time</th>
<th>Start</th>
<th>End</th>
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<tr>
<th>Total Site Length</th>
<th>Elevation</th>
<th>UTM: start</th>
<th>UTM: end</th>
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<tr>
<th>Air Temp:</th>
<th>Water Temp: shore</th>
<th>at depth</th>
<th>Ave. Water Velocity</th>
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<table>
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<tr>
<th>Cloud cover</th>
<th>partly cloudy (&gt;50%)</th>
<th>cloudy (&gt;50%)</th>
<th>Wind Speed (*Beaufort): (0-1) (2-4) (5+)</th>
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<table>
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<tr>
<th>Ave. Creek (River) Gradient: Low (&lt;10°)</th>
<th>Mod. (11-30°)</th>
<th>High (&gt;30°)</th>
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<th>Ave. Bank Gradient: Low (&lt;15°)</th>
<th>Mod (15-40°)</th>
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<table>
<thead>
<tr>
<th>Upland Habitat Type: Mixed Conifer</th>
<th>Fish Observed:</th>
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<table>
<thead>
<tr>
<th>Herpetofauna Observed:</th>
<th>Other Species Observed:</th>
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<tbody>
<tr>
<td>Bovine</td>
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<tr>
<th>Impacts to Amphibian Habitat:</th>
<th>Grazing</th>
<th>Recreation</th>
<th>Logging</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Heavy Impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake: **Dry meadow**
- Other: **Dry meadow**

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

   **Dry meadow**
   **No amphib habitat (aquatic)**

<table>
<thead>
<tr>
<th>Dimensions: length</th>
<th>width</th>
<th>depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 m</td>
<td>100 m</td>
<td>1 m</td>
</tr>
</tbody>
</table>

   Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

   Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

   Emergent vegetation: type: sedge, rush, pondweed, algae, willow, other

   Submerged vegetation: type: sedge, rush, algae, other

   Margin vegetation: type: forbs, grass, shrubs (blackberry, willow, etc.), other

   Terrestrial cover: type: vegetation, leaf litter, burrows, woody debris, boulder, other

   Aquatic cover: type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other

   Shade: type: understory (willow, dogwood, alder, maple, other), canopy cover

   Basking sites: type: exposed bank, boulder, log, other

   Presence of side pools, backwater pools, edgewater areas: Description of size, depth, and substrate:

   Additional comments: Meadow has a few deer, especially towards northern end. leopard caught on camera close to water at meadow. little grazing in area (in progress). Data of cow trails and fresh feces.
2) Description of habitat

Dimensions: length________or % of site________ width___________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________

Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_

Shade: _______ Type: understory (willow, dogwood, elder, conifer, maple, other______________), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other___________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________

________________________________________________________

________________________________________________________

3) Description of habitat

Dimensions: length________or % of site________ width___________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other__________

Submerged vegetation: _______ Type: sedge, rush, algae, other__________________________

Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________

Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__

Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other_

Shade: _______ Type: understory (willow, dogwood, elder, conifer, maple, other______________), canopy cover

Basking sites: _______ Type: exposed bank, boulder, log, other___________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 7/21/02</th>
<th>Site #: 8211</th>
<th>Site Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors: MV/TV</td>
<td>Survey time: start 10/12</td>
<td>Total survey time 6:40</td>
</tr>
<tr>
<td>Total Site Length: 2 km</td>
<td>Elevation: 238-1680 (197-2340)</td>
<td>UTM: start 135749283E</td>
</tr>
<tr>
<td>Air Temp: 19.9° C</td>
<td>Water Temp: shore 16.1° C</td>
<td>at depth —</td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (&gt;50%)</td>
<td>Wind Speed (*Beaufort): (0-1) (2-4) (5+)</td>
<td></td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod. (15-40°)</td>
<td>High (&gt;40°)</td>
</tr>
<tr>
<td>Upland Habitat Type: mixed conifer</td>
<td>Fish Observed: trout</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td>N. boshouti, board twice in different locations</td>
<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: none seen</td>
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<td></td>
</tr>
</tbody>
</table>

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat: Long gradient intermittent cobble/sand from ~10 cm to 5 cm.
Dimensions: length _______ or % of site 339° width 1-2 m depth 1.1-2.3 m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other __________
Submerged vegetation: Type: sedge, rush, algae, other __________
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________
Shade: Type: understory (willow, dogwood, alder, maple, other __________), canopy cover __________
Basking sites: Type: exposed bank, boulder, log, other __________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: some sidepools seen, none further than a few
Additional comments: ________
In the first third of the survey, was very inaccessible with high flow of water, heavy going under groundwater, there was slow creek running, going to create 1-2 m. deep pools, may trout were seen in this survey unit.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (2) Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: (2) Type: sedge, rush, algae, other

Margin vegetation: (3) Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: (3) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: (3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: (3) Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: (3) Type: exposed bank, boulder, leg, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________

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3) Description of habitat

Dimensions: length __________ or % of site __________ width: __________ depth: __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: (1) Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: (2) Type: sedge, rush, algae, other

Margin vegetation: (4) Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: (5) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: (3) Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: (3) Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: (3) Type: exposed bank, boulder, leg, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Depth varied from 2-5 cm in flat runs to 2 m in curvilinear pools

Additional comments: THIS AREA WAS RELATIVELY FLAT WITHIN A WIDE FLAT DRAINAGE AREA WITH A MEDITERRANEAN characterize BLOBB IN SECTIONS WITH WOODY OBSTACLES, SUBSTRATE AND BEDROCK, FLOWING INTERMITTENT CHANNELS SUBSIDED AND RESURGING ON THE BENCH, WASHED AWAY HEAVILY WRAPPED W/ ALDER, COTTONWOOD, AND HERBACEOUS COVER.

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-16-02  Site #: 822  Site Name: 

Surveyors: M.L.  Survey time: start 11:10  end 13:00  Total survey time 2hr 50min  Sighting: Yes (No)

Total Site Length: 500 ft  Elevation: 644.4  DTM: start 640.1  end 641.83

Air Temp: 50°F  Water Temp: shore ___  at depth ___  Ave. Water Velocity >30 cm/sec

Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10%)  Mod. (11-30%)  High (>30%)  occasional high gradient

Ave. Bank Gradient: Low (<15%)  Mod. (15-40%)  High (>40%)  occasional high gradient

Upland Habitat Type: Forest  Fish Observed: Rainbow trout

Herpetofauna Observed: Tree snake (Calophis semipalmatus)

Other Species Observed:

Impacts to Amphibian Habitat: Grazing  Recreation  Logging  Other: high impact

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: meadow turned out to be granite opening

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Tributary tributary off of Caples Creek

Dimensions: length ___ or % of site ___ width  5-10 ft  depth  5-7 ft  (pools >1 m)

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 1) Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: 2) Type: sedge, rush, algae, other

Margin vegetation: 3) Type: forbs, grass/shrubs, blackberry, willow, etc., other

Terrestrial cover: 4) Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 5) Type: rooted aquatic veg, woody debris, boulder, undercut banks, other

Shade: 6) Type: understory (willow, dogwood, alder, maple, other)

Basking sites: 7) Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

Work on this project consisted of a mid-high gradient riffle/run, large pool (cascades also abundant), water was clear and fish encountered were pools.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________________
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ________________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ________________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________________

Additional comments: No meadow. Just a granite rocks in a clearing.

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ________________
Submerged vegetation: ______ Type: sedge, rush, algae, other ________________
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________________
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________________
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ________________
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ________________), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________________

Additional comments: ________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
## Amphibian Habitat Site Assessment

**Date:** 2/19/10  
**Site #:** 825  
**Site Name:** Coppes CV.

<table>
<thead>
<tr>
<th>Surveyors: MV/TV</th>
<th>Survey time: start 1100 end 1500</th>
<th>Total survey time: 4</th>
<th>Sighting: Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Site Length: 1.4 Km</td>
<td>Elevation: 7000 ft</td>
<td>UTM start: 1839589700, end: 1839580000</td>
<td></td>
</tr>
<tr>
<td>Air Temp: 27°C</td>
<td>Water Temp: shore NOT TAKEN at depth</td>
<td>Ave. Water Velocity</td>
<td></td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%) partly cloudy (11-50%)</td>
<td>cloudy (&gt;50%)</td>
<td>Wind Speed (*Beaufort): (0-1) (2-4) (5+)</td>
<td></td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
<td></td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod (15-40°)</td>
<td>High (&gt;40°)</td>
<td></td>
</tr>
<tr>
<td>Upland Habitat Type: Mixed</td>
<td>Fish Observed:</td>
<td>Other Species Observed:</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed: H. spectabilis, C. viridis (skunk)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impacts to Amphibian Habitat:**  
- Grazing  
- Recreation  
- Logging  
- Other: |

### Habitat Type

- Diverted tributary  
- Tributary - ephemeral, intermittent, or perennial  
- Reservoir  
- River  
- Wet meadow: flowing water, standing ponds  
- Pond/Lake  
- Other: |

### Aquatic Habitat Features

Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

Unit characterized as Coppes CV Site 825, identified as meadow of bedrock run.

1) **Description of habitat:** Site 825 m, mud, identified as meadow of bedrock run.

- **Dimensions:** length 30 m, width 2 m, depth 1.5 m
- **Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- **Emergent vegetation:** Type: sedge, rush, pondweed, algae, willow, other
- **Submerged vegetation:** Type: sedge, rush, algae, other Ephemera, elodea
- **Margin vegetation:** Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- **Terrestrial cover:** Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- **Aquatic cover:** Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- **Shade:** Type: understory (willow, dogwood, alder, maple, other), canopy cover
- **Basking sites:** Type: exposed bank, boulder, log, other
- **Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate: Some intermittent wet/dry small tributary creek associated with this stretch of creek.

**Additional comments:** No good amphibian habitat was seen throughout the creek survey. A complex of two small creeks were surveyed where Typha sp. adult and tadpoles were seen.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ________ Type: sedge, rush, algae, other

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

____________________________________________________________________________________

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3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ________ Type: sedge, rush, algae, other

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

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## Amphibian Habitat Site Assessment

**Date:** 7/13/02  
**Site #:** 830  
**Site Name:**  
**Surveyors:**  
**Survey time:** start 1200 end 1245  
**Total survey time:** 0045  
**Sighting:** Yes  
**Total Site Length:**  
**Elevation:** 780 UTM: start  
**Water Temp:** shore at depth  
**Ave. Water Velocity:**  
**Air Temp:**  
**Water Temp:** shore at depth  
**Ave. Water Velocity:**  
**Cloud cover:** clear (0-10%), partly cloudy (11-50%), cloudy (>50%)  
**Wind Speed:** (Beaufort): (0-1) (2-4) (5+)  
**Ave. Creek (River) Gradient:** Low (<10%), Mod. (11-30%), High (>30%)  
**Ave. Bank Gradient:** Low (<15%), Mod (15-40%), High (>40%)  
**Upland Habitat Type:**  
**Fish Observed:**  
**Herpetofauna Observed:**  
**Other Species Observed:**  
**Impacts to Amphibian Habitat:**  

### Habitat Type
- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir  
- River  
- Wet meadow: flowing water, standing pools  
- Pond/Lake  
- Other:  

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat:**  
   - Pond complex separated on map but found to be continuous.  
   - Dimensions: length 180 m or % of site width 25 ft or depth  
   - Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
   - Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
   - Emergent vegetation:  
     - Type: sedge, rush, pondweed, algae, willow, other  
   - Submerged vegetation:  
     - Type: sedge, rush, algae, other  
   - Margin vegetation:  
     - Type: forbs, grass, shrubs (blackberry, willow, etc.), other  
   - Terrestrial cover:  
     - Type: vegetation, leaf litter, burrows, woody debris, boulder, other  
   - Aquatic cover:  
     - Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other  
   - Shade:  
     - Type: understory (willow, dogwood, alder, maple, other ), canopy cover  
   - Basking sites:  
     - Type: exposed bank, boulder, log, other  
   - Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:  

### Additional comments:
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

**Date:** 7-18-02  **Site #:** 831L  **Site Name:** N/A

**Surveyors:** J.J. Lore  **Survey time:** start 11:45am  **end** 2:15pm  **Total survey time:** 2:30pm  **Sighting:** Yes (No)

**Total Site Length:** 3520m  **Elevation:** 7300 UTM: start 4128881.3  **end** 10 7 1564

**Air Temp:** 25°C  **Water Temp:** shore 21°C  **at depth** 18°C  **Ave. Water Velocity:**

**Cloud cover:** clear (0-10%)  partly cloudy (11-50%)  **Cloudy (>50%)**  **Wind Speed (Beaufort):** (0-1) (2-4) (5+)

**Ave. Creek (River) Gradient:** Low (<10°)  **Mod.** (11-30°)  **High (>30°)

**Ave. Bank Gradient:** Low (<15°)  **Mod** (15-40°)  **High (>40°)

**Upland Habitat Type:** mixed conifer  **Fish Observed:**

**Herpetofauna Observed:** *Hyla sp.*  (*Hyla*)

**Other Species Observed:**

**Impacts to Amphibian Habitat:** □ grazing  □ recreation  □ logging  □ other:

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**Habitat Type**

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

- **Pond/Lake**

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) **Description of habitat**

**Small Pond/Lake**

<table>
<thead>
<tr>
<th>Small Pond/Lake</th>
<th>35 m</th>
<th>20 m</th>
<th>1 m</th>
</tr>
</thead>
</table>

**Aquatic substrate:**
- Organic debris
- Silt/clay
- Sand, gravel, cobble, boulder, bedrock

**Terrestrial substrate:**
- Organic debris
- Silt/clay
- Sand, gravel, cobble, boulder, bedrock

**Emergent vegetation:**
- Type: sedge, rush, pondweed, algae, willow, other

**Submerged vegetation:**
- Type: sedge, rush, algae, other

**Margin vegetation:**
- Type: forbs, grass, shrubs (blackberry, willow, etc.), other

**Terrestrial cover:**
- Type: vegetation, leaf litter, burrows, woody debris, boulder, other

**Aquatic cover:**
- Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other

**Shade:**
- Type: understory (willow, dogwood, alder, maple, other), canopy cover

**Basking sites:**
- Type: exposed bank, boulder, log, other

**Presence of sidepools, backwater pools, edgewater areas:**

**Description of size, depth, and substrate:**

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**Additional comments:** This lake/pond was not mapped.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length________ or % of site __________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________________________

Submerged vegetation: ________ Type: sedge, rush, algae, other________________________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________________________

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________________________

Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other________________________

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________________________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________________________

Additional comments: ________________________________________________________


3) Description of habitat

Dimensions: length________ or % of site __________ width_________ depth_________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________________________

Submerged vegetation: ________ Type: sedge, rush, algae, other________________________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________________________

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________________________

Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other________________________

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________________________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________________________

Additional comments: ________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-3-02  Site # 870RM  Site Name
Surveyors: SHJHo  Survey time: start 1015 end 1345  Total survey time 3.5 hr  Sighting: Yes (No)
Total Site Length:  4355 ft  Elevaton: 42875 ft
UTM: start 07544448 07544448 02888809 4288609 (NW Corner)
Air Temp: 18-20°C  Water Temp: shore 10°C at-depth 10°C  Ave. Water Velocity 47/3.5 to 284/sec
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1)(2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: meadow/conifer  Fish Observed: Yes (Trout)
Herpetofauna Observed:  -  Garter snakes (O. c. Couchii)  -  T. elegans
Other Species Observed: BEAVER LOSSL
Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow, flowing water, standing ponds
- INLETS FROM CREEK

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) abscent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat:
Low gradient  Tributary  Through meadow

Dimensions: length __50__m or % of site ___ width ___4.0 Meters___ depth ___2-3 FT___
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other - NONE
Submerged vegetation: ___ Type: sedge, rush, algae, other - NONE
Margin vegetation: ___ Type: forbs, grass, shrubs (blackberry, willow, etc.), other - GRASSES/SHRUBS
Terrestrial cover: ___ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ___ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ___ Type: understory (willow, dogwood, alder, conifer, maple, other) canopy cover
Basking sites: ___ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
60m x 3m x 4m
Isolated pool, submerged sedge, w/ organic debris, several small (1m x 1m)

Additional comments: Isolated pools, 2 INLETS TERMINATING INTO POOLS
20m x 5m x 5m - presence of fish, w/ emergent SEDGE in excessively shading leading to open water
Mod out of shallow shoreline
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length 35 m or % of site, width 250 m, depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length or % of site, width, depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 07. 03 - 2002 Site # 875SP Site Name Copple Lake Gage Station
Surveyors: AHI. Survey time: start 950 end 1100 Total survey time 65 min Sighting: Yes No
Total Site Length: 0.39 m Elevation: 7588 UTM: start 4283790 end 4288527
Air Temp: 73° Water Temp: shore 60 5 at depth Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Coniferous Forest Fish Observed: Trout
Herpetofauna Observed: Sartina sp (A) Western Terrestrial / common
Other Species Observed:
Impacts to Amphibian Habitat - ☐ grazing ☐ recreation ☐ logging ☐ other: PEOPLE / garbage

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: 

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Boulder + Bedrock w/ sporadic cobble, bar, pool crevices

Dimensions: length 0.39 m or % of site width 3.5 m depth 20-40 cm w/ sporadic pools

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ☐ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ☒ Type: sedge, rush, alga, other

Margin vegetation: ☐ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ☐ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ☐ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: ☐ Type: understory (willow, dogwood, alder, maple, other ), canopy cover
Basking sites: ☐ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

* Photo taken. Dirty area w/ garbage and lots of down wood. Present 30% of the time. Wood debris.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments: _______

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/24/02  Site #: 876  Site Name: (Lake name: Kirkwood Reservoir)

Surveyors: Site: Survey time: 1115 end 1145 Total survey time: 30 min Sighting: Yes 30
Total Site Length: 60 m  Elevation: 853 ft UTM: start 0955351 E  end
Air Temp: 71 °F Water Temp: shore 17 °F at depth Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Alpine Lake Fish Observed: apx
Herpetofauna Observed: Hyla regilla and Rana palustris
Other Species Observed:
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake

Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat Snow and Pool
Dimensions: length 50 m or % of site width 30 m depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 2 Type: sedge, rush, pondweed, algea, willow, other grasses
Submerged vegetation: 1 Type: sedge, rush, algae, other grasses
Margin vegetation: 2 Type: orbis, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 1 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: snow Type: rootwood, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 1 Type: understory (willow, dogwood, alder, maple, other__________), canopy cover 0%
Basking sites: 5 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: none

Additional comments: Small pond, small veg on border, 1+ g. 11.07:16
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ________ Type: sedge, rush, algae, other

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

3) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: ________ Type: sedge, rush, algae, other

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-13-00  Site #: 877L  Site Name: Kirkwood Lake perimater
Surveyors: SHSC, LRB  Total Site Length: 5 km  Ave. Width: 84 m  Elevation: 7490
Air Temp: Start 50°F  Water Temp: Start 60°F  Ave. Water Velocity:
Ave. Creek Gradient - Low (10-20°)  Mod. (20-40°)  High (>40°)
Ave. Bank Gradient - Low (15-30°)  Mod (30-40°)  High (>40°)
Upland Habitat Type: Aspen, Birch, Lodgepole Pine  Fish Observed: Minnow, Trout
Herpetofauna Observed: Mammals, Birds
Other Species Observed: Mallard, Bald Eagle
Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other:

Habitat Type
- Diverted tributary
- Wet Meadow
- Tributary: ephemeral, intermittent, or perennial
- River
- Pond/Lake  Snowmelt
- Wet meadow: flowing water, standing ponds
- Reservoir  Other:

Habitat Features  For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Abundance estimates consist of: 1) absent <10%, 2) minimal - 11 to 30%, 3) moderate - 31% to 70%, and 4) abundant - 71 to 100%
- Dominant Aquatic Habitats Types may occur alone or in combination and consist of: ruffle, run, pool, step run, cascade, plunge pool, sidepool, backwater pools, other.
  1. Dimensions: length, width, depth
  2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
  3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
  4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
  5. Aquatic Cover: rooted, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
  7. Basking Sites: exposed bank, boulder, log, other.

Unit/Section 1:
- Baffle depth relatively deep; along the side side depths dropped
- Riparian vegetation (1m) rich in brush along the whole of the bank approach, 5-10m wide. Remaining riparian
- Area consisted of abundant submersed sedge and ground cover (Eriophorum cymosum, Carex modesta, Aquatic Substrate: silt/organic along the whole, major veg. Primarily alder (non-selected), and less willow that was growing from water. Abundant Aquatic Cover, consisting primarily of algae, light or veg. Debris or woody debris emerging alder branches. Amount of macrophytes high, high alder growth mostly on SW side. The un-vegetated alder provided only minimal terr. cover. Canopy cover and understory minimal. Basking sites abundant.
Amphibian Habitat Site Assessment

Unit/Section 2:

Many points, especially those where bedrock meets lake edge, the water is deep.
Amphibian Habitat Site Assessment

Date: 6-4-02 Site #: 878L Site Name: North of Cal Trans Main Station
Surveyors: HP Survey time: start 1200 end 1240 Total survey time 40 min Sighting: Yes No
Total Site Length: — Elevation: — UTM: start 0257378 4288157
Air Temp: 23°C Water Temp: shore — at depth — Ave. Water Velocity —
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)
Upland Habitat Type: Mixed Conifer Fish Observed: —
Herpetofauna Observed: —
Other Species Observed: —
Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other: Solar panels

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: man-made basin w/ dispersed standing water

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Shallow dispersed water with basin containing
Dimensions: length — or % of site 200m width: 40m depth: 10m solar panels
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: □ Type: sedge, rush, pondweed, algae, willow, other — grass
Submerged vegetation: □ Type: sedge, rush, algae, other — grass
Margin vegetation: □ Type: forbs, grass, shrubs (blackberry, willow, etc.), other —
Terrestrial cover: □ Type: vegetation, leaf litter, burrows, woody debris, boulder, other —
Aquatic cover: □ Type: root wad, aquatic veg, woody debris, boulder, undercut banks, other —
Shade: □ Type: understory (willow, dogwood, elder, maple, other) —
Basking sites: □ Type: exposed bank, boulder, log, other —
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: This site is up with a small stream. Water conditions disperses around the basin bottom. No deep water present.
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
**Amphibian Habitat Site Assessment**

<table>
<thead>
<tr>
<th>Date: 7/12/02</th>
<th>Site #: 880R</th>
<th>Site Name: Capes Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors: JH/AD</td>
<td>Survey time: start 10:30 end 2:00</td>
<td>Total survey time: 3 1/2</td>
</tr>
<tr>
<td>Total Site Length: 4100 ft</td>
<td>Elevation: 570 to 970 ft</td>
<td>Sighting: Yes</td>
</tr>
<tr>
<td>Air Temp: 70°</td>
<td>Water Temp: shore 50° at depth</td>
<td>Ave. Water Velocity 4.5 ft/s</td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (&gt;50%)</td>
<td>Wind Speed (*Beaufort): (0-1) (2-4) (5+)</td>
<td></td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°)</td>
<td>Mod. (11-30°)</td>
<td>High (&gt;30°)</td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°)</td>
<td>Mod (15-40°)</td>
<td>High (&gt;40°)</td>
</tr>
<tr>
<td>Upland Habitat Type: Alpine Forest</td>
<td>Fish Observed:</td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed:</td>
<td>Gray Fish</td>
<td></td>
</tr>
<tr>
<td>Other Species Observed:</td>
<td>Outlet from dam</td>
<td></td>
</tr>
</tbody>
</table>

**Habitat Type:**
- Diversified tributary
- Reservoir
- Pond/Lake
- Tributary, ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

**Aquatic Habitat Features:** Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Rapid water flow causing deep channels, undercut banks

- Dimensions: length _ft_ or % of site _width_ ft _depth_ ft
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: _Type: sedge, rush, pondweed, algae, willow, other__
- Submerged vegetation: _Type: sedge, rush, algae, other__
- Margin vegetation: _Type: forbs, grass, shrubs (blackberry, willow, etc.), other__
- Terrestrial cover: _Type: vegetation, leaf litter, burrows, woody debris, boulder, other__
- Aquatic cover: _Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other__
- Shade: _Type: understory (willow, dogwood, alder, conifer, maple, other__
- Basking sites: _Type: exposed bank, boulder, log, other__

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: __Under banks where either boulder or overgrown willow__

Additional comments: __There were no additional comments.__
Amphibian Habitat Site Assessment

2) Description of habitat Sheer bedrock cliffs on R-side of cr.

Dimensions: length 20m or % of site __________ width 5m depth 1.5m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: □ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: □ Type: sedge, rush, algae, other

Margin vegetation: □ Type: forbs, grass, shrubs (blackberry, willow, etc.), other — elder

Terrestrial cover: □ Type: vegetation, leaf litter, burrows, woody debris, boulder, other — bedrock cliff

Aquatic cover: □ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other — bedrock cliff

Shade: □ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: □ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Boulders at base of bedrock cliff provided mixed backwater

Additional comments: This unit was dominated by bedrock cliffs on the right side and sharp undercut banks with overgrown willow on the left side.

3) Description of habitat

Dimensions: length __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: __________ Type: sedge, rush, algae, other

Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: __________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other

Shade: __________ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover

Basking sites: __________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________
________________________________________
________________________________________
________________________________________
________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-4-02  Site #: 885a-c Site Name: Hum 88 Look out
Surveyors: DB  Survey time: start 10:00 end 13:15 Total survey time 3:15h Sighting: Yes  No
Total Site Length:  Elevation: UTM:  start  end
Air Temp: 15°C  Water Temp: shore at depth  Ave. Water Velocity
Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-80%), sunny (80-100%)
Wind Speed (Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Subalpine/Lodgepole Pine Fish Observed:
Herpetofauna Observed: AMFA (eggs at Pond A), T. aquaticus, P. acutifolia (1 dead)
Other Species Observed: lizards, predacious diving beetles
Impacts to Amphibian Habitat: □ Grazing  □ Recreation  □ Logging  □ Other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing pond

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1. Description of habitat: Snowmelt Pond - a [075 859 428 8095] UTM
Dimensions: length 100 m width 100 m depth 3 m
Aquatic substrate: organic debris, detritus, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, detritus, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Sedge, rush, pondweed, alga, willow, other
Submerged vegetation: forbs, grass, shrubs (blackberry, willow, etc.), other
Margin vegetation: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: vegetation - leaf litter, burrows, woody debris, boulder, other
Aquatic cover: rootfog, aquatic vegetation, woody debris, boulder, undercut banks, other
Shade: understory (willow, dogwood, alder, maple, other)
Basking sites: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

Visited again on 6/13 to check AMFA eggs - still present but mass is smaller. Snow on banks had melted and exposed abundant submerged & emergent sedge along bank.
Water temp. at 1:50 = 22°C. Sp. %:

1.7 mom at 20m along baggy channel.
2) Description of habitat

Pond b 075183,4208086

elev ~ 8,000 ft

Dimensions: length 40m or % of site width 30m depth 2m band 0g depth < 2.5m deep

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other grass

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover conifer

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Pond not on map.  T. A. Sirtalis

3) Description of habitat

Pond C 0751512,4207933

elev ~ 7920 ft

Dimensions: length 65m or % of site 66m width 66m depth 2m band 0g depth < 2.5m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other grass

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other ), canopy cover conifer

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: 

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/17/02  Site #840D  Site Name Martin Meadow

Surveyors: DB, THo  Survey time: start ________ end ________ Total survey time ________ Sighting: Yes ☐ No ☒

Total Site Length: ________ Elevation: 4000 (23°F  UTM: start ________ end ________

Air Temp: ________ Water Temp: shore ________ at depth ________ Ave. Water Velocity ________

Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)

Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type: ________ Fish Observed: ________

Herpetofauna Observed: ________

Other Species Observed: ________

Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other: ________

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Pond/Lake

Other: Meadow

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Mostly dry meadows - when viewed from road side

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other ________

Submerged vegetation: ________ Type: sedge, rush, algae, other ________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________

Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ________

Shade: ________ Type: understory (willow, dogwood, alder, maple, other ________), canopy cover

Basking sites: ________ Type: exposed bank, boulder, log, other ________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: ________
2) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ____________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3) Description of habitat

Dimensions: length __________ or % of site __________ width __________ depth __________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ____________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/25/07  Site #: 895 LP  Site Name: Coker Lake

Surveyors: 2H F3  Survey time: start 10:15  end 15:15  Total survey time 5 hr  Sighting: Yes  No

Total Site Length: 1,520 ft  Elevation: 77.61 ft  UTM: start 2287977m  end 2287977m

Air Temp:  78°F  Water Temp: shore  79°F  at depth  78°F  Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) 2-3 (5+)
Ave. Creek (River) Gradient: Low (-10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (-15°)  Mod (15-40°)  High (>40°)

Upland Habitat Type: mixed Conifer, hardwood  Fish Observed: Trout, minnow

Herpetofauna Observed: None

Other Species Observed: 

Impacts to Amphibian Habitat: ☐ grazing  ☐ recreation  ☐ logging  ☐ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Pond/Take

Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Coker Lake

Dimensions: length 28 km or % of site

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbes, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rooted, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other ), canopy cover 40%

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: a couple

Additional comments: 14 ft Bailer + 8 ft net edge of lake, very exposed

(Additional text and diagrams not fully legible due to page quality)
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: ________ Type: sedge, rush, algae, other________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


3) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: ________ Type: sedge, rush, algae, other________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:


*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/24-25/02  Site #: 9904 T  Site Name: Woods Creek
Surveyors:  M.K.  Survey time: start 9:00 AM end 12:30 PM  Total survey time 3:30 PM  Sighting: Yes
Total Site Length: 2.6 KMs  Elevation: 132.6' UTM: start 10,354,998 end 10,357,847
Air Temp: 21° C  Water Temp: shore 13.2/1.4° C at depth no  Ave. Water Velocity
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type:  Fish Observed: yes
Herpetofauna Observed:  Other Species Observed:  Salamanders, Lizards
Impacts to Amphibian Habitat:  ☐ grazing  ☐ recreation  ☐ logging  ☐ other:

Habitat Type
- Diverted tributary  - Reservoir  - Pond/Lake
- Tributary: ephemeral, intermittent, or perennial  - River  - Other: __________
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: bedrock/boulder/med., gradient with cascade/run
Dimensions: length 1K, or % of site 50%, width 1-15 m, depth 0.25 m, plunge pool 1-3 m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 2Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 3Type: sedge, rush, algae, other
Margin vegetation: 4Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 5Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 6Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 3Type: understory (willow, dogwood, alder, maple, other), canopy cover 3
Basking sites: 3Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: due to log jams/rearing main channel braided
Additional comments: Mid. gradient bedrock/boulder created 1-3 m

E.10 Water gauge seen @ 4' 4" in. depth.
Wet app. seen throughout 2K trib.
2) Description of habitat

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: __ Type: sedge, rush, algae, other
Margin vegetation: __ Type: forbs, grass, shrubs (blackberry, willow, etc.), other alder, dogwood
Terrestrial cover: __ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: __ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: __ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: __ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:
This unit had cut banks, heavy veg on margin mostly forbs, grasses, and flowering plants!

3) Description of habitat

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: __ Type: sedge, rush, algae, other
Margin vegetation: __ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: __ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: __ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: __ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: __ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/15/03 Site # 8977a Site Name: Emigrant Lake

Surveyors: M.R.S. Survey time: start 12:00 end 13:15 Total survey time: 1:15 Sighting: Yes No

Total Site Length: (Site Name) Elevation: 85.75 UTM: start 5435289 end 5435389 42 38 28 N 104 37 49 W

Air Temp: 76 F Water Temp: shore 77 F at depth Ave. Water Velocity

Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-90%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: mixed forest Fish Observed: Tr. sp. Rainbow

Herpetofauna Observed: H. regilla tadpoles (see comments)

Other Species Observed: 0

Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other:

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat [Pond/Lake]

Dimensions: length 450 m or % of site 100 m width 200 m depth unknown

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: tara, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: Wetted area SW outlet creek channel. Had thousands of H. regilla tadpoles. There were so many more than 3 in. deep. None had emerged. H. regilla seen most spp. seen in lake and primary channel of creek.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

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3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______
Submerged vegetation: ______ Type: sedge, rush, algae, other ______
Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______
Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other ______
Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover
Basking sites: ______ Type: exposed bank, boulder, log, other ______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7/26/02 Site # 89717 Site Name Emigrant Creek (1st half - from Cape Lake to hiking trail)

Surveyors: MVJH Survey time: Star 10:30 am end 1:30 pm Total survey time 3 hrs Sighting: Yes No

Total Site Length: 1 km Elevation: 300.0' end 242.1' UTM: Star 401268.23 N end 423552.63 E

Air Temp: 72° Water Temp: Shore 78° at depth 72° Ave. Water Velocity 72°

Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (51-99%). Wind Speed (Beaufort): 0-1 2-4 5-

Ave. Creek (River) Gradient: Low (<10°) Moderate (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Moderate (15-40°) High (>40°)

Upland Habitat Type: Mixed conifer Fish Observed: Yes, trout spp.

Herpetofauna Observed:

Other Species Observed:

Impacts to Amphibian Habitat - □ grazing □ recreation □ clogging □ other:

Habitat Type

- Diverted tributary
- □ Tributary ephemeral, intermittent, or perennial
- □ Reservoir
- □ River
- □ Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat Low gradient, cobble run with li. bank

Dimensions: length ___ m width ___ m depth ___ m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: [ ] Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: [ ] Type: sedge, rush, algae, other

Margin vegetation: [ ] Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: [ ] Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: [ ] Type: rooted aquatic veg, woody debris, boulder, undercut bank, other

Shade: [ ] Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: [ ] Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Small amount

Additional comments:

Photos of deposits: camera # 7 upper stream at confluence. # 9 lower stream at confluence.
Amphibian Habitat Site Assessment

2) Description of habitat: 
- Bedrock/boulders, mid-gradient, cascading pools

Dimensions: length 500 m or % of site 50%, width 3 m, depth 1 m - 2 m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Ranking diverted main channel in some areas.

Additional comments:

3) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: Type: sedge, rush, algae, other

Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: Type: understory (willow, dogwood, alder, conifer, maple, other, other), canopy cover

Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-26-02  Site #: 297 IT  Site Name: Emigrant Creek
Surveyors: 7:56 AM  Survey time: start 13:34  end 16:50  Total survey time 3:03  Sightings: Yes  No
Total Site Length: 1.1 km  Elevation: UTM: start  end
Air Temp: 16-24°C  Water Temp: start 10°C  at depth 16°C  Ave. Water Velocity 30 cm/sec
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): 0-1  2-3  5+
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)
Upland Habitat Type: Mixed Conifers  Fish Observed: Trout
Herpetofauna Observed: P. muscosa
Other Species Observed: A. dipper
Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other:
   Hiking trails  fishing

Habitat Type
- Diverted tributary
- Tributary (ephemeral, intermittent, or perennial)
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Boulder cascades + pools mixed w/ meandering cobble bed, x-braided, stream
Dimensions: length 10 m  or % of site  width 2 m  depth 20-40 cm  x substrate
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1. Type: sedge, rush, pondweed, algae, willow, other; lots of sedge @ lake/creek confluence
Submerged vegetation: 1. Type: sedge, rush, algae, other
Margin vegetation: 4. Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 4. Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3. Type: rootwat, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 3. Type: understory (willow, dogwood, alder, maple, other)
Basking sites: 4. Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Lots of deep plunge pools (green), also shallow gravel/cobble sidepools + braided
Additional comments: channels free of fish (20cm deep)
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______ ), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______ ), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: _______

Additional comments:

__________________________________________________________________________
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*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 2/24/12  Site #: 898  Site Name:  
Surveyors: MVJHH  Survey time: start 10:45 end 11:45  Total survey time 1 hr.  Sighting: Yes  No  
Total Site Length: 80m  Elevation: 8493'UTM: start 7/28/05S end 10/55 S  
Air Temp: 21°C  Water Temp: shore 16°C at depth 14°C  Ave. Water Velocity  
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (51-70%)  Wind Speed (*Beaufort): 0-1 (2-4) (5+)  
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)  
Ave. Bank Gradient: Low (<15°)  Mod. (15-40°)  High (>40°)  
Upland Habitat Type:  
Herpetofauna Observed:  
Other Species Observed:  
Impacts to Amphibian Habitat:  
  - grazing  
  - recreation  
  - logging  
  - other:  

Habitat Type:  
  - Diverted tributary  
  - Tributary: ephemeral, intermittent, or perennial  
  - Reservoir  
  - River  
  - Wet meadow: flowing water, standing ponds  
  - Pond/Lake  
  - Other:  

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat  
  
Dimensions: length 80m or % of site  width 120m depth 1.5-1.0m  
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock  
Emergent vegetation:  
  - Type: sedges, rush, pondweed, algae, willow, other  
Submerged vegetation:  
  - Type: sedges, rush, algae, other  
Margin vegetation:  
  - Type: forbs, grasses, shrubs (blackberry, willow, etc.), other  
Terrestrial cover:  
  - Type: vegetation, leaf litter, burrows, woody debris, boulder, other  
Aquatic cover:  
  - Type: rootwad, aquatic veg., woody debris, boulder, undercut banks, other  
Shade:  
  - Type: understory (willow, dogwood, alder, maple, other aquatic), canopy cover  
Basking sites:  
  - Type: exposed bank, boulder, log, other  
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:  
Sediment or substrate (bottom):  

Additional comments:  
  - Disposible camera 12/14/15 week of 7/22-26/02  
  - Photos 14/15 adult green frogs  
  - AMBASSADORSMacrobiology 4/14/12
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length ______or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______

Submerged vegetation: ______ Type: sedge, rush, algae, other ______

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______

Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

_______

_______

_______

_______

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other ______

Submerged vegetation: ______ Type: sedge, rush, algae, other ______

Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ______

Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ______

Aquatic cover: ______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other ______

Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other ______), canopy cover

Basking sites: ______ Type: exposed bank, boulder, log, other ______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ______

Additional comments: ______

_______

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**Beauref scale:** 0-1: (0-3 mph) calm to light air (rising smoke drif) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 7-24-02
Site #: 899 L a-c
Site Name

Surveyors: SLR, Survey time: start 1315, end 1545, Total survey time 1 hr, Sighting: Yes, No

Total Site Length: ___________ Elevation: ___________ UTM: start ___________ end

Air Temp: ___________ Water Temp: shore ___________ at depth ___________ Ave. Water Velocity ___________

Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (50%), Wind Speed (*Beaufort): (0-1) (2-4) (5+)

Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)

Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)

Upland Habitat Type: mixed conifer Fish Observed: No

Herpetofauna Observed: *Ambystoma maculatum* & *Hyla regilla* larvae

Other Species Observed: ___________

Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ other: ___________

Habitat Type

- Diverted tributary
- Reservoir
- Tributary: ephemeral, intermittent, or perennial
- River
- Wet meadow: flowing water, standing ponds

Other: ________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Snowmelt pond 20 min survey
elev: 8160 (2488m)
Dimensions: length ___________ width ___________ depth deepest ___________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 

Submerged vegetation: 

Margin vegetation: 

Terrestrial cover: 

Aquatic cover: 

Shade: 

Basking sites: 

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

3m band of shallow (<20 cm) around parameter

Additional comments: Lata! of *A. maculatum* & *P. regilla* larvae
2) Description of habitat
- Dimensions: length ___________ width ___________ depth ______
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: ___________ Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: ________ Type: sedge, rush, algae, other
- Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
- Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ___________), canopy cover
- Basking sites: ________ Type: exposed banks, boulder, log, other
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
- Additional comments: Found partially decomposed R.M. in boulder bank along bank of A.
- Water temp. 19°C
- Air temp. 22°C

3) Description of habitat
- Dimensions: length ________ width ________ depth ________
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: ________ Type: sedge, rush, algae, other
- Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: ________ Type: rootwad, aquatic veg. (woody debris), boulder, undercut banks, other
- Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ___________), canopy cover
- Basking sites: ________ Type: exposed banks, boulder, log, other
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:
- Additional comments: Found T.J. Munson, Scattered A. macrophyllum larvae

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>=18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 03-31-02  Site #: 136R  Site Name: Near Braddock Creek
Surveyors: LH Site: start 1200 end 1330 Total survey time: 2 hr 30 min. Sighting: Yes
Total Site Length: 10.3 mi Elev.: Elevation: 2946' Total survey time: 2 hr 30 min. Sighting: Yes
Air Temp: 16°C Water Temp: shore 5°C at depth 5°C Ave. Water Velocity 1.0 mph
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): 0-1  (2-4)  (5+)
Ave. Creek (River) Gradient: Low (<1°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<1°) Mod. (15-40°) High (>40°)
Upland Habitat Type: Mixed conifer Fish Observed: Trout
Herpetofauna Observed: None Other Species Observed: Crows, fish, A. dipper, J. dead
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: High impact

A lot of trash, some car parts

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: __________

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant type and underline the sub-dominant type.

1) Description of habitat: Right bank

Dimensions: length 100 m or % of site width 1 m depth 10-20 cm
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: __________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: __________ Type: sedge, rush, algae, other
Margin vegetation: __________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: __________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: __________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: __________ Type: understory (willow, dogwood, alder, maple, other) canopy cover
Basking sites: __________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Edgewater 5-30 cm exposed by understory. Sedge & boulder in cracks

Additional comments: Very nice habitat.
2) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______ ), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: 

3) Description of habitat

Dimensions: length _______ or % of site _______ width _______ depth _______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: _______ Type: sedge, rush, algae, other
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______ ), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments: 

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 30 Oct 2002  Site # 207a  Site Name Ogilby creek

Surveyors: AB & TL  Survey time: start 1120 end 1435  Total survey time 2'35"  Sighting: Yes/No
Total Site Length: 35.1 m  Elevation: 3005  UTM: start 4222332 E 2430364 N end 4222332 E 2430364 N
Air Temp: 1120 (shaded) 11° Water Temp: shore 6° at depth 12° Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (30+)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (40+)
Upland Habitat Type: Coniferous forest/highway  Fish Observed: Cyprinids, SAE Sucker
Herpetofauna Observed: None
Other Species Observed: COME, AMDL, RESA, SDSP, BCR, BLPH
Impacts to Amphibian Habitat - ☑ grazing ☑ recreation ☑ logging ☑ other:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (71%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: boulder, edger, margin, river, riffle, min edgwater, shore depth ~30-50 cm
Dimensions: length ~0.35 - or % of site ___ width _1-2 m_ depth ___ UTM 92-94
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 2 Type: (sedge) rush, pondweed, algae, willow, other
Submerged vegetation: 1 Type: sedge, rush, algae, other
Margin vegetation: 5 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 5 Type: vegetation/leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3 Type: rootwad, aquatic veg, woody debris/boulder, undercut banks, other
Shade: 4 Type: understory (willow, dogwood, alder, maple, other ), (canopy cover)
Basking sites: 2 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: see below

Additional comments: 1B of braid limited # of side pools (connected): depth
4-8 downstream of WP 94: boulder/scale, margin ~difficult run, several undercut side
pools, most now dry. See photo #94. Side info: 4 (oak), cm: canopy cover 4 (C 1220;
~size 20x60 m; existing pools: ave depth~210cm.)
2) Description of habitat

LB of mainstem, island edge; boulder/sedge margin, vittie 1 run

Dimensions: length: 0.2 m or % of site __________________ width: 5-10 m depth: __________________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 2 Type: sedge, rush, pondweed,algae, willow, other __________________________

Submerged vegetation: 2 Type: sedge, rush, algae, other ________________________________

Margin vegetation: 5 Type: forbs, grass, shrubs (blackberry, willow, etc.), other sedge __________________

Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________________

Aquatic cover: 4 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________________

Shade: 4 Type: understory (willow, dogwood, alder, conifer, maple, other __________________________

Basking sites: 3 Type: exposed bank, boulder, log, other ________________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

# of connected sidepools: 10 Depth: 0.1-0.5 cm, sub veg: algae; boulder substrate

Additional comments: (cont.) embedded w/ sand/silt win absent backwater pools

sub-emergent veg: edgewater area 5 x 1 m w/ 9% of shrub depth >30 cm

edgewater: exposed banks w/ gravel, sand & boulders

*OB of vendors (other side of island): some sidepools present towards very end

though most of the bank is steep boulder/sedge margin

3) Description of habitat

Dimensions: length: ________ or % of site: ___________ width: ___________ depth: ___________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other __________________

Submerged vegetation: ________ Type: sedge, rush, algae, other ________________________________

Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other __________________

Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other __________________

Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other __________________

Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other __________________________

Basking sites: ________ Type: exposed bank, boulder, log, other ________________________________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

________________________

Additional comments:

________________________

________________________

________________________

________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 30 Oct 2002  Site #: 23A  Site Name: SPAR

Surveyors: 
Survey time: start 1120 end 1600 Total survey time 4:40 Sighting: Yes No

Total Site Length: 140 M. Elevation: 3400 UTM start 4219243 end 4219243 4297888 acc 55
Air Temp: 75 Water Temp: shore 75 air depth 13 Ave. Water Velocity

Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*beaufort): (1) (2) (3)

Ave. Creek (River) Gradient: Low (<10%) Mod. (11-30%) High (>30%)
Ave. Bank Gradient: Low (<15%) Mod (15-40%) High (40+)

Upland Habitat Type: mixed conifer broadleaf  Fish Observed: salmon trouts

Herpetofauna Observed: P. T. T. T. (1 Nov)

Other Species Observed:

Impacts to Amphibian Habitat - ☐ grazing  ☐ recreation  ☐ logging  ☐ others:

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type. If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Bounded ± 0.1 M of site

Dimensions: length 0 Width % of site

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 2 Type: sedges, rush, pondweed, algae, willow, other:

Submerged vegetation: 1 Type: sedge, rush, algae, other

Margin vegetation: 5 Type: forbs, grass, shrubs (blackberry, willow, etc.), other:

Terrestrial cover: 5 Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: 3 Type: root wad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: 4 Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: 3 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

Rain, evapotranspiration, area, amount east of site

Minimum recharge area, amount east of site

Mad. of 48 - steep sides - seep under 5% deep plug - sump

Rain: 8 inches in 24 hours, maintaining flow for 1 hour, seepage

Increased due to box capacity 3 storms. No dasy - each day of flow from receiver field

Submerged S. P. - partial (sample of plants) 10%
2) Description of habitat

Dimensions: length ________ or % of site width __________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other - Few Sedges, Equisetum
Submerged vegetation: ________ Type: sedge, rush, algae, other - Lower end of 4
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other - Sedge, Equisetum
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other - Floating, Fallen Vascular
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

3) Description of habitat

Dimensions: length ________ or % of site width __________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other __________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6-27-02 Site # 105R Site Name: EID Power Plant
Surveyors: SH OB Survey time: start 0945 end 1515 Total time: 52 min. Sighting: yes
Total Site Length: 334 m Ave. Width: Elevation: 1000 UTM
Air Temp: 24-29°C Water Temp: shore at depth Ave. Water Velocity
Cloud cover: clear (0%) partly cloudy (1-50%) cloudy (>50%) Wind Speed (*Beaufort scale): (0-1) (2-4) (5+)
Ave. Creek Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod (15-40°) High (>40°)
Upland Habitat Type: Forest, hardwood, conifer Fish Observed: Sucker, Minnows ( Fry)
Herpetofauna Observed: 2 T. couchii
Other Species Observed: American Dipper
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: hydroelectric (high impact)

Habitat Type
- Diverted tributary • River
- Tributary: ephemeral, intermittent, or perennial
- Pond/Lake
- Reservoir
- Wet meadow: flowing water, standing ponds
- Other:

Habitat Features For the primary aquatic habitat units or sections of the site, briefly describe the type and abundance (or amount of coverage) of the following habitat features. Continue on back if necessary.
- Primary Aquatic Habitats Types may occur alone or in combination and consist of: riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, etc.
- Abundance estimates consist of 1) absent <10%, 2) minimal amt. - 11 to 30%, 3) low to moderate amt. - 31% to 50%, 4) moderate to high amt. - 51-70% and 4) abundant >70%
- Habitat Features:
1. Dimensions: length, width, depth
2. Aquatic and Terrestrial Substrate: silt/clay, sand, gravel, cobble, boulder, bedrock
3. Emergent, Submerged, and Margin Vegetation: forbs, grass, sedge, blackberry, pondweed, algae, willow, other.
4. Terrestrial Cover: leaf litter, burrows, woody debris, other.
5. Aquatic Cover: rootwad, aquatic veg. woody debris, gaps in substrate, undercut banks, other.
7. Basking Sites: exposed bank, boulder, log, other
8. Presence of sidepoools, backwater pools, or edgewater areas

Unit/Section 1: LEFT BANK
Edge water area, narrowed from 4 to 3 m wide with abund. sedge and grasses. No emergent or submerg. veg. except a few pools 2/3 small amt (30%) algae. Emergent Sedge and elegant grasses around boulder union to moderate amount. Tier. cover abundant, veg. downed logs, substrate gaps. Aquatic cover: mud. 1/3 high amt. boulder gaps dominate at u/s section, where 2 frogs found) & emerg. Sedge, root wads, rocks, logs all present at d/s section. Understory consists of low habitats.  I will use certified cover Census.
Amphibian Habitat Site Assessment

Morning shade with no shade after noon. Canopy cover by oaks along high gradient upland area adj to hard to wildcut now shrub along brush margin. Bank 1-20% exposed during rest of day. secluded side-pools ~30 cm deep w/sand/mud bottoms. Boulder gaps & sedge clumps along margin in thickest edge area 50 m wide. Numerous basking sites throughout. Life around boulder, sandy beach, log.

Unit/Section 2: Right bank

...Consisted of a sand bar w/min. spouting sedge and an embedded isolated pool (1 m deep + 5 m long) at the U/s section. Qu. fish found here. All substrate was sand. No submerged veg. All cover types lacking. Canopy provided min. shade. Section 150 m long, a boulder bar w/full sun exposure. Several side pools present just d/s. Mtn. veg: sedge, willow, D/s of this section a heavily deep boulder. Boulder pools evident in front on the P/H and up to the wall of the main channels. Boulder dominated shallows (30 cm deep) occur along margin. No veg. on coves. Tadpoles & eggs mass bound here.

Unit/Section 3:

Remaining half of reach consist of boulder cobble sand edge water and pocket water. Band of habitat ~5 m wide. Several connected side pools. Sedge clumps, willows, boulder gaps, closed, provided teeth. cover. High cover as boulder gaps & opening. sedge (mod. amounts). Canopy cover 70% during afternoon (~1400).

Comments:

*Beaufort Scale  0-1: 0-3 mph, calm to light air (rising smoke drift)  2-4: 4-18 mph, light breeze to moderate breeze (raises dust and paper)  5+: 19+ mph, fresh breeze (trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 3-8-02</th>
<th>Site #: 110</th>
<th>Site Name: American River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveyors: Kr. &amp; Hi.</td>
<td>Survey time: start at 12:10 pm end 2:10 pm</td>
<td>Total survey time 2 hrs</td>
</tr>
<tr>
<td>Total Site Length: 0.46 miles</td>
<td>Elevation: 2000 ft</td>
<td>UTM: start 02/09/745 E 704,044 N, end 07/09/003 W, 10/09/457</td>
</tr>
<tr>
<td>Air Temp: 20°C, Water Temp: shore 10°C, at depth same</td>
<td>Ave. Water Velocity Fast</td>
<td></td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%), partly cloudy (11-50%), cloudy (&gt;50%)</td>
<td>Wind Speed (Beaufort): 3 (1-2) (4-5)</td>
<td></td>
</tr>
<tr>
<td>Ave. Creek (River) Gradient: Low (&lt;10°), Mod. (11.5-30°), High (&gt;30°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ave. Bank Gradient: Low (&lt;15°), Mod (15-40°), High (&gt;40°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upland Habitat Type: Mixed forest, oak woodland, Fish Observed: A lot of minnows and largemouth bass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpetofauna Observed: Western Fence Lizard, Other Species Observed: Crayfish, minnows, trout</td>
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<td></td>
</tr>
<tr>
<td>Impacts to Amphibian Habitat: □ grazing, □ recreation, □ logging, □ other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Habitat Type

- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Black-lined river with cascades and runs.

Dimensions: length: 2000 ft, % of site: 50, width: 2-15 meters, depth: 5-10 meters

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: minimal, Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: minimal, Type: sedge, rush, algae, other

Margin vegetation: minimal, Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: minimal, Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: mod-low, Type: rootwood, aquatic vegetation, woody debris, boulder, undercut banks, other

Shade: minimal, Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: abundant, Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: many sidepools and backwater areas, where both frogs were found.

Additional comments:
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length________ or % of site________ width_________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: _______ Type: sedge, rush, algae, other________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:__________________________________________

__________________________________________

__________________________________________

3) Description of habitat

Dimensions: length________ or % of site________ width_________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: _______ Type: sedge, rush, algae, other________
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:__________________________________________

__________________________________________

__________________________________________

__________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 8-8-02  Site #: 115T  Site Name: Silver Creek
Surveyors SH, AB  Survey time: start 1110 end 1530 Total survey time 140 min Sighting: Yes/No
Total Site Length: 2.5 mi  Elevation: 1840 ft UTM: start 374380, 4295875 end 105 029628, 4296125
Air Temp: 27°C Water Temp: short 16°C at depth Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): 0-1 (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10%) Mod. (11-30%) High (>30%)
Ave. Bank Gradient: Low (<15%) Mod (15-40%) High (>40%)
Upland Habitat Type: Foxtail hardwood - conif Fish Observed: 10
Herpetofauna Observed: P. regilla tadpoles
Other Species Observed: None observed

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: 

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat
- Wandering braided channels adjacent to main channel
- Width (20m) Stream W/ boulder/willow island + sidepools
- Dimensions: length — 5 mi or % of site — width — change depth

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation: 2 Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: 1 Type: sedge, rush, algae, other

Marginal vegetation: 2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: 4 Type: vegetation, leaf litter, burrows, muddy debris, boulder, other

Aquatic cover: 5 Type: rockweed, aquatic vegetation, muddy debris, boulder, undercut banks, other

Shade: 2 Type: understory (willow, dogwood, alder, maple, other)
- Canopy cover

Basking sites: 5 Type: exposed bank, boulder, log, other cobble bar
- Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Numerous shallow, slow-moving side pools, edgewater areas, and several algae-filled edgewater pools

Additional comments:
- This site was excellent habitat with lot on complexity. Habitat was seen to the S. of the study site along a broad, flat area where a channel where boulder/sedge complexes produced shallow, still-water habitat with good cover.
Amphibian Habitat Site Assessment

2) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: ________ Type: sedge, rush, algae, other________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3) Description of habitat

Dimensions: length________ or % of site________ width________ depth________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other________
Submerged vegetation: ________ Type: sedge, rush, algae, other________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:________

Additional comments:________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
 Amphibian Habitat Site Assessment

Date: 8/8/02  Site #: 120R  Site Name: South Fork American River
Surveyors:  
Survey time: start 11:25  end 5:25  Total survey time: 6:00  Sighting: Yes  No
Total Site Length: 5 mi  Elevation: 1/16 0 UTN; start 4295200; end 4219500
Air Temp: 80°F  Water Temp: shore 20°F at depth  Kang  Ave. Water Velocity 2.5/5 sec
Cloud cover: (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (Beaufort) (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: mixed forest/open woodland/Fish Observed: YES  FLAT TOP SPECIES
Herpetofauna Observed:  B. T. coudia  2. T. elegans
Other Species Observed:  P. C. rubi
Impacts to Amphibian Habitat - □ grazing  □ recreation  □ logging  □ other:  

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Pond/Lake
- Other:

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat:  LEFT BANK  NO EM
Dimensions: length .5 mi or % of site 50  width 70-50 m  depth 1 m - 6 m
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 2  Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 4  Type: sedge, rush, algae, other
Margin vegetation: 3  Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 2  Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 1  Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other
Shade: 1  Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 4  Type: exposed bank, boulder log, other

Presence of sidepools/backwater pools, edgewater areas: Description of size, depth, and substrate: SEVERAL BACKWATER POOLS AT BED SECTION SITE IS 2-5 YLD ORGEAN DEBRIS

Additional comments:
SEVERAL Boulders/cobble bars along margins and in mid-channel, approximately 3 large pools observed mid-channel.

ALL water ISASKING and boulders 4 banks
Amphibian Habitat Site Assessment

2) Description of habitat: Right bank, moderate gradient, boulder grade

Dimensions: length: 50m or % of site 50%, width: 30-50m, depth: 1m-6m

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: Type: sedge, rush, algae, other
Margin vegetation: Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: SEPARATE LOW FLOWING STREAMS W/ SEVERAL POOLS OBSERVED ON THIS BANK. WATER CONSIDERABLY WARMER HERE (25°C).

Additional comments:

3) Description of habitat

Dimensions: length: ________ or % of site ________, width: ________, depth: ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ________ Type: sedge, rush, algae, other
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ________ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Data: 3/4/02  Site #: 125  Site Name: Soldier Creek
Surveyors: JH, JH  Survey time: start 11:00  end 15:15  Total survey time 255 min  Sighting: Yes  No
Total Site Length: 57 mi  Elevation: 2300 3200 UTM: start 4294940  end 4013580
Air Temp: 19.5 - 28°C  Water Temp: shore 14.5 - 15°C at depth  Ave. Water Velocity 30 cm/sec
Cloud cover: clear (0-10%)  partly cloudy (11-50%)  cloudy (>50%)  Wind Speed (*Beaufort): 0-1 (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)  Mod. (11-30°)  High (>30°)
Ave. Bank Gradient: Low (<15°)  Mod (15-40°)  High (>40°)
Upland Habitat Type: Foothill hardwood/conifer to oak woodland/chaparral  Fish Observed: trout spp
Herpetofauna Observed: Thamnophis sp
Other Species Observed:
Impacts to Amphibian Habitat: □ grazing  □ recreation  □ logging  □ other:

Habitat Type
- Diverted tributary  • Reservoir  • Pond/Lake
- Tributary: ephemeral, intermittent, or perennial  River  Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (G1 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat  steep cascades w/ plunge pools & riffle/run loc.
Dimensions: length 5 mi or % of site    width    depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 1 Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: 3 Type: sedge, rush, algae, other
Margin vegetation: 2 Type: forbs/grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: 3 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
Shade: 3 Type: understory (willow, dogwood, alder, maple, other), canopy cover
Basking sites: 3 Type: exposed bank, boulder, log, other
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: only a couple

Additional comments: This trib. was very steep in locations and occasionally was braided with up to 3 channels...
2) Description of habitat

Dimensions: length________ or % of site________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ________ Type: sedge, rush, algae, other__________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other__________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other__________________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other__________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________

Additional comments:__________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

3) Description of habitat

Dimensions: length________ or % of site________ width__________ depth__________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other__________
Submerged vegetation: ________ Type: sedge, rush, algae, other__________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other__________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other__________
Aquatic cover: ________ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other__________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other__________________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other__________________
Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:__________

Additional comments:__________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 9-30-02  Site # 1308  Site Name South Fork American River
Surveyors: SH AB Survey time: start 10.55 end 13.35 Total survey time 2 1/2 hrs Sighting: Yes No
Total Site Length: 185 mi Elevation: 2320' UTM: start 1050713451345429145429145
Air Temp: 71-36°C Water Temp: bight 4°C Ave. Water Temperature 15°C
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°)
Ave. Bank Gradient: Low (<15°) Mod. (15-40°) High (>40°)
Upland Habitat Type: Forest / mixed conifers  Fish Observed: Trout, Mickey, Minnow
Herpetofauna Observed: Fence Lizard (T) T. Couch
Other Species Observed: Nothing Significant

Habitat Type
- Diverted tributary  Reservoir
- Tributary: ephemeral, intermittent, or perennial  River
- Wet meadow: flowing water, standing ponds

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat
Boulder bars up isolated + contiguous side pools
Dimensions: length ______ or % of site 50%  width 30' depth 1' 3" Embedded boulders with sand and covering of silt
Aquaticsubstrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other
Submerged vegetation: ______ Type: sedge, rush, algae, other
Margin vegetation: ______ Type: forbs, grasses, shrubs (blackberry, willow, etc.), other, margin was dried boulder
Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
Aquatic cover: ______ Type: rootwad, aquatic vegetation, woody debris, boulder, undercut banks, other
Shade: ______ Type: understory (willow, dogwood, alder, maple, other ______), canopy cover ______ Mostly provided by boulders
Basking sites: ______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: This section consists of 1x2m shallow (0-10") pools w/ boulder substrate (aquatic terr). A thin layer of boulders shallow water existed along the main channel/boulder bar junction.

Additional comments:    
Tadpoles found in contiguous side pool   

[Signature]  [Date]  [NAD 83]  [Survey accuracy per title]
Amphibian Habitat Site Assessment

2) Description of habitat

**Shallow, edge water along side main channel**

- **Cascade/pool/run**
- **Shallow, slow moving water**
- **Turbid water**

- **Bottom sediments:**
  - **Basal sediments:**
  - **Gravel, cobbles, boulders**

- **Aquatic vegetation:**
  - **Emergent vegetation:**
    - **Type:** sedge, rush, pondweed, algae, willow, other
  - **Submerged vegetation:**
    - **Type:** sedge, rush, algae, other
  - **Margin vegetation:**
    - **Type:** forbs, grass, shrubs (blackberry, willow, etc.), other
  - **Terrestrial cover:**
    - **Type:** vegetation, leaf litter, burrows, woody debris, boulder, other

- **Aquatic cover:**
  - **Type:** rootwad, aquatic veg, woody debris, boulder, undercut banks, other

- **Shade:**
  - **Type:** understory (willow, dogwood, alder, conifer, maple, other)

- **Basking sites:**
  - **Type:** exposed bank, boulder, log, other

- **Presence of sidepools, backwater pools, edgewater areas:**
  - **Description of size, depth, and substrate:**

- **Additional comments:**
  - **Swamp side channel region**

3) Description of habitat

- **Bypassed sections**

- **Dimensions:**
  - **Length:**
  - **Width:**
  - **Depth:**

- **Aquatic substrate:**
  - **Terrestrial substrate:**

- **Emergent vegetation:**
  - **Submerged vegetation:**
  - **Margin vegetation:**
  - **Terrestrial cover:**

- **Aquatic cover:**
  - **Shade:**
  - **Basking sites:**

- **Presence of sidepools, backwater pools, edgewater areas:**

- **Additional comments:**
  - **Boulders on bedrock shelf w/ deep (1m)**
  - **And swift water**

*Beaufort scale:*
- **0-1:** (0-3 mph) calm to light air (rising smoke drift)
- **2-4:** (4-18 mph) light breeze to moderate breeze (raises dust and paper)
- **5-13:** (18-37 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 6/26/02  Site #: 135R  Site Name: SFAR

Surveyors: ST, DB  Survey time: start 10:45  end 12:45  Total survey time: 120 min  Sighting: Yes (No)
Total Site Length: 200 m  Width: 40 m  Elevation: 2880' UTM start 4293820  end 4293625
Air Temp: 62-69°F  Water Temp: shore 18-19°C  at depth 18°C  Ave. Water Velocity
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (51-70%) Wind Speed (*Beaufort): (0-1) (2-3) (4+)
Ave. Creek (River) Gradient: Low (<10)  Mod. (11-30)  High (>30)
Ave. Bank Gradient: Low (<15)  Mod (15-40)  High (>40)
Upland Habitat Type: Forest, hardwood/deciduous  Fish Observed: Trout, minnow, crayfish, sucker
Herpetofauna Observed: T. couchii
Other Species Observed: Bluefish in sidepools
Impacts to Amphibian Habitat - () grazing  () recreation  () logging  () other: none observed

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

1) Description of habitat
- Sedge margin with various sidepools
  - Sedge margin: 1-3 m
  - Depth: 1 m (even where sedge clumps grow from)
  - Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock

Emergent vegetation:
- Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation:
- Margin vegetation:
- Terrestrial cover:
- Aquatic cover:
- Shade:
- Basking sites:

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:
This site had various components which occurred in stage mud/Sedge, boulder/Sedge margin, cobble/boulder has. The cobble/boulder had no depth, habitat. No sedge/shallow sedge/water on center of this site had a 400 m of good habitat. The habitat although the narrow water stretches of sedges/boulder had deep/swift water and was fairly poor quality.
2) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ________ Type: sedge, rush, algae, other ________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ________ Type: rootwat, aquatic veg. woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: ________

3) Description of habitat

Dimensions: length ________ or % of site ________ width ________ depth ________

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: ________ Type: sedge, rush, pondweed, algae, willow, other ________
Submerged vegetation: ________ Type: sedge, rush, algae, other ________
Margin vegetation: ________ Type: forbs, grass, shrubs (blackberry, willow, etc.), other ________
Terrestrial cover: ________ Type: vegetation, leaf litter, burrows, woody debris, boulder, other ________
Aquatic cover: ________ Type: rootwat, aquatic veg. woody debris, boulder, undercut banks, other ________
Shade: ________ Type: understory (willow, dogwood, alder, conifer, maple, other ________), canopy cover
Basking sites: ________ Type: exposed bank, boulder, log, other ________

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: ________

Additional comments: ________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift)  2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper)  5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

Date: 10-30-02   Site # 106R   Site Name: SFAR

Surveyors: S.H.R.   Survey time: start 1100   end 1600   Total survey time    Sighting: Yes  No
Total Site Length: 160 m  Elevation: 180 (ft)  UTM: start ______   end ______
Air Temp: 12°C   Water Temp: shore 5°C   at-depth 7°C   Ave. Water Velocity: 11°C
Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (>50%) Wind Speed (*Beaufort): (0-1) (2-4) (5+)
Ave. Creek (River) Gradient: Low (<10°)   Mod. (11-30°)   High (>30°)
Ave. Bank Gradient: Low (<15°)   Mod (15-40°)   High (>40°)
Upland Habitat Type: Forest hardwood/conifer   Fish Observed: Pike, Minnow
Herpetofauna Observed: FNL
Other Species Observed:
Impacts to Amphibian Habitat - □ grazing □ recreation □ logging □ other: None observed (besides hydro).

Habitat Type
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- River
- Wet meadow: flowing water, standing ponds
- Pond/Lake
- Other: ______

Aquatic Habitat Features: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.
If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1) Description of habitat: Low gradient w/ sedge + sand/ boulder margin, cobble/boulder
Dimensions: length 50% or % of site width depth
Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: 2 Type: sedge, rush, pondweed, algae, willow, other: /Derm
Submerged vegetation: 1 Type: sedge, rush, algae, other
Margin vegetation: 2 Type: forbs, grass, shrubs (blackberry, willow, etc.), other
Terrestrial cover: 3 Type: vegetation, leaf litter, burrows, woody debris/boulder, other
Aquatic cover: 3 Type: rootwad, aquatic veg. woody debris/boulder, undercut banks, other
Shade: 4 Type: understory (willow, dogwood, alder, maple, other: /Canyon Walls  canopy cover
Basking sites: 2 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: Edgewater, general (isolated + contiguous) side pools (≥3 m x ≥2 m), pool forecasts, sidepools, overall abundance: mod-high
Additional comments: This good habitat included several boulder/cobble point bars, cobble/sand bars...
2) Description of habitat: **Vertical bedrock cliffs with deep water (>1m)**

- Dimensions: length _50% or % of site_ width _depth_ >1m at shore (yes)
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: _____ Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: 1 Type: sedge, rush, algae, other
- Margin vegetation: _____ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: 7 Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: 1 Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: 2 Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
- Basking sites: 4 Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: 0 No

Additional comments: *This type of environment was interspersed with potential habitats that probably create dispersed problems in brood. Because of the deep, swift flow and filled water deep at shore*

3) Description of habitat:

- Dimensions: length _____ or % of site _____ width _____ depth _____
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: ______ Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: ______ Type: sedge, rush, algae, other
- Margin vegetation: ______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: ______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: ______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: ______ Type: understory (willow, dogwood, alder, conifer, maple, other__________), canopy cover
- Basking sites: ______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate: 

Additional comments: 

*Beaufort scale: 0-1; (0-3 mph) calm to light air (rising smoke drift) 2-4; (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+; (>18 mph) fresh breeze (small trees sway)*
## Amphibian Habitat Site Assessment

**Date:** Nov 5, 2002  
**Site #** 126 R  
**Site Name**

**Surveyors:** MRETL  
**Survey time:** start 10:50 end 14:30  
**Total survey time:** 3:40  
**Sighting:** Yes (No)

**Total Site Length:** 36 mi  
**Elevation:** 251.7'  
**UTM:** start 4294461 (W 97) end 4294631 (W 98)

**Air Temp:** 65°F  
**Humidity:** 71.5%  
**Water Temp:** shore 3.5°, at depth Ave. Water Veloc.

**Cloud cover:** Clear (0-10%) partly cloudy (11-50%) cloudy (>50%)  
**Wind Speed:** (Beaufort) 0-1 (2-4), 5+

**Ave. Creek (River) Gradient:** Low (<10°)  
**Mod. (11-30°) High (>30°)

**Ave. Bank Gradient:** Low (<15°)  
**Mod. (15-45°) High (>40°)

**Upland Habitat Type:** Coniferous  
**Aquatic Habitat Type:** Fish Observed: Salmonid

**Herpetofauna Observed:** NO

**Other Species Observed:** RUS CON, FELIN, BAK, NOCR, CRIK, AMD, IRP, MN  
**STJAA, VATH, RBNV

**Impacts to Amphibian Habitat:** grazing Creation Logging Other:

### Habitat Type
- Diverted tributary  
- Tributary: ephemeral, intermittent, or perennial  
- Reservoir  
- River  
- Pond/Lake  
- Wet meadow: flowing water, standing ponds

### Aquatic Habitat Features:
Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

If the primary aquatic habitat type changes considerably during the length of the survey, describe each section separately. Aquatic habitat types may consist of riffle, run, pool, step run, cascade, plunge pool, cobble bar (lateral or point), island, sedge/boulder margin, etc.

1. **Description of habitat:** boulder/sedge margin, riffles & cascades, boulder stre.

**Dimensions:** length or % of site 100 %, width ~ 25 m, depth 1-3 m

**Aquatic substrate:** organic debris, silt/clay, sand, gravel, cobble, (boulder) bedrock

**Terrestrial substrate:** organic debris, silt/clay, sand, gravel, cobble, (boulder) bedrock

**Emergent vegetation:** 2  
**Type:** sedge, rush, pondweed, algae, willow, other

**Submerged vegetation:** 3  
**Type:** sedge, rush, algae, other

**Margin vegetation:** 2  
**Type:** forbs, grass, shrubs (blackberry, willow, etc.), other (sedge)

**Terrestrial cover:** 3  
**Type:** vegetation, leaf litter, burrows, woody debris (boulder), other

**Aquatic cover:** 3  
**Type:** rootwad, aquatic veg, woody debris, boulder, undercut banks, other

**Shade:** 2  
**Type:** understory (willow, dogwood, alder, maple, other (boulder)), canopy cover mixed, conifer forest

**Basking sites:** 2  
**Type:** exposed bank, boulder, log, other

**Presence of sidepools, backwater pools, edgewater areas:** Description of size, depth, and substrate:

**Additional comments:** Sidepools vary; some look like good RILF habitat - sandy substrate, sedge/meadow veg. Others are isolated but under deep boulder cover. Some pools have dried up but may provide excellent habitat when filled.
2) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:_____

Additional comments:______________________________________________________________

______________________________________________________________

______________________________________________________________

______________________________________________________________

3) Description of habitat

Dimensions: length ______ or % of site ______ width ______ depth ______

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other _______
Submerged vegetation: _______ Type: sedge, rush, algae, other _______
Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other _______
Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other _______
Aquatic cover: _______ Type: rootwad, aquatic veg. woody debris, boulder, undercut banks, other _______
Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other _______), canopy cover
Basking sites: _______ Type: exposed bank, boulder, log, other _______

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:_____

Additional comments:______________________________________________________________

______________________________________________________________

______________________________________________________________

______________________________________________________________

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

2) Description of habitat - CLIFF TO DAM WALL - BOULDER EDGE/SLAB APPROX 2.5 M WIDE

- Dimensions: length _______ or % of site _______ width _______ depth _______
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: 2. Type: (circle) sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: 1. Type: (circle) sedge, rush, algae, other
- Margin vegetation: 3. Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: 4. Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: 4. Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: 3. Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
- Basking sites: 4. Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Sed. (*) 10-20 cm deep; Sand and Silt Substrate w/ woody debris and boulder/cobble margins, some submerged boulders.

Additional comments: (*) with specific backwater pools, 20% of site and 4 small side pool ranging from 2x4 m to 4x6 m in diameter. 40% of shoreline was composed of sedges and big boulders. Predominant vegetation was sedge and small willow.

3) Description of habitat

- Dimensions: length _______ or % of site _______ width _______ depth _______
- Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Terrestrial substrate: organic debris, silt/clay, sand, gravel, cobble, boulder, bedrock
- Emergent vegetation: _______ Type: sedge, rush, pondweed, algae, willow, other
- Submerged vegetation: _______ Type: sedge, rush, algae, other
- Margin vegetation: _______ Type: forbs, grass, shrubs (blackberry, willow, etc.), other
- Terrestrial cover: _______ Type: vegetation, leaf litter, burrows, woody debris, boulder, other
- Aquatic cover: _______ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other
- Shade: _______ Type: understory (willow, dogwood, alder, conifer, maple, other), canopy cover
- Basking sites: _______ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

Additional comments:

*Beaufort scale: 0-1: (0-3 mph) calm to light air (rising smoke drift) 2-4: (4-18 mph) light breeze to moderate breeze (raises dust and paper) 5+: (>18 mph) fresh breeze (small trees sway)
Amphibian Habitat Site Assessment

<table>
<thead>
<tr>
<th>Date: 28 Oct 2007</th>
<th>Site #: 185 R</th>
<th>Site Name: Arvin Powerhouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys: 2 U 5 R</td>
<td>Survey time: start 1100 end 1000</td>
<td>Total survey time: 1 hr Sighting: Yes No</td>
</tr>
<tr>
<td>Total Site Length:</td>
<td>Elevation: UTM: 34N 508412 E 117737 N 1425992</td>
<td></td>
</tr>
<tr>
<td>Air Temp: 70°F</td>
<td>Water Temp: shore 79°F at depth 64°F</td>
<td>Ave. Water Velocity: 0</td>
</tr>
<tr>
<td>Cloud cover: clear (0-10%) partly cloudy (11-50%) cloudy (&gt;50%) Wind Speed (Beaufort): (0-1) (2-4) (5+)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Ave. Creek (River) Gradient: Low (<10°) Mod. (11-30°) High (>30°) | WATER TEMP: 79°F D.E. 
| Ave. Bank Gradient: Low (<10°) Mod. (11-40°) High (>40°) | ELEVATION |
| Upland Habitat Type: Mostly conifer, hardwood | Fish Observed: Catfish, Sucker |
| Herpetofauna Observed: R. Savill, T. Conner |
| Other Species Observed: |

Impacts to Amphibian Habitat: □ grazing □ recreation □ logging □ Others: □ Other Activities |

**Habitat Type**
- Diverted tributary
- Tributary: ephemeral, intermittent, or perennial
- Reservoir
- Wet meadow: flowing water, standing ponds
- Pond/Lake

**Aquatic Habitat Features**: Estimate the abundance of each of the following habitat variables using the following categories: 1) absent (<10%), 2) minimal (11 to 30%), 3) moderately low (31 to 50%), 4) moderately high (51 to 70%), or 5) abundant (>70%). Circle the dominant (and co-dominant) type and underline the sub-dominant type.

- River
- Pond/Lake

**Description of habitat**

1) Description of habitat

Dimensions: length __________ or % of site __________, width __________, depth __________. 
Ave 2-3 ft

Aquatic substrate: organic debris, silt/clay, sand, gravel, cobble, boulder bedrock

Emergent vegetation: □ Type: sedge, rush, pondweed, algae, willow, other

Submerged vegetation: □ Type: sedge, rush, algae, other

Margin vegetation: □ Type: forbs, grass, shrubs (blackberry, willow, etc.), other

Terrestrial cover: □ Type: vegetation, leaf litter, burrows, woody debris, boulder, other

Aquatic cover: □ Type: rootwad, aquatic veg, woody debris, boulder, undercut banks, other

Shade: □ Type: understory (willow, dogwood, alder, maple, other), canopy cover

Basking sites: □ Type: exposed bank, boulder, log, other

Presence of sidepools, backwater pools, edgewater areas: Description of size, depth, and substrate:

□ Sidepool (Pond isolated & connected) contains, host >100 in depth, varies sizes typically submerged, substrate

□ Backwater areas: main, lateral, sandbars, and portions of Snail Slough, together 12 m wide

□ Backwater pools, present before large boulder

Additional comments: □

□ Water connected/semi-aquatic, #3 to #4 depth - estimate length of building, #1 deep at points.