

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
UPPER AMERICAN RIVER PROJECT
(FERC Project No. 2101)**

and

**PACIFIC GAS AND ELECTRIC COMPANY
CHILI BAR PROJECT
(FERC Project No. 2155)**

**RESERVOIR FISHERIES
TECHNICAL REPORT**

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Description

- Fish Survey Study Plan

4.9 Fish Surveys Study Plan

This study is designed to provide information relating to special-status and other fish species in areas potentially affected by the Sacramento Municipal Utility District's Upper American River Project (UARP) and Pacific Gas and Electric Company's Chili Bar Project. The overall approach is to collect information regarding populations and species composition from both literature searches and stream and reservoir surveys.

4.9.1 Pertinent Issue Questions

This fisheries study plan addresses the following Aquatic/Water issues:

1. Does the Project affect special-status species? If so, then where and how?
2. What are the appropriate species to be used as indicator species for management of the Project related to flows?
4. Do Project diversions have an effect on aquatic biota? (e.g. Are fish screens necessary? Low-flow channels & dams?)
8. What is the composition, distribution, and population of aquatic resources in the Project-affected streams and reservoirs (including benthic macroinvertebrates)?
30. What are the effects of the Projects on warm water fisheries in the project reservoirs?

This study plan only addresses fish species. Other aquatic special status species and resources are addressed in the Amphibian and Aquatic Reptiles Study Plan, and benthic macroinvertebrates are addressed in the Aquatic Bioassessment Study Plan. Question 8 regarding diversions is addressed in the Deepwater Intake Entrainment and Shallow Water Intake Entrainment study plans and Question 30 regarding fisheries in the Project reservoirs is addressed in part in the Reservoir Habitat Study Plan, though information developed in this study plan will be useful in all three of these studies.

4.9.2 Background

Based on information from Moyle et al. (1996) and other sources, there are 21 species or subspecies of native fish that may have historically occurred or may currently occur in the Project area (SMUD 2001). Fish populations and species composition in the Sierra Nevada have changed substantially in the last century due to development, non-native species introductions, fish stocking, and other factors. Various species of trout are now the dominant fish species throughout most of the Project area. Quantitative and qualitative fish surveys have been conducted in several stream reaches and reservoirs in the UARP Project Area, as summarized in SMUD (2001) and Tables 1 and 2. These studies provide information on species composition, distribution or abundance.

4.9.3 Study Objectives

The study objectives are to document: 1) current fish species composition; 2) relative fish species abundance; 3) species and age class distribution; and 4) size distribution and growth of fish in the bypass reaches affected by the Project. Additional objectives include: 1) update fish species composition of selected Project reservoirs; and 2) consider potential species to be used as indicator species for water flow management (based on fish species composition); and 3) identify effects of the Projects on warm water fisheries in the reservoirs.

4.9.4 Study Area and Sampling Locations

The stream reaches, and reservoirs included in this study plan are listed in Table 1 (stream reaches) and Table 2 (reservoirs). Summaries of data on fish population densities and species composition are also included in these tables.

TABLE 1.
Known species composition and biomass estimates for study reaches.

| Stream Reach | Species* | | | | | | | | | Trout Biomass (lbs/acre) | References |
|-----------------------------------|----------|-----|-----|----|-----|----|----|----|----|-----------------------------|--|
| | RBT | BRN | BRK | CR | SPM | HH | RS | SD | SS | | |
| Rubicon River Dam Reach | • | | • | | | | | | | 26.9 | USDA 1979a |
| Rubicon Tunnel Outlet Reach | | | | | | | | | | N/A | No species composition or biomass data |
| Rockbound Dam Reach | | | | | | | | | | N/A | No species composition or biomass data |
| Buck Island Dam Reach | | | | | | | | | | N/A | No species composition or biomass data |
| Loon Lake Dam Reach | • | • | • | • | | | | | | N/A | CDFG Gerle Creek surveys, various dates |
| Gerle Creek Dam Reach | • | • | • | • | | | | | | 36.4 | Turney 1986 [Stillwater UARP Library #100]; CDFG Gerle Creek surveys, various dates |
| Robbs Peak Dam Reach | | | | | | | | | | N/A | No species composition or biomass data |
| Ice House Dam Reach | • | • | | | | | | | • | 38.7 | USDA South Fork Silver Creek survey 1979b |
| Junction Dam Reach | • | • | | | | | • | | • | N/A | CDFG Silver Creek surveys, various dates [Stillwater UARP Library #394]; No biomass estimates |
| Camino Dam Reach | • | • | | | | | • | | • | N/A | Thomas 1994b [Stillwater UARP Library #231] |
| South Fork American Reach | • | | | • | • | • | • | • | • | N/A | TRPA (1998). Survey at Eldorado Powerhouse, downstream of the falls 1 mile below Silver Creek. Sculpin cited were presumed to be riffle sculpin. |
| Brush Creek Dam Reach | • | • | | | | | | | | N/A | CDFG Brush Creek surveys, various dates [Stillwater UARP Library # 302-303]; No biomass data |
| Slab Creek Dam Reach | • | | • | | | • | • | • | • | 9.7 | WESCO 1980 [Stillwater UARP Library #249] |
| Reach Downstream of Chili Bar Dam | | | | | | | | | | | No information gathered yet. |

RBT=Rainbow trout
 *Species: trout
 BRN=Brown trout
 BRK=Brook trout
 CR=California roach
 HH=Hardhead
 SD=Speckled dace
 RS=Riffle sculpin
 SPM= Sacramento pikeminnow
 SS=Sacramento sucker

4.9.5 Information Needed From Other Studies

Information from the Instream Flow Study (habitat mapping) would be useful to aid in the selection of sampling sites. Data from the hydrology, water temperature, and invertebrate (CSBP) studies will be valuable in assessing habitat conditions.

4.9.6 Study Methods and Schedule

Information review and study site selection

- Augment information in the IIP and current discussions with knowledgeable individuals (e.g., CDFG staff, USFS staff, BLM personnel) to update known occurrences of fish species in the area of the UARP and Chili Bar Projects.
- Based on information from aerial photos, aerial videography, project area reconnaissance, any available habitat mapping conducted for the instream flow study, and historical information, identify accessible and representative areas of bypass reaches to use as study sites.

TABLE 2.
Known species composition for Project reservoirs

| Reservoir | Species* | | | | | | | | | | | | | | | | | | References | |
|--------------|----------|-----|-----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|------------|--|
| | RBT | BRN | BRK | CR | CT | CH | GS | GSH | GT | HH | KS | LT | MF | MN | SB | SD | SS | RS | | TP |
| Rubicon | • | • | • | | | | | | • | | | | | | | | | | | CDFG surveys, various dates |
| Buck Island | • | • | • | | | | | | | | | | | | | | | | | CDFG surveys, various dates |
| Loon Lake | • | • | • | • | | • | • | | | | | | | | | | • | | • | SMUD 2001; EDAW 1978 [Stillwater UARP Library #118] |
| Gerle Creek | • | • | • | | | | | | | | | | | | | | | | | Turney 1986 [Stillwater UARP Library #100] |
| Robbs Peak | • | • | | | | | | | | | | | | | | | | | | CDFG surveys, various dates; EA 1982, SMUD 2001 |
| Union Valley | • | • | | • | | | • | • | | | • | • | • | | • | | | | • | SMUD 2001, CDFG surveys, various dates; EA 1980 [Stillwater UARP Library #117] |
| Ice House | • | • | • | | | | • | | | | • | | | | | | | | | SMUD 2001, EA 1980 [Stillwater UARP Library #117], EDAW 1978 [Stillwater UARP Library #118]; CDFG surveys, various dates |
| Junction | • | • | • | | | | | | | | • | | | | | | | | • | Thomas 1994b [Stillwater UARP Library #231] |
| Camino | • | • | • | • | | | | | | | | | | • | | | | | • | SMUD 2001, ENF Stream Survey, not dated |
| Brush Creek | • | • | | | | | | | | | | | | | | | | | | ENF Stream Survey 1974 [Stillwater UARP Library #250] |
| Slab Creek | • | • | • | • | | | | | | • | • | | | | • | • | • | | | SMUD 2001, Thomas 1994c [Stillwater UARP Library #233]; Jordan and Brown 1992; Jones and Stokes 1994; WESCO 1980 |
| Chili Bar | | | | | | | | | | | | | | | | | | | | No information gathered yet |

*Species: RBT=Rainbow trout KS=Kokanee salmon
 BRN=Brown trout LT=Lake trout
 BRK=Brook trout MF=Mosquito fish
 CH=Chubs MN=Minnows
 CR=California roach SB=Smallmouth bass
 CT=Cutthroat trout SD=Speckled dace
 GS=Green sunfish SS=Sacramento sucker
 GSH=Golden shiner RS=Riffle sculpin
 GT=Golden trout TP=Tule perch
 HH=Hardhead

Field surveys

- The preferred method of sampling stream reaches is quantitative electrofishing. A three-pass depletion method (Platts et al. 1983) using Smith-Root electrofishers will be used wherever practical (i.e., suitable depth, width, and flow conditions). Study sites will be approximately 300 feet long, depending on site conditions, and will likely be partitioned into segments of similar habitat type. Each site will be blocked off with nets to prevent movement of fish in or out of the sampling areas. The bottoms of the block nets will be sealed off with rocks, and the tops will be propped above the water surface with dowels or PVC pipe. One or two netters will accompany each field technician with a backpack electrofisher. Based on the level of effort used in previous surveys, it is anticipated that two backpack electrofishers (6-person field crew) will be sufficient for coverage of

the sampling areas. The sampling crew will, to the degree possible, maintain a line perpendicular to the stream channel as they move upstream in order to maximize capture probabilities. Netters will position their nets downstream of the anode ring in turbulent areas such as riffles, in order to maximize capture of young-of-the-year (YOY) fish that cannot be easily observed from the surface.

Table 3 summarizes expected field-sampling techniques and number of sampling sites for the stream reaches.

Captured fish will be kept in live wells or buckets. Fish will be processed by identifying them to species, weighing them to the nearest gram, and measuring them for total length before returning them to the stream. These measurements will allow for calculation of condition factors, and development of age and growth information based on length/frequency distributions.

The following habitat parameters will be assessed at each site:

- width (at 6-10 points) and length of sample area
- substrate composition (visual estimate in 5-10% increments)
- maximum depth
- average depth
- water clarity and temperature
- dissolved oxygen and conductivity
- habitat type
- cover (type and approximate amount in %)
- approximate discharge

Photos and GPS locations (top and bottom of location) will be taken of each site, and site locations delineated on topographic maps.

- Where electrofishing is not possible due to depth or flow constraints at candidate study sites (in representative and accessible locations), snorkeling surveys will be conducted. Snorkeling will utilize replicate counts to increase the accuracy of the estimate (Thurow 1994 and Dolloff et al. 1996).

Snorkel survey sample sites will be stratified into swimming lanes, using rope as lane markers where necessary. Lanes will be sized to ensure areas of visual overlap between divers, based on water clarity. It is assumed that four divers will be sufficient to adequately survey the sample areas. Fish will be identified and counted. Divers will carry writing slates with length measurements on them, to better estimate lengths of observed fish. The slates will also be used to record data. Replicate dives will be made by the same team in order to assess efficiency.

- Fish sampling in the reservoirs will be conducted using variable mesh gill nets and beach seines. Up to six 100-ft gill nets will be deployed overnight for 1-2 nights in each major project reservoir if existing data indicate species other than trout may be supported. Gill netting is expected in Loon Lake, Union Valley, Ice House, Junction, Camino, Chili Bar, and Slab Creek, during the summer or early fall of 2002. In Slab Creek Reservoir and Chili Bar Reservoir, gill nets will be checked regularly and removed in the evening in order to minimize the potential for mortality of special-status species (i.e., hardhead), since Slab Creek Reservoir has previously been reported to support this species. Beach seines will be used, where practical, in near shore areas with shallow depths, gradual slopes, and small substrates. Up to four sites per reservoir would be seined. Water quality parameters to be measured at each reservoir sampling site include dissolved oxygen, water clarity, and water temperature.
- Multiple years (anticipate 3 years) of sampling will be conducted. An extensive fish survey program (electrofishing, snorkel surveys, and reservoir sampling) will be conducted in the late summer and early fall of 2002 in the reaches identified in Table 3, as suitable for sampling. Following the 2002 sampling, the magnitude (number and type of sites), timing, and frequency of sampling in the following years will be developed in consultation with the Aquatic TWG.

4.9.7 Analysis

A description of current fish species population presence, relative abundance, and distribution in the project reaches and reservoirs will be produced. Electrofishing data analyses will utilize the Zippen method (Platts et al. 1983) or maximum likelihood method for population estimation. Computed statistics will include biomass (lbs/acre) and confidence limits, condition factors, as well as fish densities and catchable fish per mile. Growth rates will be estimated from the length-frequency distributions through identification of different age classes.

TABLE 3.
Proposed stream reach sampling methods and number of sites.

| <i>Stream Reach</i> | <i>Sampling Method</i> | <i>Number of Sites</i> | <i>Comments</i> |
|--|--|------------------------|--|
| Rubicon River Dam Reach (Rubicon River downstream of Rubicon Reservoir) | Electrofishing | 2 | Fish population studies are proposed in this reach, with an emphasis on assessing whether there is adequate spawning and late summer flow to sustain a significant stream fishery. |
| Rubicon Tunnel Outlet Reach (Rubicon Tunnel Outlet to Rockbound Lake) | No sampling proposed in this stream reach. | 0 | This reach is short, with intermittent flow into and through lakes at the upstream end of Rockbound Lake. Since flow control in this area is limited, and fish populations are dependent on the adjacent lakes, no fish population studies are proposed in this reach. |
| Rockbound Dam Reach (Little Rubicon River between Rockbound Lake and Buck Island Reservoir) | No sampling proposed in this stream reach. | 0 | This reach is very short, and flow is potentially intermittent depending on the level of Rockbound Lake. Since flow control in this area is limited, and fish populations are dependent on the adjacent lakes, no fish population studies are proposed in this reach. |
| Buck Island Dam Reach (Little Rubicon River downstream of Buck Island Reservoir) | Electrofishing | 1 | Fish population studies are proposed in this reach. Fish species information for this area is not available. |
| Loon Lake Dam Reach (Gerle Creek downstream of Loon Lake) | Electrofishing | 2 | Fish population studies are proposed in this reach. Of particular interest is a comparison of habitat conditions and population upstream and downstream of Gerle Creek Dam. |
| Gerle Creek Dam Reach (Gerle Creek downstream of Gerle Reservoir) | Electrofishing | 1 | Fish population studies are proposed in this reach. Of particular interest is a comparison of habitat conditions and population upstream and downstream of Gerle Creek Dam. |
| Robbs Peak Dam Reach (South Fork Rubicon River downstream of Robbs Peak Reservoir) | Electrofishing | 1 | Fish population studies are proposed in this reach. Sampling is proposed downstream of the Gerle Creek confluence. |
| Ice House Dam Reach (South Fork Silver Creek downstream of Ice House Reservoir) | Electrofishing | 2 | Fish population studies are proposed in this reach. Due to the length of the bypass reach and the variable conditions due to the fire, upper and lower sample sites are proposed. |
| Junction Dam Reach (Silver Creek downstream of Junction Reservoir) | Snorkel Survey | 2 | Fish population studies are proposed in this reach. Snorkel surveys may be necessary, rather than electrofishing. |
| Camino Dam Reach (Silver Creek downstream of Camino Reservoir) | Snorkel Survey | 2 | Fish population studies are proposed in this reach. Snorkel surveys may be necessary, rather than electrofishing. |
| South Fork American Reach (South Fork American downstream of Silver Creek) | Snorkel Survey | 1 | Fish population studies are proposed in this reach. Snorkel surveys may be necessary, rather than electrofishing. |
| Brush Creek Dam Reach (Brush Creek downstream of Brush Creek Reservoir) | Electrofishing | 1 | Fish population studies are proposed in this reach. (To date, no current stream surveys information is available.) |

| <i>Stream Reach</i> | <i>Sampling Method</i> | <i>Number of Sites</i> | <i>Comments</i> |
|--|------------------------|------------------------|--|
| Slab Creek Dam Reach (S.F. American River downstream of Slab Creek Reservoir) | Snorkel Survey | 2 | Fish population studies are proposed in this reach. Snorkel surveys may be necessary, rather than electrofishing. |
| Reach downstream of Chili Bar Dam (South Fork American River downstream of Chili Bar Dam) | Snorkel Survey | 4-6 | Fish population studies are proposed in this reach. Snorkel surveys are expected, rather than electrofishing. Due to the length of the reach, up to six sites are proposed for sampling. |

Minimum population estimates and biomass will be developed from the snorkeling surveys based on the number and lengths of fish observed, the area surveyed, and a length/weight regression developed as part of the electrofishing analysis.

Evaluation of the data will provide answers to the issue questions listed at the beginning of this study plan. Specifically, the composition, distribution, and relative abundance of fish species throughout the project area will be known, providing an indication of: 1) any areas of poor productivity that could be related to project operations, 2) information on dominant or sensitive species in the project area that may be candidates for “indicator species,” 3) presence and distribution of sensitive species, and 4) reservoir species that may be affected by project operations.

4.9.8 Study Output

A written report including the issues addressed, objectives, description of study area and sampling locations, methods, results, discussion and conclusions will be prepared after the field studies and analyses are complete. Fish population results will include biomass estimates, along with confidence limits, and comparison to other available data from west slope Sierra streams.

The report will be prepared in a format that can easily be incorporated into the Licensee’s draft environmental assessment that will be submitted to FERC with the Licensee’s application for a new license. A presentation of the study results will be made to the Aquatics TWG in late 2002 or early 2003. Original data and electronic worksheet files will be provided to the Licensee’s on CD.

4.9.9 Preliminary Estimated Study Cost

A preliminary estimated study cost will be prepared after the Plenary Group approves the plan.

4.9.10 Plenary Group and TWG Endorsement

The Aquatic TWG approved this plan, as amended, on August 28, 2002. The participants at the meeting who said they could “live with” this study plan were USFS, CDFG, NMFS, SWRCB, PG&E and SMUD. None of the participants at the meeting said they could not “live with” this study plan. The Plenary Group approved this study plan on September 4, 2002. The Participants who said they could “live with” the plan included CSPA, PCWA, NPS, City of Sacramento, Friends of El Dorado County, Taxpayers Association of El Dorado County, PG&E, CDFG, EDCWA, Citizens for Water, and Camp Lotus.

4.9.11 Literature Cited

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RESERVOIR FISHERIES TECHNICAL REPORT

SUMMARY

The Aquatic TWG identified seven reservoirs (Loon Lake, Ice House, Gerle Creek, Union Valley, Junction, Slab Creek and Chili Bar) in which to conduct beach seining and gill netting in 2002 and 2003. The purpose of the sampling was to document current fish species composition, relative fish species abundance, and age-class distributions by species.

Reservoir fish sampling was conducted using beach seines and variable-mesh gill nets. Beach seines were used to sample smaller fish in areas with shallow depths, gradual slopes, and small substrates. Sites were widely distributed within the reservoir and represented a diversity of habitat types. Gill nets were used in deeper water.

Reservoir surveys documented many of the historically-occurring fish species in the reservoirs. Most significantly, hardhead were confirmed in Slab Creek Reservoir and documented in Chili Bar Reservoir. In addition, a warm-water game fish species (smallmouth bass) was confirmed in Union Valley Reservoir.

The species and numbers of fish captured in each of the reservoirs in 2002 or 2003 are summarized below.

| Species | Reservoir | | | | | | |
|-----------------------|-----------|-----------|-------------|--------------|-----------|------------|-----------|
| | Loon Lake | Ice House | Gerle Creek | Union Valley | Junction | Slab Creek | Chili Bar |
| Rainbow trout | 7 | 11 | - | 7 | - | - | - |
| Brown trout | 39 | 38 | 59 | - | 10 | 5 | 3 |
| Lake trout | - | - | - | 1 | - | - | - |
| Kokanee | - | - | - | 22 | - | - | - |
| Hardhead | - | - | - | - | - | 29 | 10 |
| Sacramento pikeminnow | - | - | - | - | - | 1 | - |
| Sacramento sucker | 2 | - | - | 16 | 47 | 39 | 31 |
| Smallmouth bass | - | - | - | 64 | - | - | - |
| California roach | 37 | 6 | 5 | - | - | - | - |
| Total | 85 | 55 | 64 | 110 | 57 | 74 | 44 |

1.0 INTRODUCTION

This technical report is one in a series of reports prepared by Devine Tarbell and Associates, Inc. and Stillwater Sciences for the Sacramento Municipal Utility District (SMUD) and Pacific Gas and Electric Company (jointly referred to as the Licensees) to support the relicensing of SMUD's Upper American River Project (UARP) and Pacific Gas and Electric Company's Chili Bar Project. The Licensees intend to append this technical report to their respective applications to the Federal Energy Regulatory Commission (FERC) for new licenses. This report addresses fish populations in reservoirs associated with both projects and includes the following sections:

- **BACKGROUND** – Includes when the applicable study plan was approved by the UARP Relicensing Plenary Group; a brief description of the issue questions addressed, in part, by the study plan; the objectives of the study plan; and the study area. In addition,

requests by resource agencies for additions to and modifications of this technical report are described in this section.

- **METHODS** – A description of the methods used in the study, including a listing of study sites.
- **RESULTS** – A description of the most important data results. Raw data, where copious and detailed model results are provided by request in a separate compact disc (CD) for additional data analysis and review by interested parties.
- **LITERATURE CITED** – A listing of all literature cited in the report.

This technical report does not include a detailed description of the UARP Alternative Licensing Process (ALP) or the Project, which can be found in the following sections of the Licensee's application for a new license: The UARP Relicensing Process, Exhibit A (Project Description), Exhibit B (Project Operations), and Exhibit C (Construction).

Also, this technical report does not include a discussion regarding the effects of the project on reservoir fisheries, nor does the report include a discussion of appropriate protection, mitigation, and enhancement measures. An impacts discussion regarding the UARP is included in the applicant-prepared preliminary draft environmental assessment (PDEA) document, which is part of the Licensee's application for a new license. Development of resource measures will occur in settlement discussions, which will commence in 2004, and will be reported in the PDEA.

2.0 BACKGROUND

The UARP Aquatic Technical Working Group (TWG) developed three study plans that, at least in part, pertain to special-status and other fish species that occur in project reservoirs: 1) the Fish Surveys Study Plan, 2) the Reservoir Fish Habitat Study Plan, and 3) the Iowa Hill Fish Entrainment Potential Study Plan. This report addresses the Reservoir Fisheries section of the Fish Surveys Study Plan.

2.1 Fish Surveys Study Plan

On September 4, 2002, the UARP Relicensing Plenary Group approved the Fish Surveys Study Plan that was developed by the relicensing Aquatic TWG. The study plan was designed to address, in part, the following questions developed by the Plenary Group:

- | | |
|-------------------|--|
| Issue Question 1. | Does the project affect special-status species? If so, then where and how? |
| Issue Question 2. | What are the appropriate species to be used as indicator species for management of the project related to flows? |
| Issue Question 4. | Do project diversions have an effect on aquatic biota? (e.g., are fish screens necessary? Low-flow channels and dams?) |

Issue Question 8. What are the composition, distribution, and population of aquatic resources in the project-affected streams and reservoirs (including benthic macroinvertebrates)?

Issue Question 30. What are the effects of the projects on warm-water fisheries in the project reservoirs?

This study plan addressed only fish species in the streams and reservoirs. Question 30 regarding warm-water fisheries in the reservoirs associated with the projects is addressed in the Reservoir Shoreline Habitat Study Plan. All other issue questions from the Fish Surveys Study Plan are addressed in two separate reports: this *Reservoir Fisheries Technical Report*, and the *Stream Fisheries Technical Report*.

The objectives of the Reservoir Fisheries Study were to:

- update fish species composition of selected reservoirs associated with the projects; and
- identify effects of the projects on warm-water fisheries in the reservoirs.

The objectives of the Stream Fisheries Study were to determine or update the following information in the reaches affected by the projects:

- current fish species composition;
- relative fish species abundance;
- species and age class distribution; and
- size distribution and growth of fish.

The UARP area contains one lake and eleven reservoirs in the Rubicon River, Silver Creek, and South Fork American River drainages. The Chili Bar Project operated by Pacific Gas and Electric Company contains one reservoir.

The study area included eight of the twelve reservoirs associated with the projects:

- Loon Lake Reservoir
- Ice House Reservoir
- Gerle Creek Reservoir
- Union Valley Reservoir
- Junction Reservoir
- Camino Reservoir
- Slab Creek Reservoir
- Chili Bar Reservoir

These reservoirs were initially selected based on historical or suspected fish species composition that included non-trout species, since non-trout species are those most likely to be affected by operation of the reservoir (e.g., lake level fluctuations). Camino Reservoir was subsequently removed from the study due to safety and access constraints. Chili Bar Reservoir does not have historical fish survey information, but was included in the study in order to provide current fish composition information. Gerle Creek Reservoir was added in 2003 at the request of the USDA, Forest Service in order to provide data for trout management decisions.

Rubicon Reservoir, Rockbound Lake, Buck Island Reservoir, Robbs Peak Reservoir, and Brush Creek Reservoir were not included in the study because there was no historical data, or other reason to indicate these water bodies supported fish species that could be significantly affected by reservoir operations.

2.2 Water Year Type During Study

As described in the *Water Temperature Technical Report*, the UARP Relicensing Water Balance Model Subcommittee established five water year types to be applied to all preliminary analysis with the understanding that the UARP Relicensing Plenary Group, with cause, may modify the current water year types in the future. For reference purposes, the water year types that would have applied to the period when the reservoir fisheries study was performed (2002-2003) are presented below (Table 2.2-1), with additional years for comparison purposes. See the *Water Temperature Technical Report* for a detailed discussion of water year type designations.

| Year | Jan | Feb | Mar | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec |
|------|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|
| 2001 | AN | D | D | D | D | D | D | D | D | D | D | D |
| 2002 | D | BN | BN | BN | BN | BN | BN | BN | BN | BN | BN | BN |
| 2003 | BN | BN | BN | D | BN | BN | BN | BN | BN | BN | BN | BN |
| 2004 | BN | BN | BN | - | - | - | - | - | - | - | - | - |

*CD=Critically Dry; D=Dry; BN=Below Normal; AN=Above Normal; W=Wet

2.3 Agency Requested Information

In a letter dated December 17, 2003 to SMUD regarding content of technical reports, the agencies did not specifically address the *Reservoir Fisheries Technical Report*.

3.0 METHODS

Six gill net and up to four beach-seine sites were selected for each reservoir. Sites were widely distributed within each reservoir and represented a diversity of habitat types. Habitat types for the individual reservoirs are discussed with additional detail in the *Reservoir Shoreline Habitat Technical Report*. Individual sampling sites with associated shoreline habitat descriptors for each reservoir are presented in Figures A-1 through A-7 in Appendix A.

3.1 Beach Seining and Gill Netting

Reservoir fish sampling was conducted using beach seines and variable-mesh gill nets. The two methods were combined to sample different habitat types along the shoreline, including areas that may contain smaller fish that would not be captured by the gill nets. The gill nets are not expected to catch fish less than about 125 mm in length. Beach seines were used to sample for fish in areas with shallow depths, gradual slopes, and small substrates. Beach seines were used at up to four sites on each study reservoir; the number of sites selected depended on the characteristics of the shoreline in the reservoir and ranged from zero to four. Areas lacking large

debris and areas with emergent vegetation were emphasized whenever possible. In some reservoirs, fewer or no suitable shoreline sites existed, and beach sampling did not occur.

The beach seines used for sampling were 50 feet long and 6 feet tall. The seines were made of 0.25 inch mesh had and a 6-square-foot bag in the center of the net. Two people deployed the beach seine. One end of the beach seine was deployed from the shoreline until either the depth exceeded four feet or the distance into the reservoir was greater than about 70 feet. The net was then brought back toward the shoreline in a broad sweep.

At one beach seine site on Ice House Reservoir, larval fish could be seen but could not be effectively captured by the beach seine due to seining obstructions in the shoreline and substrate. Dip nets were used in place of the beach seine in order to capture the larval fish for species identification.

Gill net sites were selected to represent the variety of habitats observed throughout the reservoir, and to sample for fish in deeper water. Gill nets were fished overnight in most of the reservoirs. Gill nets contained variable mesh sizes and were 100 feet in length. Each net was comprised of four panels measuring 25 feet across. Each panel consisted of a different mesh size, so that a gradient of sizes were represented across the net (Table 3.2-1). Gill nets were deployed and fished for approximately 24 hours. Due to the previous reports of hardhead, a species of concern in Slab Creek and Chili Bar reservoirs, gill nets were checked regularly and removed the evening of deployment at these reservoirs in order to minimize the potential for hardhead mortality.

Table 3.2-1. Dimensions of gill nets used for reservoir sampling.

| Gill net number | Dimensions (ft) | Mesh size (in) | | | |
|-----------------|-----------------|----------------|---------|---------|---------|
| | | Panel 1 | Panel 2 | Panel 3 | Panel 4 |
| G1 | 100 x 8 | 1 | 1 ½ | 1 ¾ | 2 |
| G2 | 100 x 8 | 1 | 1 ½ | 1 ¾ | 2 |
| G3 | 100 x 8 | 1 | 1 ½ | 1 ¾ | 2 |
| G4 | 100 x 8 | 1 ¼ | 1 ½ | 1 ¾ | 2 |
| G5 | 100 x 6 | 1 ¼ | 1 ½ | 1 ¾ | 2 |
| G6 | 100 x 6 | 1 ¼ | 1 ½ | 1 ¾ | 2 |

The times of deployment and locations of each gill net deployment were recorded. GPS locations were documented for the placement of each net, and net locations were also plotted on topographic maps. Photos were taken of each gill net after deployment to document both location and placement relative to the shoreline. Gill net location relative to the shoreline habitat mapping segment was also documented. The time of each net haul was recorded along with any additional deployments so that total fishing time could be calculated.

The sample dates for each reservoir, and reservoir elevations at the time of sampling, are listed in Table 3.2-2.

| Reservoir | Sampling Dates | Maximum Elevation (ft) | Elevation (ft) on Sampling Dates | Vertical Feet of Exposed Shoreline |
|------------------|-----------------------|-------------------------------|---|---|
| Loon Lake | Oct 31-Nov 1, 2002 | 6410 | 6397 | 13 |
| Ice House | November 4-5, 2002 | 5454 | 5426 | 28 |
| Gerle Creek | October 29-30, 2003 | 5231 | near capacity | -- |
| Union Valley | October 24-25, 2002 | 4870 | 4819 | 51 |
| Junction | October 14-15, 2002 | 4468 | 4428 | 40 |
| Slab Creek | October 28, 2002 | 1850 | 1839 | 11 |
| Chili Bar | November 13, 2002 | 998 | 993 | 5 |

3.2 Fish Processing

Fish were held in buckets during the retrieval of each net. After all fish had been collected, and all replicate deployments complete (beach seine), individual fish were examined for species identification, total length (mm), and weight (g). Any mortalities were noted along with any abnormalities or lesions. Digital photographs were taken of specimens representative of the species caught. Net haul numbers (i.e., replicate retrievals) were recorded for all gill net deployments. Captured fish were allowed to recover in buckets or live wells before being released back into the water.

3.3 Physical Parameters

Habitat characteristics were recorded at each site to allow for an assessment of habitat conditions. Measurements of water temperature, conductivity, and dissolved oxygen were taken using a YSI Model 85 Multi-Probe meter at several sites within each reservoir. UTM coordinates were obtained using a hand-held Garmin Etrex Venture GPS unit. Depths were measured at each sample location using a SpeedTech hand-held depth meter, or by visual estimation at shallow beach seine sites. A secchi disk was used to measure water visibility. Photos were taken of each gill net location, and of representative fish species sampled, with a Canon A40 digital camera. All data collected, along with any pertinent comments, were recorded on data sheets prior to leaving the study site. Data sheets were checked for quality control before leaving the site.

3.4 Data Analysis

Fish species composition and relative abundance along the shoreline were determined for each reservoir. Data collected from this study, in combination with historical data, indicates the fish species present in each reservoir and provides an estimate of relative species composition.

Length-frequency distributions were plotted for each fish species. The length frequency histograms show the size classes of fish captured by both beach seines and gill nets; however, the two methods were not intended to identify the complete age class structure of the fishes in the study reservoirs.

4.0 RESULTS

Historically, 18 different species have been documented in the study reservoirs (Table 4.0-1). Prior to the 2002 surveys, fish populations in UARP reservoirs were assessed through creel surveys, lake surveys, and gill netting. In addition to the reservoir surveys, historic fish composition information was gathered from CDFG stocking records. In fall of 2002 and 2003, nine species were captured during reservoir sampling (Table 4.0-2). Of the different species captured, Sacramento sucker was the most numerous, followed by brown trout and smallmouth bass.

4.1 Loon Lake Reservoir

Loon Lake Reservoir is located at elevation 6,410 feet, and receives diverted inflow from Buck Island Reservoir and small volumes of water from several (mostly intermittent) headwater streams. The reservoir slope was predominantly gradual to moderate, and the substrates were predominantly bedrock and boulder.

Three sites were selected for beach seine sampling on Loon Lake Reservoir. Six sites were selected for gill netting. Beach seine and gill net sample locations for this reservoir are summarized in Table 4.1-1, which also lists the physical parameters measured during the fish surveys. The fish sampling locations for Loon Lake Reservoir are shown in Appendix A, Figure A-1.

Historically, fish species composition in Loon Lake Reservoir included rainbow trout, brown trout, brook trout, California roach, chub, Sacramento sucker, and green sunfish (Table 4.0-1). In 2002, brown trout, California roach, rainbow trout, and Sacramento sucker were documented in the reservoir (Table 4.0-2). Currently, Loon Lake Reservoir is heavily planted with catchable-sized trout; the reservoir has also been stocked with fingerlings in the past (Appendix C).

Five of the six gill nets deployed in the 2002 surveys captured fish. Gill nets were fished for approximately 24 hours. Species composition was dominated by brown trout and is presented in Figure 4.1-1. Trout were evenly distributed throughout the reservoir, excluding Site G2, where no fish were captured. Sacramento sucker were only captured at Sites G1 and G5, located in the center of the reservoir near the dam at Gerle Creek. Gill net and beach seine locations are displayed in Appendix A, Figure A-1.

Table 4.0-1. Species composition for UARP and Chili Bar Project Reservoirs.¹

| Reservoir | Species ² | | | | | | | | | | | | | | | | | References | | | | |
|--------------|----------------------|-----|-----|-----|----|----|----|-----|----|-----|-----|-----|----|----|-----|----|-----|------------|----|----|-----|---|
| | RBT | BRN | BRK | CR | CT | CH | GS | GSH | GT | HH | KS | LT | MF | MN | SB | SD | SS | | RS | TP | SPM | |
| Rubicon | • | • | • | | | | | | • | | | | | | | | | | | | | CDFG surveys, various dates |
| Buck Island | • | • | • | | | | | | | | | | | | | | | | | | | CDFG surveys, various dates |
| Loon Lake | • o | • o | • | • o | | • | • | | | | | | | | | | • o | | • | | | SMUD 2001; EDAW 1978 |
| Gerle Creek | • | • o | • | o | | | | | | | | | | | | | | | | | | Turney 1986 |
| Robbs Peak | • | • | | | | | | | | | | | | | | | | | | | | CDFG surveys, various dates; EA 1982, SMUD 2001 |
| Union Valley | • o | • | | | • | | • | • | | | • o | • o | • | | • o | | • o | | | | | SMUD 2001, CDFG surveys, various dates; EA 1980, ENF various dates |
| Ice House | • o | • o | • | o | | | • | | | | • | | | | | | | | | | | SMUD 2001, EA 1980, EDAW 1978; CDFG surveys, various dates |
| Junction | • | • o | • | | | | | | | | • | | | | | | • o | | | | | Thomas 1994a |
| Camino | • | • | • | • | | | | | | | | | | • | | | • | • | | | | SMUD 2001, ENF Stream Survey, not dated |
| Brush Creek | • | • | | | | | | | | | | | | | | | | | | | | ENF Stream Survey 1974 |
| Slab Creek | • o | • o | • | • | | | | | | • o | • | | | | • | • | • o | | | | o | SMUD 2001, Thomas 1994b; Jordan and Brown 1992; Jones and Stokes 1994; WESCO 1980 |
| Chili Bar | | o | | | | | | | | o | | | | | o | | o | | | | o | CDFG fish tissue sampling surveys (2003) |

¹ • Historical data
 o 2002 and 2003 Surveys

² Species: BRK=Brook trout GSH=Golden shiner MN=Minnows SS= Sacramento sucker
 BRN=Brown trout GT=Golden trout RBT=Rainbow trout TP=Tule perch
 CH=Chubs HH=Hardhead RS=Riffle sculpin
 CR=California roach KS=Kokanee salmon SB=Smallmouth bass
 CT= Cutthroat LT=Lake trout SD= Speckled dace
 GS=Green sunfish MF=Mosquitofish SPM=Sacramento pikeminnow

Table 4.0-2. Fish captured in reservoir surveys for the UARP and Chili Bar Project, October-November 2002 and October 2003.

| Species | Reservoir | | | | | | |
|-----------------------|-----------|-----------|-------------|--------------|-----------|------------|-----------|
| | Loon Lake | Ice House | Gerle Creek | Union Valley | Junction | Slab Creek | Chili Bar |
| Rainbow trout | 7 | 11 | - | 7 | - | - | - |
| Brown trout | 39 | 38 | 59 | - | 10 | 5 | 3 |
| Lake trout | - | - | - | 1 | - | - | - |
| Kokanee | - | - | - | 22 | - | - | - |
| Hardhead | - | - | - | - | - | 29 | 10 |
| Sacramento pikeminnow | - | - | - | - | - | 1 | - |
| Sacramento sucker | 2 | - | - | 16 | 47 | 39 | 31 |
| Smallmouth bass | - | - | - | 64 | - | - | - |
| California roach | 37 | 6 | 5 | - | - | - | - |
| Total | 85 | 55 | 64 | 110 | 57 | 74 | 44 |

Table 4.1-1. Study site locations and environmental conditions in Loon Lake Reservoir, October 2002.

| Method | Site # | UTM Coordinates* Easting / Northing | Max Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|-------------|--------|--|----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| Beach Seine | S1 | 0734629 / 4321413 | 4 | 1.5 | - | - | 12 | 25 |
| Beach Seine | S2 | 0733960 / 4319489 | 3 | 2 | 73 | 7.88 | 11.6 | 20 |
| Beach Seine | S3 | 0732700 / 4318350 | 3 | 1.5 | 73 | - | 11.4 | 20 |
| Gill Net | G1 | 0732705 / 4320011 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21+ |
| Gill Net | G2 | 0732144 / 4319121 | 25 | 18 | 68.7 | 7.58 | 11.4 | 21+ |
| Gill Net | G3 | 0734432 / 4320540 | 35 | 25 | 69.2 | - | 11.5 | 25+ |
| Gill Net | G4 | 0731669 / 4318477 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25+ |
| Gill Net | G5 | 0733290 / 4319205 | 40 | 25 | 68.7 | - | 11.4 | 25+ |
| Gill Net | G6 | 0733930 / 4321302 | 20 | 15 | 66.5 | - | 11.5 | 25+ |

* Datum = NAD 27

The beach seine was deployed at three sites in Loon Lake Reservoir. The seining sites were generally relatively flat with sand and gravel substrates. Site S1 was located at Pleasant Lake near Pleasant Campground, in the northeastern area of the reservoir, and was the only site where fish were captured by beach seine (Appendix A, Figure A-1). This site was at the inlet of a small intermittent tributary (dry at the time of sampling) and contained aquatic vegetation. California roach was the only species caught at this site.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult rainbow trout and brown trout (Figure 4.1-2).

4.2 Ice House Reservoir

Ice House Reservoir is located on South Fork Silver Creek, at elevation 5,540 feet. The primary tributary to this reservoir is upper South Fork Silver Creek, headwaters to the Silver Creek drainage system. The reservoir slope was predominantly moderate to steep, and the substrate was predominantly sand-silt.

Four sites were selected for beach seine sampling on Ice House Reservoir. Six sites were selected for gill netting. Beach seine and gill net sample locations for this reservoir are summarized in Table 4.2-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Ice House Reservoir are shown in Appendix A, Figure A-2.

| Method | Site # | UTM Coordinates* Easting / Northing | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|-------------|--------|--|-----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| Dip Net** | S1 | 0728905 / 4300669 | 1 | 1 | 68.5 | - | 11.7 | 25+ |
| Beach Seine | S2 | 0730550 / 4301150 | 4 | 2.5 | - | - | 11.7 | 25+ |
| Beach Seine | S3 | 0733047 / 4299799 | 4.5 | 3 | - | - | 11.5 | 25 |
| Beach Seine | S4 | 0729062 / 4300950 | 3.5 | 2 | - | - | 11.5 | 25+ |
| Gill Net | G1 | 0730893 / 4300789 | 35 | 25 | 65 | - | 11.7 | 25+ |
| Gill Net | G2 | 0732611 / 4299778 | 35 | 25 | 68.5 | 7.50 | 11.7 | 25+ |
| Gill Net | G3 | 0729104 / 4300504 | 20 | 17 | 72 | 8.02 | 11.7 | 25+ |
| Gill Net | G4 | 0731662 / 4300455 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25+ |
| Gill Net | G5 | 0731107 / 4299836 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25+ |
| Gill Net | G6 | 0730070 / 4300501 | 20 | 15 | 65 | - | 11.7 | 25+ |

* Datum = NAD 27

** dip net used in place of beach seine due to shallow water

Historically, fish species composition in Ice House Reservoir included rainbow trout, brown trout, brook trout, green sunfish, and kokanee salmon (Table 4.0-1). In 2002, rainbow trout, brown trout, and California roach were documented in the reservoir (Table 4.0-2). Ice House Reservoir is a popular recreation destination, and is well stocked with catchable-sized trout and fingerlings (Appendix C).

All six gill nets captured fish. The gill nets were fished for approximately 24 hours. Species composition was dominated by brown trout and is presented in Figure 4.2-1. Both rainbow and brown trout were more frequent in the main body of the reservoir and near the dam, with the highest concentrations occurring near the dam. The gill nets did not capture many trout near the upper end of the reservoir or on the north shore (Appendix B).

Four beach seine sites were sampled in Ice House Reservoir. The seining sites were generally flat to relatively flat with sand, silt, or gravel substrates. The seine sites did not include much fish cover, with the exception of Site S1, which had stump cover. The species composition included California roach and rainbow trout. The California roach were only captured at Site S1, located near the dam at the west end of the reservoir, and a juvenile rainbow trout was captured at Site S4, located near the boat launching facility. Gill net and beach seine locations are displayed in Appendix A, Figure A-2.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult rainbow trout and brown trout (Figure 4.2-2). Rainbow trout fingerlings were last stocked in Ice House Reservoir in 1992 (Appendix C). The presence of a YOY rainbow trout indicates spawning activity in streams above Ice House Reservoir, and that immature rainbow trout are, to some extent, utilizing the shallow beach habitat in the reservoir.

4.3 Gerle Creek Reservoir

Gerle Creek Reservoir is located at elevation 5,231 feet. The reservoir collects water from Gerle Creek and several intermittent tributaries, as well as from Loon Lake Reservoir through Loon Lake Powerhouse. The reservoir is relatively shallow with moderately sloped banks. The substrate was predominantly sand, gravel, and boulder.

Two sites were selected for beach seine sampling on Gerle Creek Reservoir. Six gill net sites were also selected. Beach seine and gill net sample locations for this reservoir are summarized in Table 4.3-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Gerle Creek Reservoir are shown in Appendix A, Figure A-3.

| Method | Site # | UTM Coordinates* Easting / Northing | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|-------------|--------|--|-----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| Beach Seine | S1 | 0725969 / 4316718 | 3.5 | 2 | 77.3 | 7.70 | 14.6 | 41 |
| Beach Seine | S2 | 0726111 / 4316425 | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 |
| Gill Net | G1 | 0725826 / 4316163 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 |
| Gill Net | G2 | 0725844 / 4316450 | 22.8 | 15 | 81.9 | 8.67 | 12.9 | 41 |
| Gill Net | G3 | 0725883 / 4316566 | 23 | 18 | 85.6 | 8.86 | 13 | 41 |
| Gill Net | G4 | 0725990 / 4316279 | 17.8 | 13 | 80.1 | 8.49 | 12.8 | 41 |
| Gill Net | G5 | 0726097 / 4316388 | 13 | 8 | 81.5 | 8.63 | 12.9 | 41 |
| Gill Net | G6 | 0725975 / 4316706 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 41 |

* Datum = NAD 27

Historically, fish species composition in Gerle Creek Reservoir included rainbow trout, brown trout, and brook trout (Table 4.0-1). There is no record of Gerle Creek Reservoir being stocked with fish, although Gerle Creek has been stocked with brown trout and rainbow trout (Appendix

C). In 2003, brown trout and California roach were the only fish documented in Gerle Reservoir (Table 4.0-2).

Five of the six gill nets deployed in the 2003 survey captured fish. Gill nets were deployed and fished for approximately 45 hours. Species composition (captured by gill nets) consisted solely of brown trout (Figure 4.3-1). Trout were distributed throughout the reservoir, concentrated near the dam (near the Loon Lake Powerhouse discharge) and inlets to Angel Creek and Gerle Creek. The area with the highest trout density was near the inlet of Gerle Creek. Gill net and beach seine locations are displayed in Appendix A, Figure A-3.

The beach seine was deployed at two sites in Gerle Creek Reservoir. The seining sites were generally relatively flat with sand and gravel substrates. Site S2, near the inlet of Angel Creek was the only site where fish were captured by beach seine (Appendix A, Figure A-3). California roach were the only species caught at this site.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult brown trout (Figure 4.3-2).

4.4 Union Valley Reservoir

Union Valley Reservoir is located at elevation 4,870 feet. The reservoir collects water from several tributaries, as well as from Gerle Creek Reservoir through a canal and pipe system into Robbs Peak Powerhouse. Water is also received from Ice House Reservoir through an outflow pipe to Jones Fork Powerhouse. The reservoir banks were moderately sloped, and the substrate was predominantly sand and silt.

Two sites were selected for beach seine sampling on Union Valley Reservoir. Six gill net sites were also selected. Beach seine and gill net sample locations for this reservoir are summarized in Table 4.4-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Union Valley Reservoir are shown in Appendix A, Figure A-4.

| Method | Site # | UTM Coordinates* Easting / Northing | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|-------------|--------|--|-----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| Beach Seine | S1 | 0727269 / 4307900 | - | - | 84.3 | - | 15.5 | 15 |
| Beach Seine | S2 | 0725664 / 4306546 | 4 | 3 | 84.3 | - | 15.5 | 15 |
| Gill Net | G1 | 0726986 / 4307248 | 35 | 20 | 80.3 | 8 | 15.5 | 22 |
| Gill Net | G2 | 0726155 / 4306398 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25+ |
| Gill Net | G3 | 0726940 / 4303851 | 22 | 15 | 89.4 | - | 14 | 18 |
| Gill Net | G4 | 0724773 / 4303987 | 35 | 20 | 87.3 | - | 15.3 | 25+ |
| Gill Net | G5 | 0723337 / 4305430 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 |
| Gill Net | G6 | 0724779 / 4306073 | 35 | 25 | 78.6 | 8.3 | 15.3 | 25+ |

* Datum = NAD 27

Historically, fish species composition in Union Valley Reservoir included rainbow trout, brown trout, cutthroat trout, Sacramento sucker, smallmouth bass, kokanee salmon, lake trout (mackinaw), golden shiner, green sunfish and mosquitofish (Table 4.0-1). A considerable amount of information is available concerning the aquatic resources upstream of Union Valley Reservoir. Rainbow trout, brook trout, and brown trout have been documented in several tributaries to Union Valley Reservoir (USDA various dates; USDA 1993). Thomas (1993a, 1993b) reports an average of nine trout per 100 feet in Big Silver Creek and 696 trout per mile in Bassi Fork, a tributary to Big Silver Creek just upstream of Union Valley Reservoir. In 2002, smallmouth bass, kokanee salmon, Sacramento sucker, rainbow trout and lake trout were documented in the reservoir (Table 4.0-2).

All six gill nets in Union Valley Reservoir captured fish. Gill nets were fished for approximately 28 hours. Species composition is presented in Figure 4.4-1. Smallmouth bass were the dominant species captured, and were primarily found at Site G2, located near the north-central end of the reservoir, and Site G4, located near the south-central end of the reservoir. Rainbow trout captures were evenly distributed throughout the reservoir, although fewer were captured at Site G3, located in the southern arm of the reservoir near the inlet of Jones Fork Silver Creek. Kokanee were concentrated primarily at Site G3. A lake trout was captured at Site G5, located on the east end of the reservoir. Sacramento sucker captures were evenly distributed, although slightly more were captured at Site G5. Gill net and beach seine locations are displayed in Appendix A, Figure A-4.

There were no fish captured at the two beach seine sites sampled in Union Valley Reservoir. The seining sites were generally relatively flat with gravel or silt substrates and contained no cover for fish. Union Valley Reservoir has an abundance of stump cover and boulder cover, which cannot be effectively sampled with a beach seine.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult rainbow trout and kokanee in Union Valley Reservoir. One large lake trout (nearly 880 mm in length) was captured in Union Valley Reservoir (Figure 4.4-2).

4.5 Junction Reservoir

Junction Reservoir is an afterbay of Union Valley Reservoir, located at 4,450 feet in elevation. Junction Reservoir collects water from South Fork Silver Creek below Ice House Dam and from Little Silver Creek, and then releases water into Silver Creek. The reservoir slope was predominantly steep to nearly vertical, and the substrates were predominantly bedrock and cobble.

No suitable sites could be established for beach seine sampling on Junction Reservoir due to the steep to nearly vertical shoreline. Six sites were selected across the reservoir for gill netting. Gill net sample locations for this reservoir are summarized in Table 4.5-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Junction Reservoir are shown in Appendix A, Figure A-5.

Table 4.5-1. Study site locations and environmental conditions in Junction Reservoir, November 2002.

| Method | Site # | UTM | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|----------|--------|------------------------------------|-----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| | | Coordinates* Easting / Northing | | | | | | |
| Gill Net | G1 | 0721289 / 4304614 | 35 | 35 | 73.0 | - | 11 | 11 |
| Gill Net | G2 | 0721815 / 4303843 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 |
| Gill Net | G3 | 0720919 / 4303333 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 |
| Gill Net | G4 | 0721225 / 4304166 | 48 | 40 | 73 | 8.45 | 11 | 11 |
| Gill Net | G5 | 0721050 / 4303579 | 75 | 40 | 67.5 | 7.39 | 10.6 | 12 |
| Gill Net | G6 | 0721016 / 4303907 | 65 | 40 | - | - | - | - |

* Datum = NAD 27

Historically, fish species composition in the reservoir included rainbow trout, brook trout, and brown trout. In addition, Thomas (1994a) documented Sacramento sucker and kokanee in the reservoir (Table 4.0-1). Stocking records do not indicate that Junction Reservoir was regularly stocked with fish (Appendix C). In 2002, only Sacramento sucker and brown trout were documented in the reservoir (Table 4.0-2).

All six nets captured fish. Gill nets were fished for approximately 21 hours. Species composition is presented in Figure 4.5-1. Sacramento sucker were distributed throughout the reservoir, although fewer were caught at Site G6, located near the upper end of the reservoir. The majority of Sacramento sucker were captured at site G5, located in the main body of the reservoir at the South Fork Silver Creek and Silver Creek confluence. The majority of brown trout were captured at Site G2, located in the South Fork Silver Creek arm of the reservoir, although a large percentage of brown trout were also captured at Site G5. Gill net locations are displayed in Appendix A, Figure A-5.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult brown trout (Figure 4.5-2).

4.6 Slab Creek Reservoir

Slab Creek Reservoir is located at elevation 1,850 feet on the South Fork American River, downstream of the confluence with Silver Creek and upstream of Chili Bar Reservoir. Slab Creek Reservoir receives water from Slab Creek, Brush Creek below Brush Creek Dam, and the South Fork American River. Inflow from Brush Creek is also diverted through a tunnel to Camino Powerhouse at the head of Slab Creek Reservoir. The reservoir slope was nearly vertical for almost 75 percent of the shoreline. The predominant substrate in this reservoir was bedrock.

No suitable sites were established for beach seine sampling on Slab Creek Reservoir due to the near vertical shoreline. Six sites were selected across the reservoir for gill netting. Gill net sample locations for this reservoir are summarized in Table 4.6-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Slab Creek Reservoir are shown in Appendix Figure A-6.

| Method | Site # | UTM | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|----------|--------|------------------------------------|-----------------|--------------------|----------------------|-------------------------|----------------|-----------------|
| | | Coordinates* Easting / Northing | | | | | | |
| Gill Net | G1 | 0700700 / 4294340 | 35 | 20 | 98.4 | 10.79 | 10 | 20 |
| Gill Net | G2 | 0701200 / 4295800 | 50 | 30 | 98.4 | 10.79 | 10 | 20 |
| Gill Net | G3 | 0700521 / 4294189 | 20 | 15 | 98.4 | 10.79 | 10 | 20 |
| Gill Net | G4 | 0704062 / 4296400 | 30 | 20 | 98.4 | 10.79 | 10 | 20 |
| Gill Net | G5 | 0705014 / 4296006 | 20 | 20 | 98.4 | 10.79 | 10 | 20 |
| Gill Net | G6 | 0700711 / 4294788 | 40 | 25 | 98.4 | 10.79 | 10 | 20 |

* Datum = NAD 27

Historically, rainbow trout, brown trout, brook trout, Sacramento sucker, California roach, hardhead, speckled dace, smallmouth bass, and kokanee salmon were reported in Slab Creek Reservoir (Table 4.0-1). In 2002 and 2003 surveys, Sacramento sucker, hardhead, rainbow trout, brown trout and Sacramento pikeminnow were documented in the reservoir (Table 4.0-2). In addition to the observations related to this study, rainbow trout and lake trout have also been observed in the reservoir during the ongoing Iowa Fish Entrainment Potential Study. Slab Creek Reservoir has been stocked with rainbow trout, brook trout, and brown trout (Appendix C), as well as kokanee salmon (SMUD et al. 1979).

All six gill nets captured fish. Gill nets were fished for approximately 7.5 hours and were retrieved the same evening of the deployment day due to the presence of hardhead, a species of concern. Species composition was dominated by Sacramento sucker and hardhead and is presented in Figure 4.6-1. Sacramento sucker were captured at all six sites. The quantity of Sacramento sucker captured were highest at Site G4, located in the eastern end of the reservoir, and Site G6, located along the western end of the reservoir. Hardhead captures were evenly distributed throughout the reservoir, although slightly fewer were captured at Site G1, located in the western end of the reservoir. Brown trout captures, though low, were also distributed evenly throughout the reservoir. One Sacramento pikeminnow was captured at Site G4, located near the inlet of Brush Creek. Gill net locations are displayed in Appendix A, Figure A-6.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult brown trout. The length-frequency distribution also indicates the presence of adult hardhead in the reservoir (Figure 4.6-2).

4.7 Chili Bar Reservoir

Chili Bar Reservoir is operated by Pacific Gas and Electric Company and is located on the South Fork American River downstream of Slab Creek Reservoir, at elevation 997 feet. Chili Bar Reservoir receives water from the South Fork American River as well as water diverted through White Rock Powerhouse. The reservoir slope was predominantly steep to nearly vertical, and the dominant substrates were sand and silt with some bedrock. The perimeter of the reservoir was densely vegetated with shrubs and small trees above the high water line.

Two sites were selected for beach seine sampling on Chili Bar Reservoir. Six sites were selected for gill net sampling. Beach seine and gill net sample locations for this reservoir are summarized in Table 4.7-1, which also shows the physical parameters measured during the fish surveys. The fish sampling locations for Chili Bar Reservoir are shown in Appendix A, Figure A-7.

| Method | Site # | UTM Coordinates* Easting / Northing | Max. Depth (ft) | Average Depth (ft) | Dissolved Oxygen (%) | Dissolved Oxygen (mg/l) | Water Temp (C) | Visibility (ft) |
|---------------|---------------|--|------------------------|---------------------------|-----------------------------|--------------------------------|-----------------------|------------------------|
| Beach Seine | S1 | 0691044 / 4293125 | 4 | 2.5 | 91.7 | - | 10.5 | 6 |
| Beach Seine | S2 | 0692020 / 4292545 | 4.5 | 2 | 91.7 | - | 10 | 6 |
| Gill Net | G1 | 0690431 / 4292932 | 35 | 20 | 91.1 | - | 10.6 | 6 |
| Gill Net | G2 | 0692088 / 4292573 | 15 | 10 | 89.2 | 9.97 | 10 | 7 |
| Gill Net | G3 | 0690401 / 4293506 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 |
| Gill Net | G4 | 0691893 / 4292643 | 10 | 5 | 89.2 | 9.97 | 10 | 7 |
| Gill Net | G5 | 0691581 / 4293176 | 15 | 5 | 91.1 | - | 10.6 | 6 |
| Gill Net | G6 | 0690970 / 4292848 | 15 | 15 | 91.1 | - | 10.6 | 6 |

* Datum = NAD 27

There are no historical data recorded for resident fish in Chili Bar Reservoir. Rainbow trout were stocked in the reservoir in the early 1960s, but there are no records of stocking since that time. In 2002, Sacramento sucker, hardhead, and brown trout were documented in the reservoir (Table 4.0-2). In 2003, California Department of Fish and Game collected several Sacramento pikeminnow as part of a fish tissue analysis study, as well as a smallmouth bass.

The gill nets were fished for approximately 5.5 hours and were retrieved the same evening of the deployment day due to the presence of hardhead, a species of concern. All six gill nets captured fish. Sacramento sucker represented 70% of the catch followed by hardhead (23%) and brown trout (7%) (Figure 4.7-1). Most of the brown trout and hardhead were captured at Site G6, in the middle portion of the reservoir. Sacramento sucker captures were concentrated at Site G4, located in the eastern portion of the reservoir. Data for the Chili Bar Reservoir fish sampling is listed by species in Appendix B.

No fish were captured at the two beach seining sites in Chili Bar Reservoir.

The length-frequency distribution, as well as field observations, indicates the presence of sexually mature adult brown trout as well as adult hardhead (Figure 4.7-2).

5.0 ANALYSIS

The Reservoir Fisheries Study was intended to focus on fishes that may be affected by fluctuating reservoir water elevations of the reservoirs. As a result, the individual sampling locations within each reservoir were focused along the shoreline; the nets were placed running perpendicular to the shoreline. For this reason, there were no nets placed in deeper zones of the

water column. This sampling design was not intended to provide thorough representation of fishes that may be infrequent in the upper zone of the water column. Fish species that would be found in deeper areas include Sacramento pikeminnow, which prefer to inhabit the middle water column, and lake trout, which inhabit the deeper portions of reservoirs. These fish may not be accurately represented in the percent composition for the reservoir.

The 2002 and 2003 reservoir surveys documented the presence of many fish species that had been recorded historically in the project reservoirs. Hardhead were confirmed in Slab Creek Reservoir and documented in Chili Bar Reservoir (no prior records of Hardhead in Chili Bar Reservoir were found). In addition, smallmouth bass, a warm-water fish species, was confirmed in Union Valley Reservoir.

The 2002 reservoir surveys did not confirm the continued presence of tute perch in Loon Lake or green sunfish in Loon Lake or Ice House Reservoir. These warm-water species were documented in the reservoirs in the late 1970s. This may be a result of the species' inability to sustain a population in the high elevation reservoirs, which occur at the margin of their elevation range. It is also possible that the scope of the 2002 and 2003 sampling was insufficient to detect species with very small populations.

Warm-water fish species have not been historically documented in Junction Reservoir, and were not captured in the 2002 surveys of Junction Reservoir.

The naturally sustained populations of brown trout in most of the sampled reservoirs (except Union Valley, where no brown trout were documented, and Ice House Reservoir, which has had brown trout stocking) indicates that suitable tributary spawning habitat is available. In addition, the adult brown trout in the reservoirs implies reservoir or tributary production of a suitable food supply to support them.

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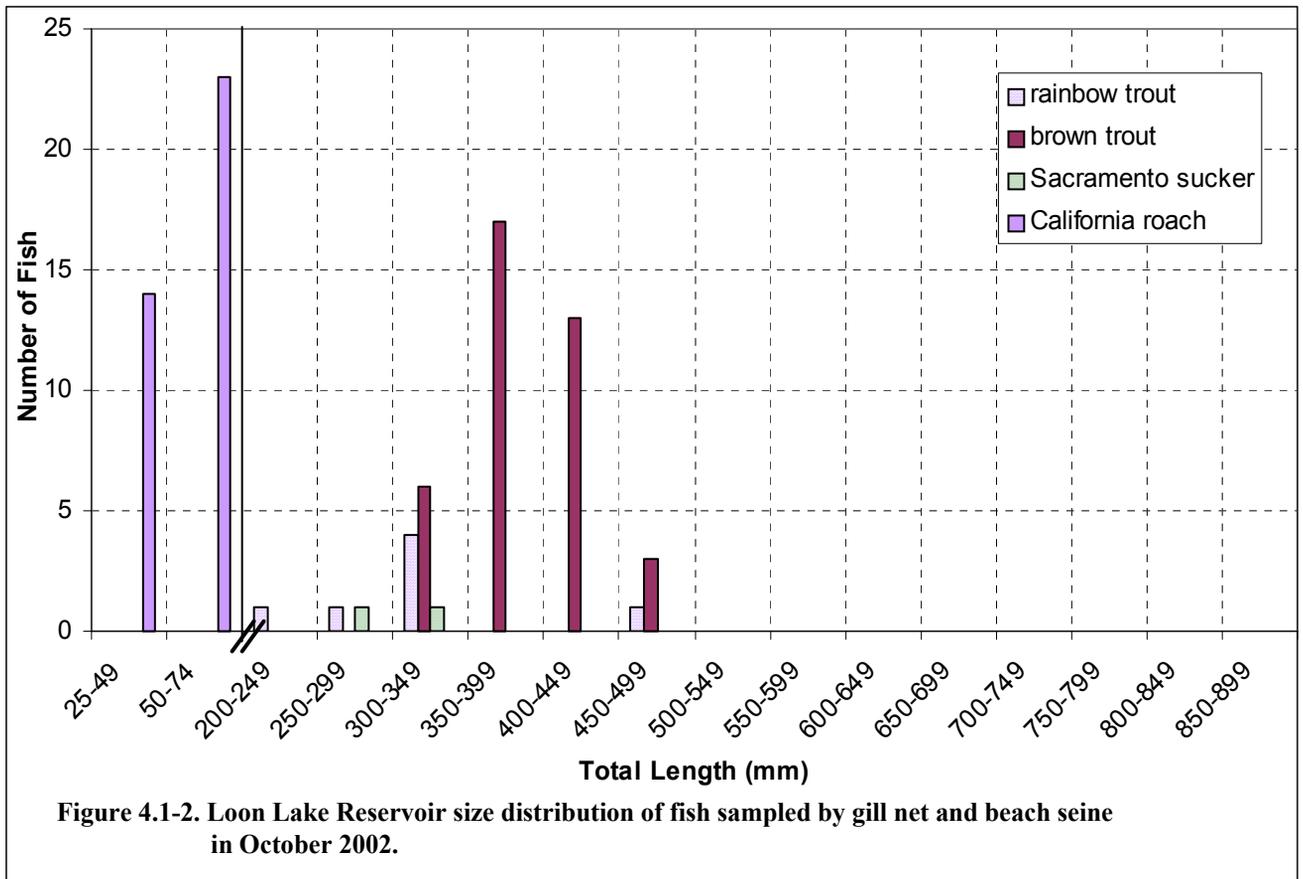
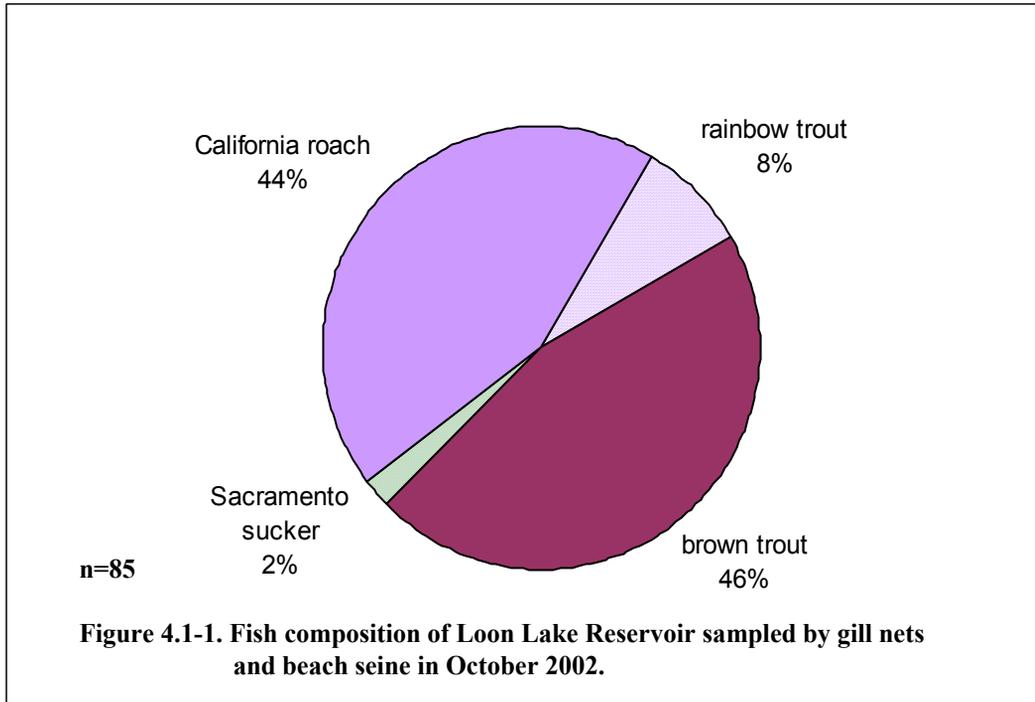
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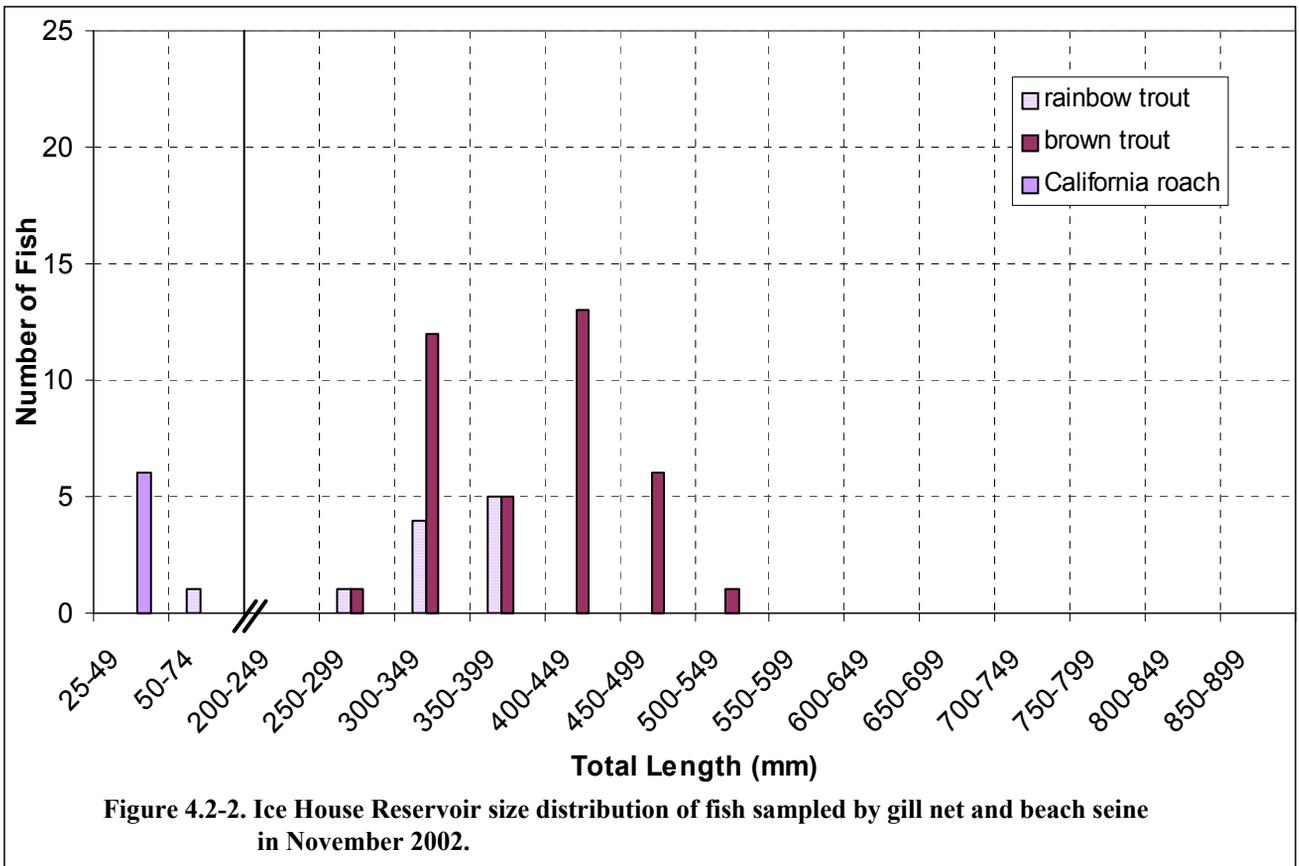
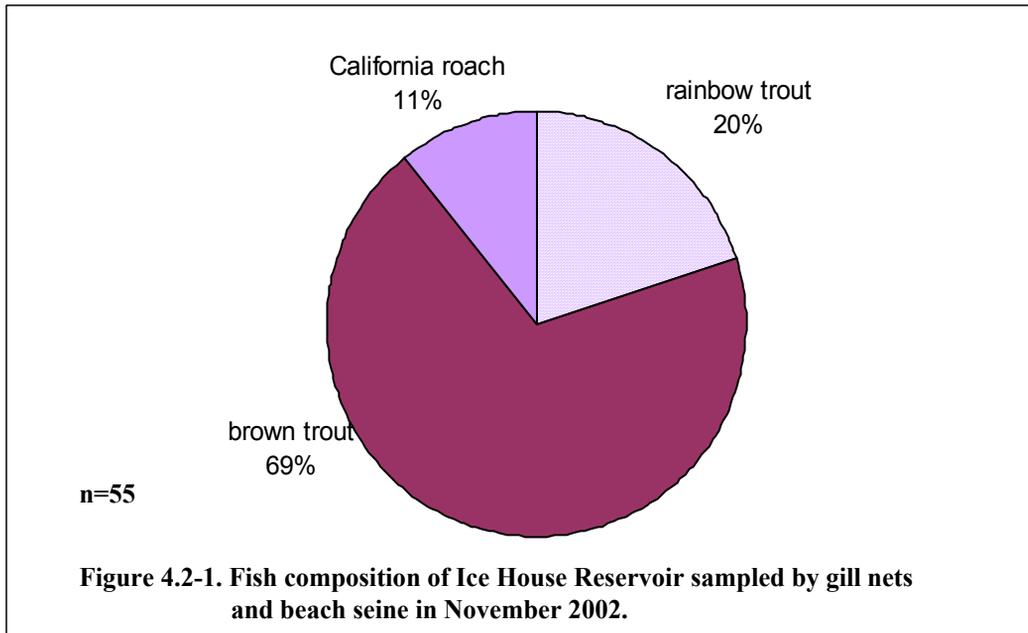
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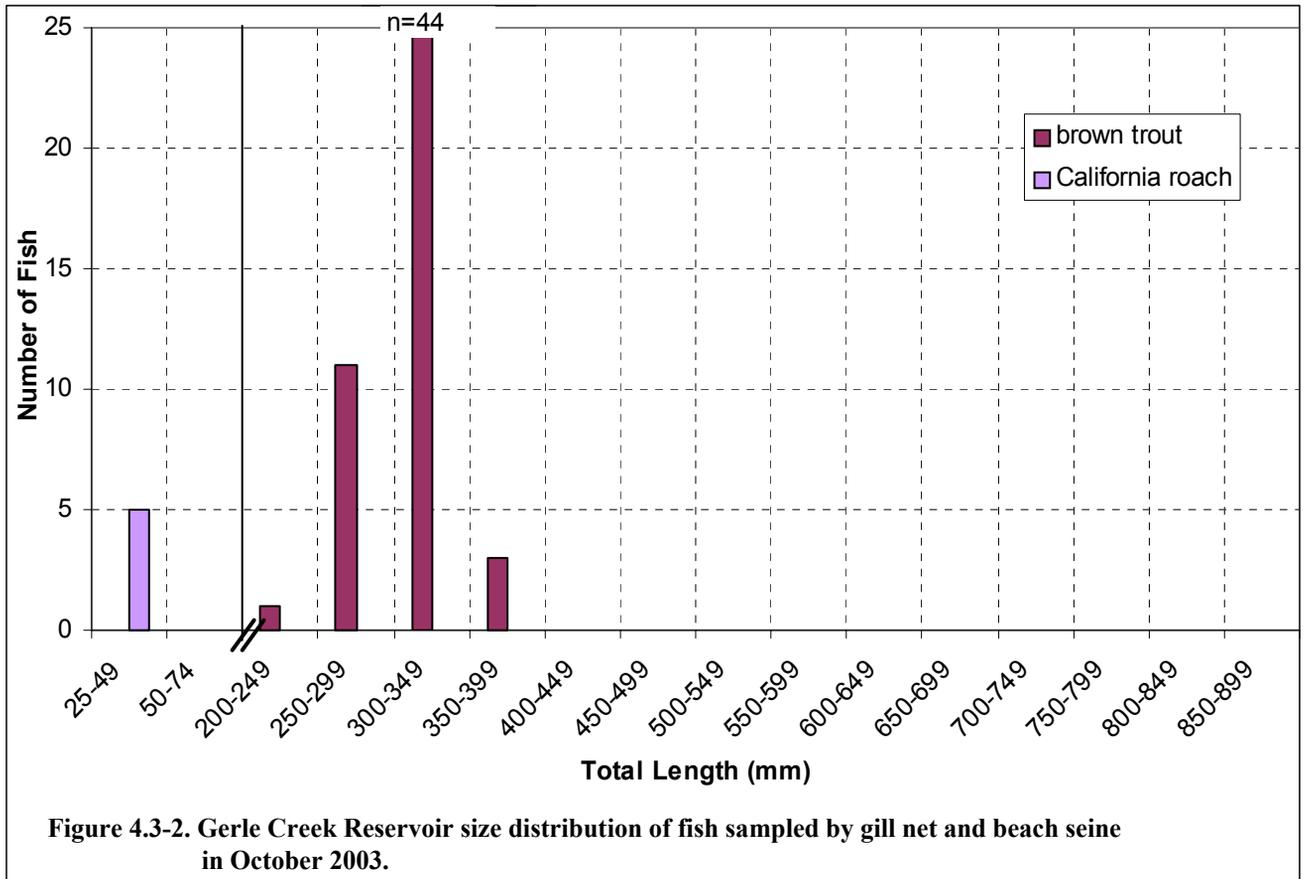
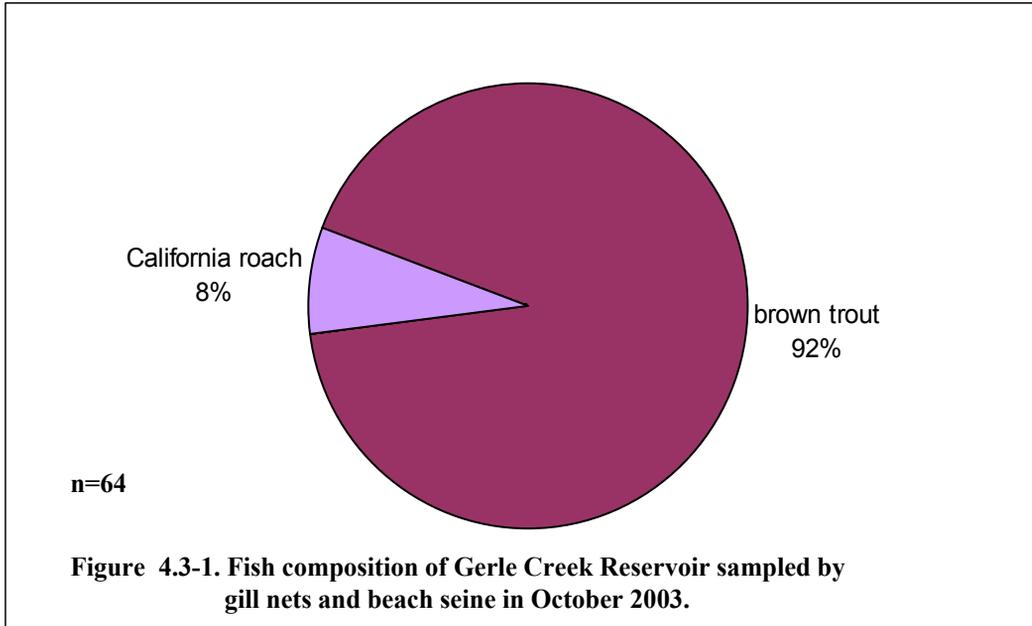
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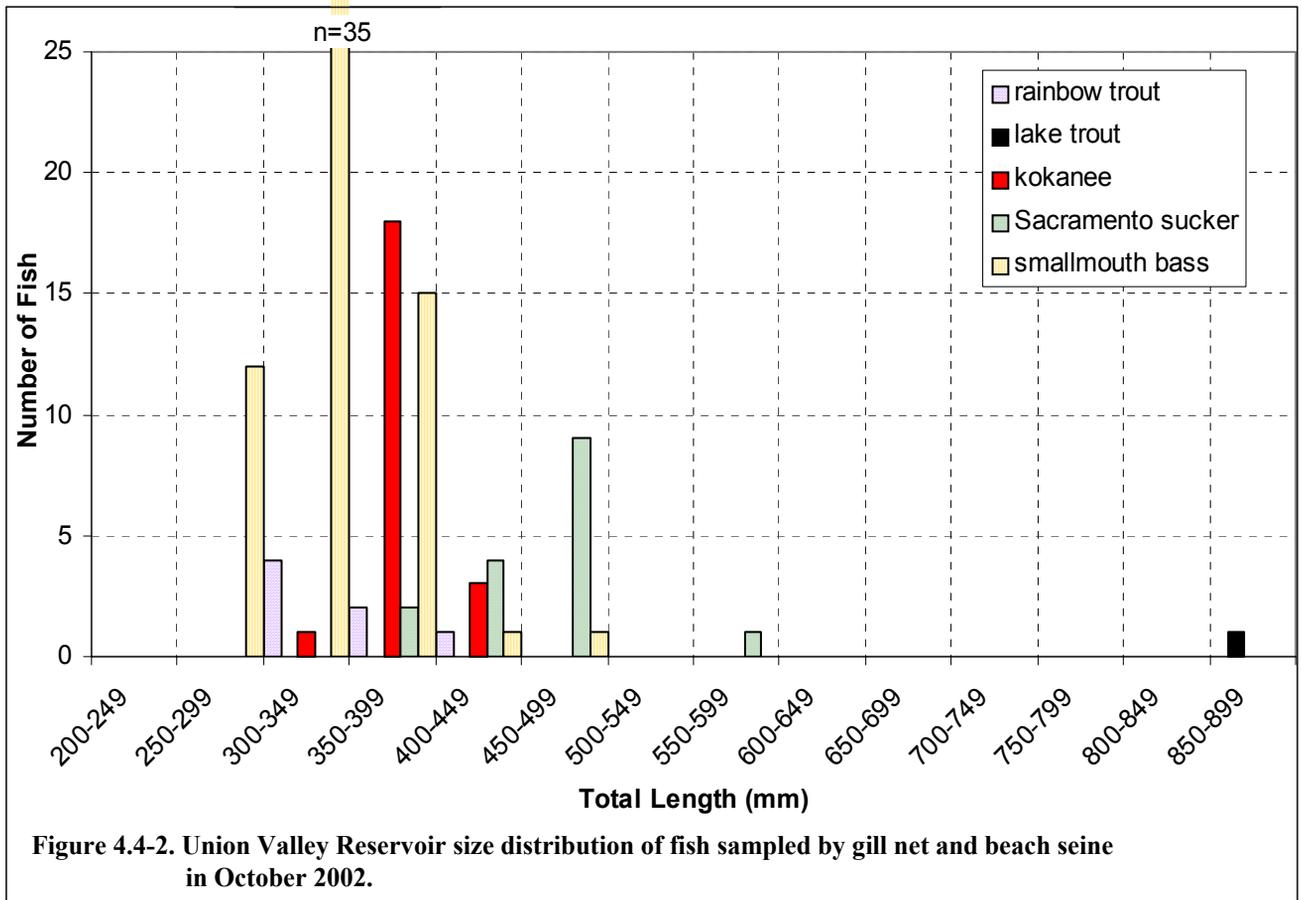
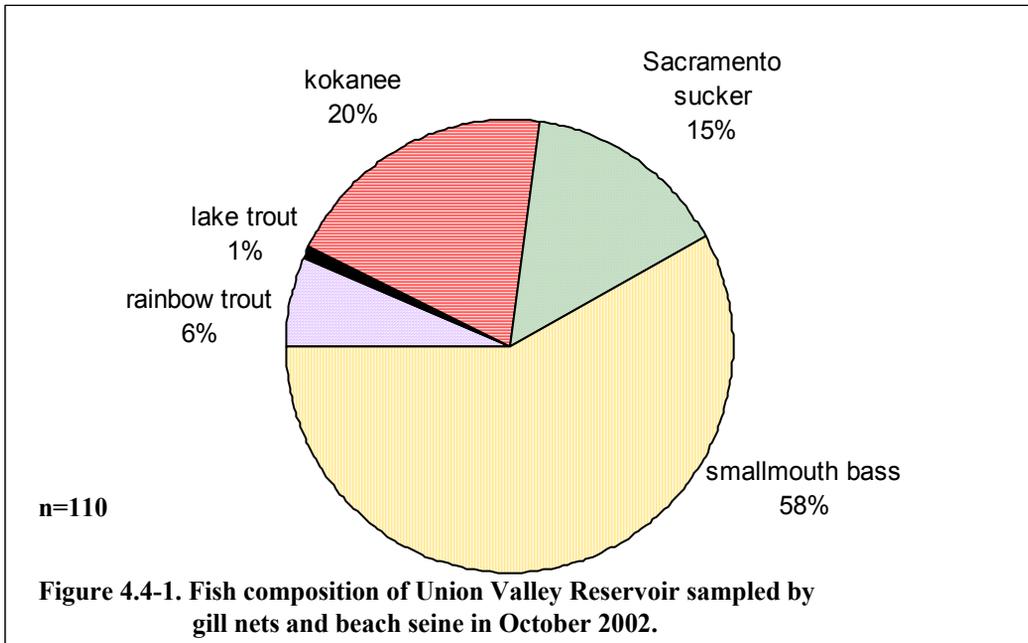
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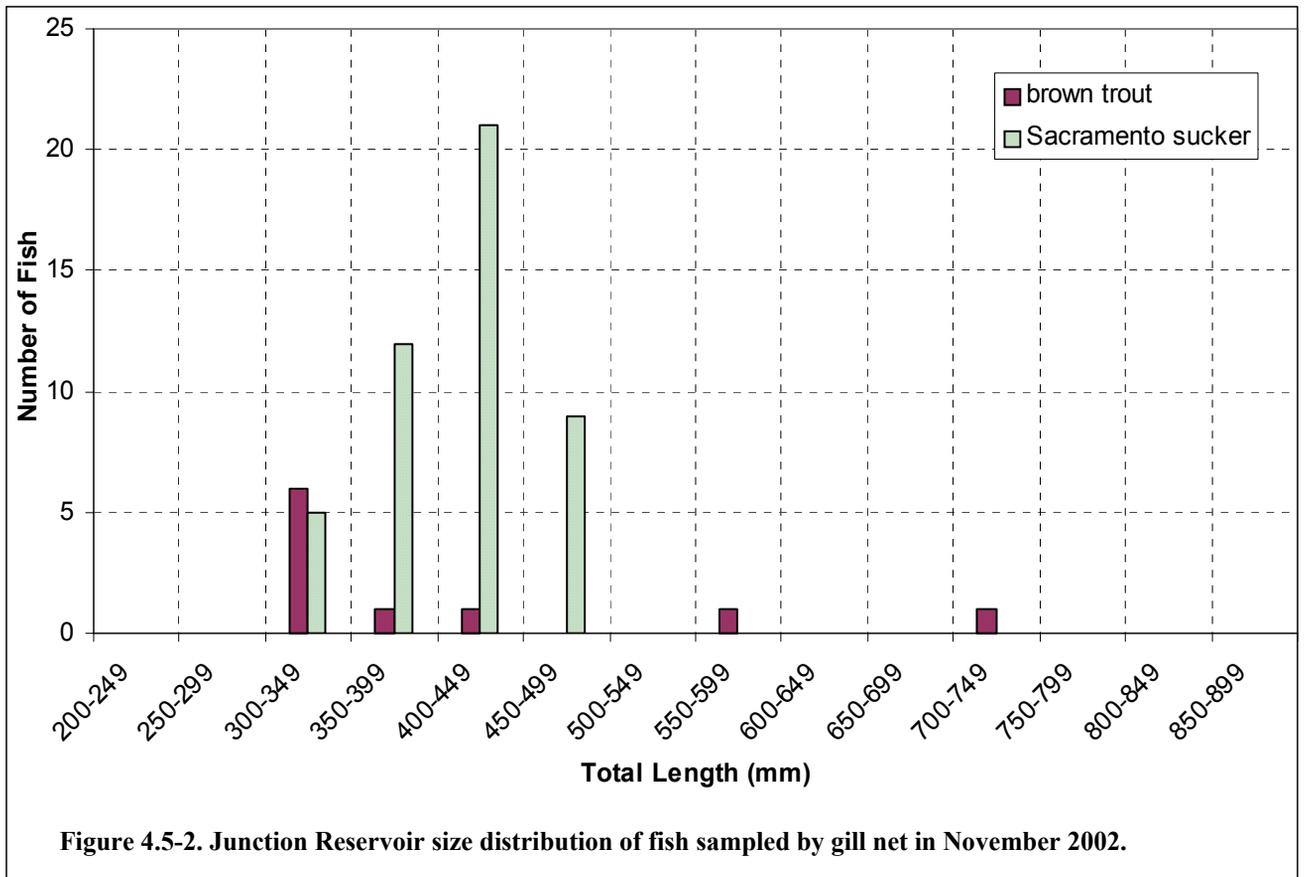
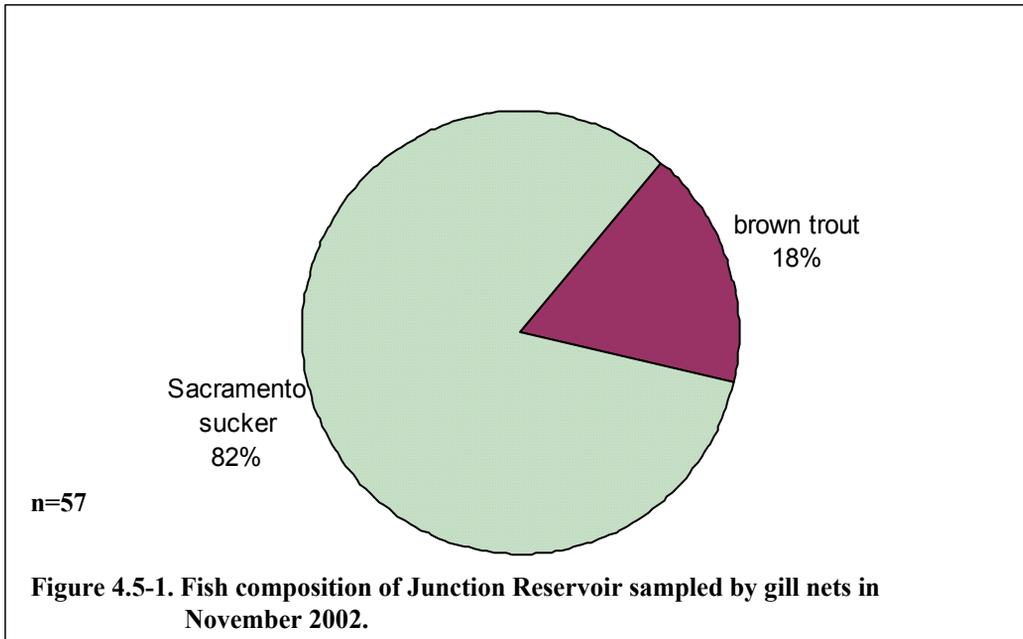
FIGURES

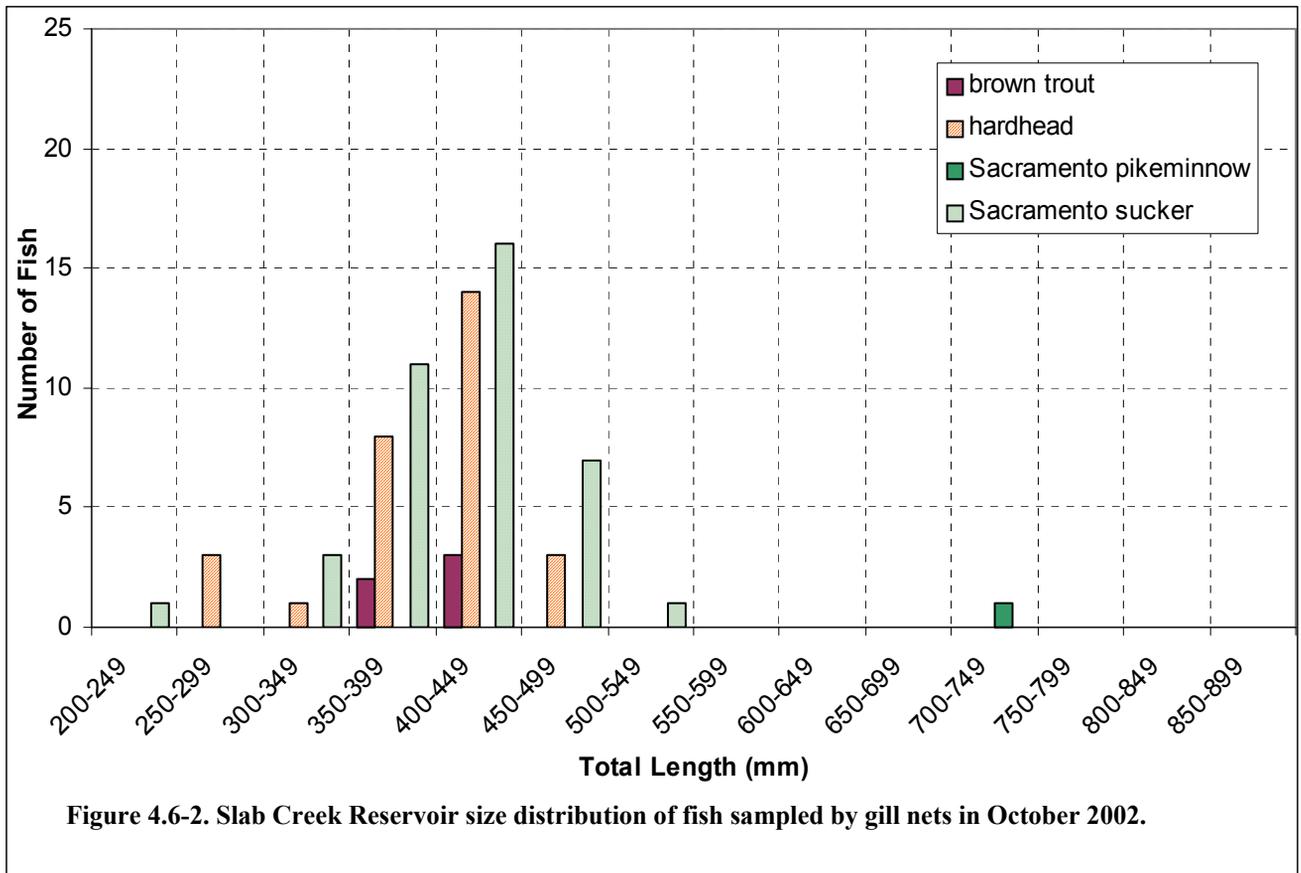
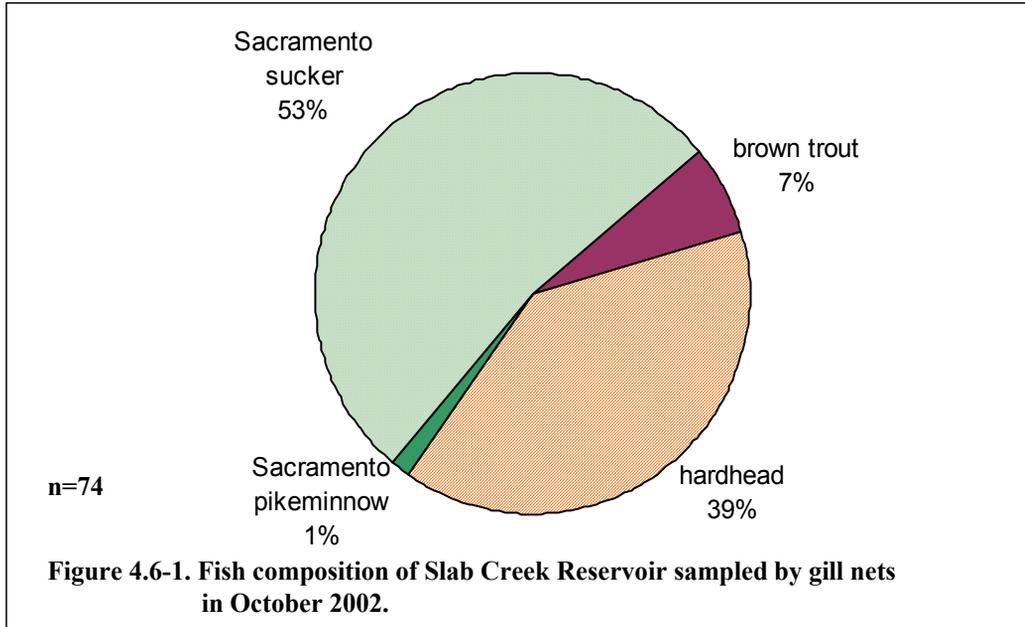


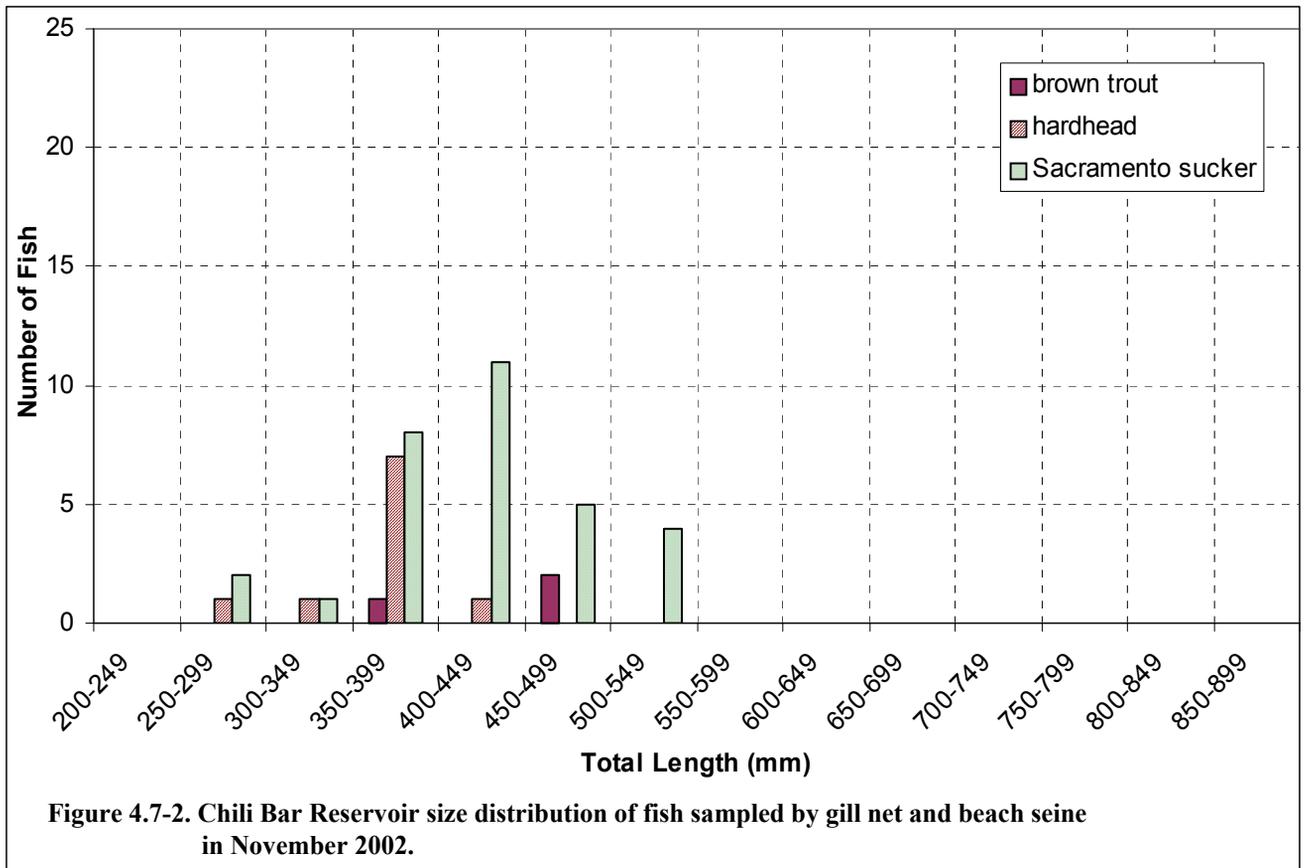
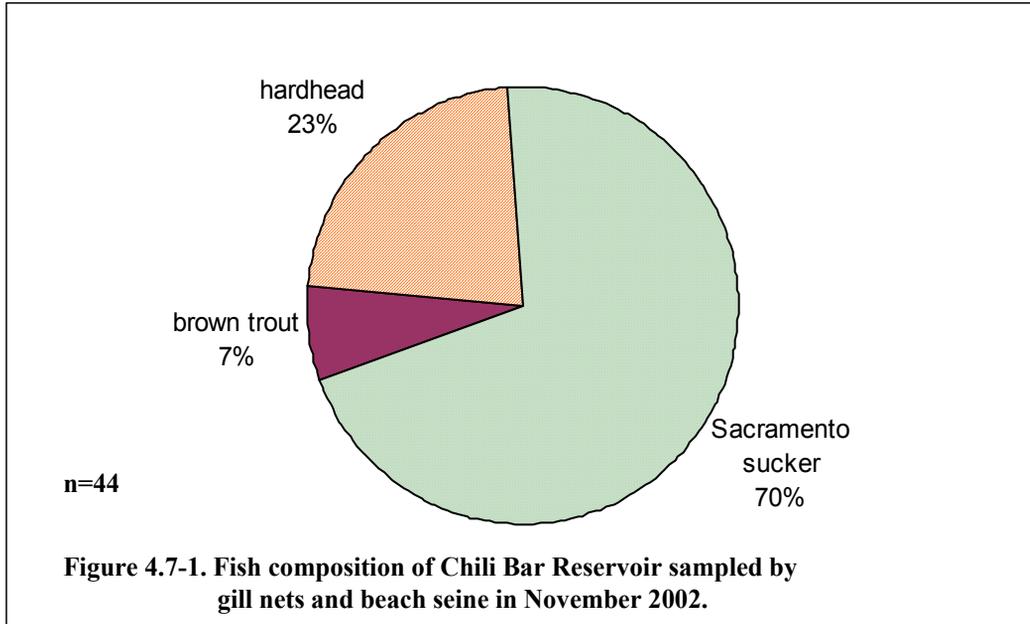












APPENDIX A

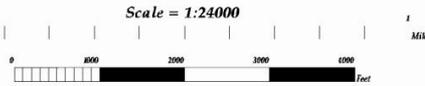
UARP RESERVOIR FISH SURVEY STUDY SITE MAPS

- Figure A-1 Loon Lake Reservoir fish study sites
- Figure A-2 Ice House Reservoir fish study sites
- Figure A-3 Gerle Creek Reservoir fish study sites
- Figure A-4 Union Valley Reservoir fish study sites
- Figure A-5 Junction Reservoir fish study sites
- Figure A-6 Slab Creek Reservoir fish study sites
- Figure A-7 Chili Bar Reservoir fish study sites

Reservoir Shoreline Habitat Survey Loon Lake Reservoir

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |



February 13, 2003

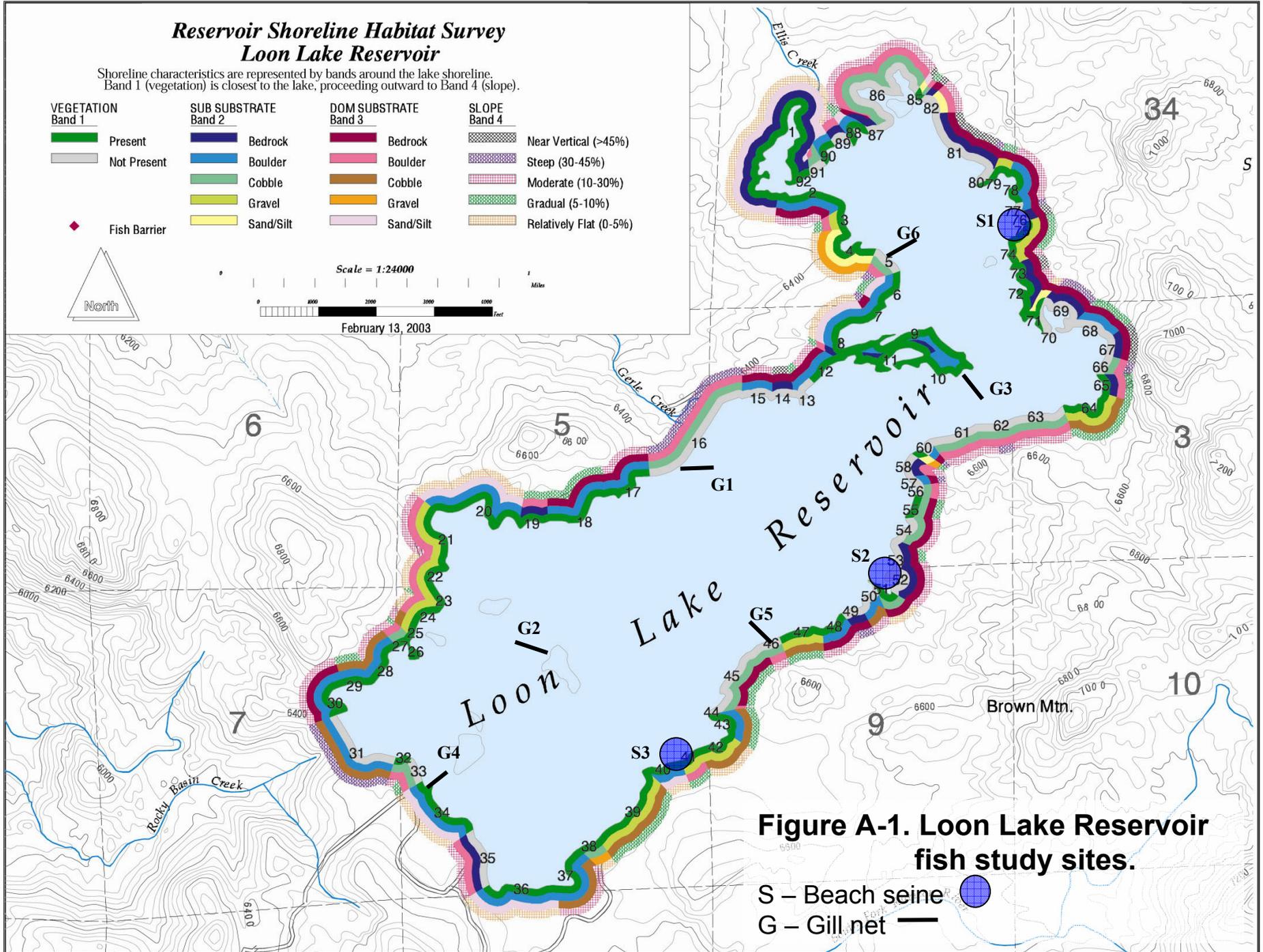
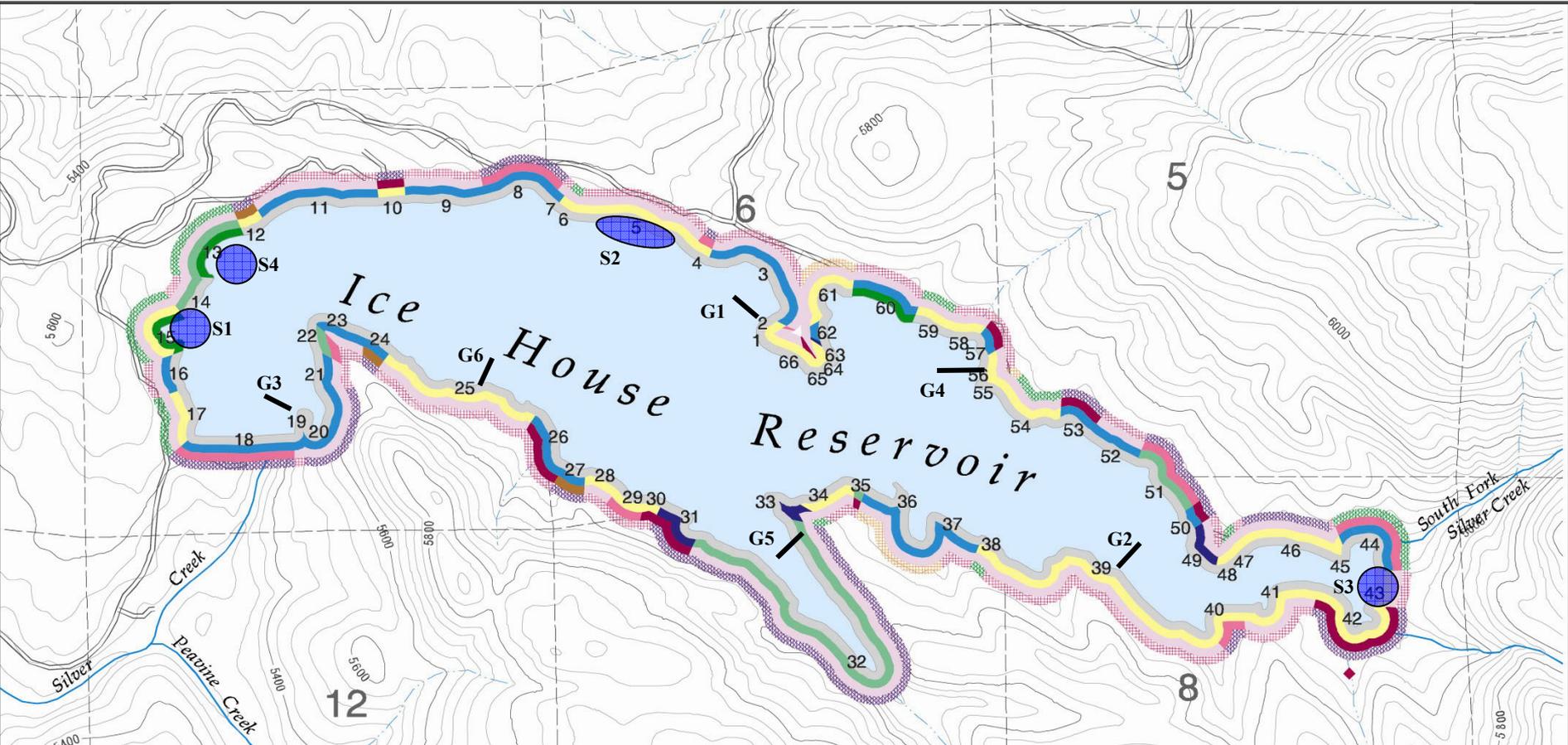


Figure A-1. Loon Lake Reservoir fish study sites.

S – Beach seine

G – Gill net



**Reservoir Shoreline Habitat Survey
Ice House Reservoir**

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |

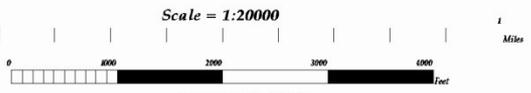


Figure A-2. Ice House Reservoir fish study sites.

S – Beach seine
G – Gill net



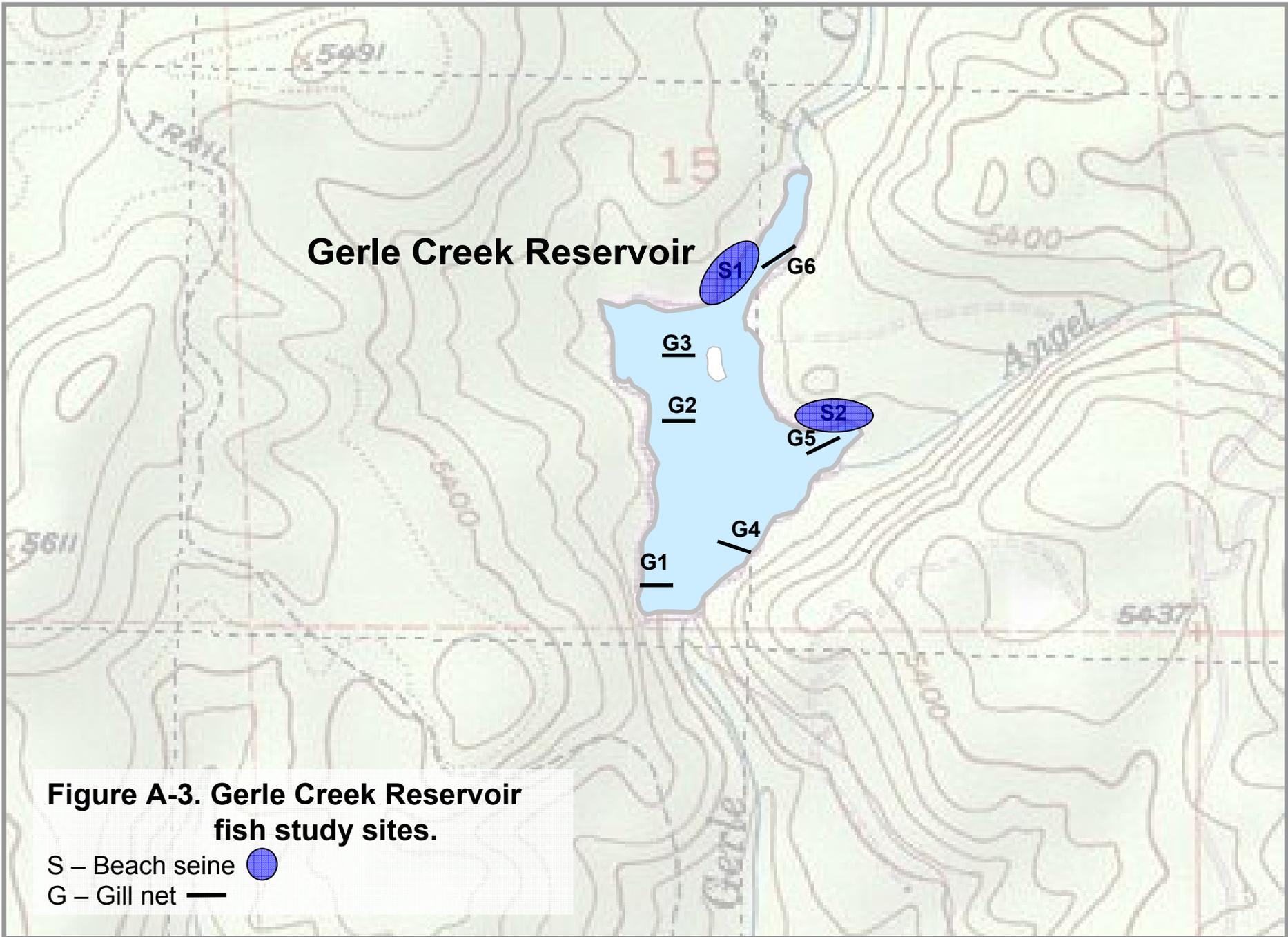


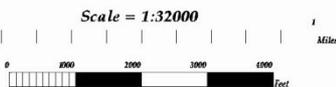
Figure A-3. Gerle Creek Reservoir fish study sites.

S – Beach seine 
G – Gill net 

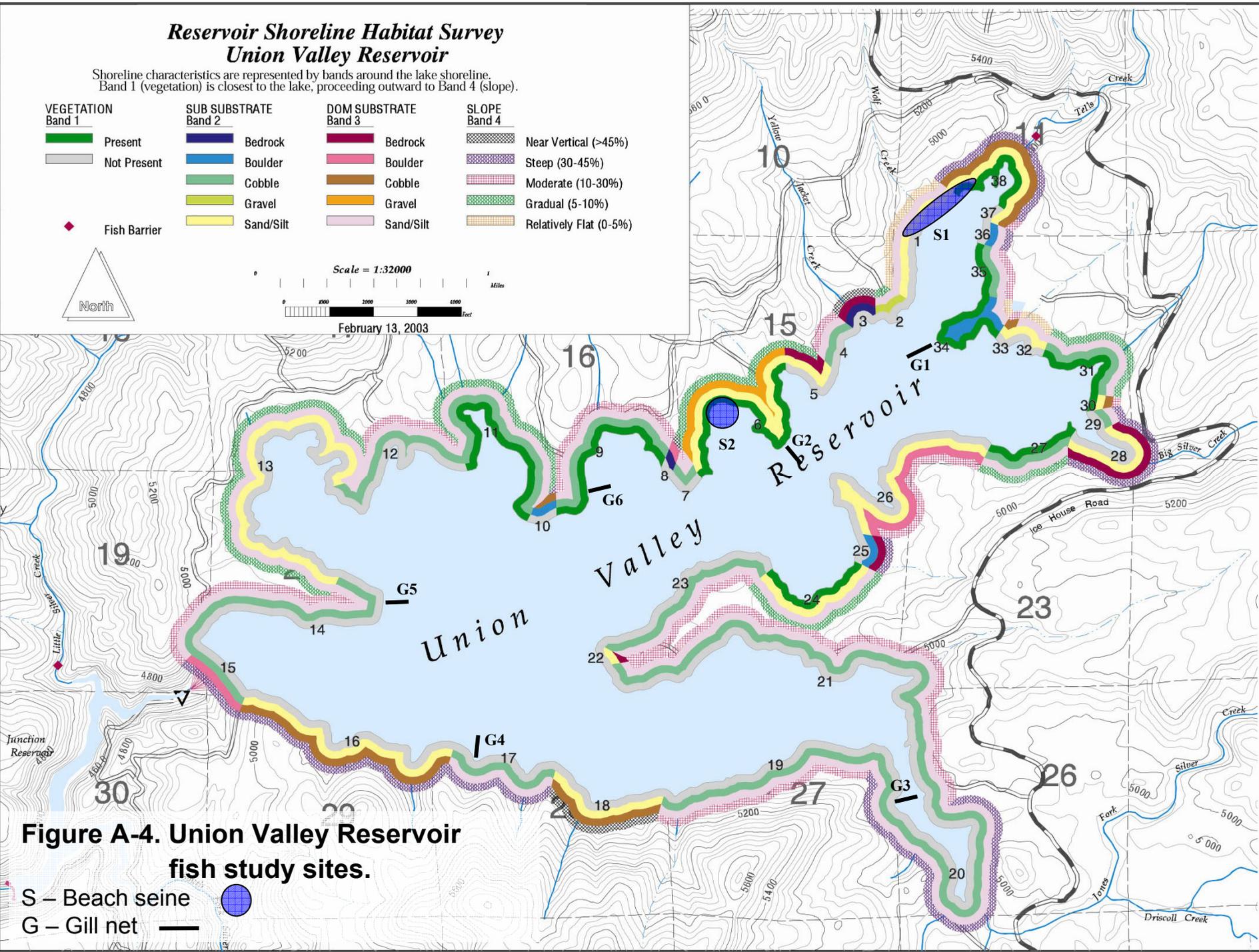
Reservoir Shoreline Habitat Survey Union Valley Reservoir

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |



February 13, 2003



**Figure A-4. Union Valley Reservoir
fish study sites.**

S – Beach seine

G – Gill net

Reservoir Shoreline Habitat Survey Junction Reservoir

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |



Scale = 1:16000



February 13, 2003

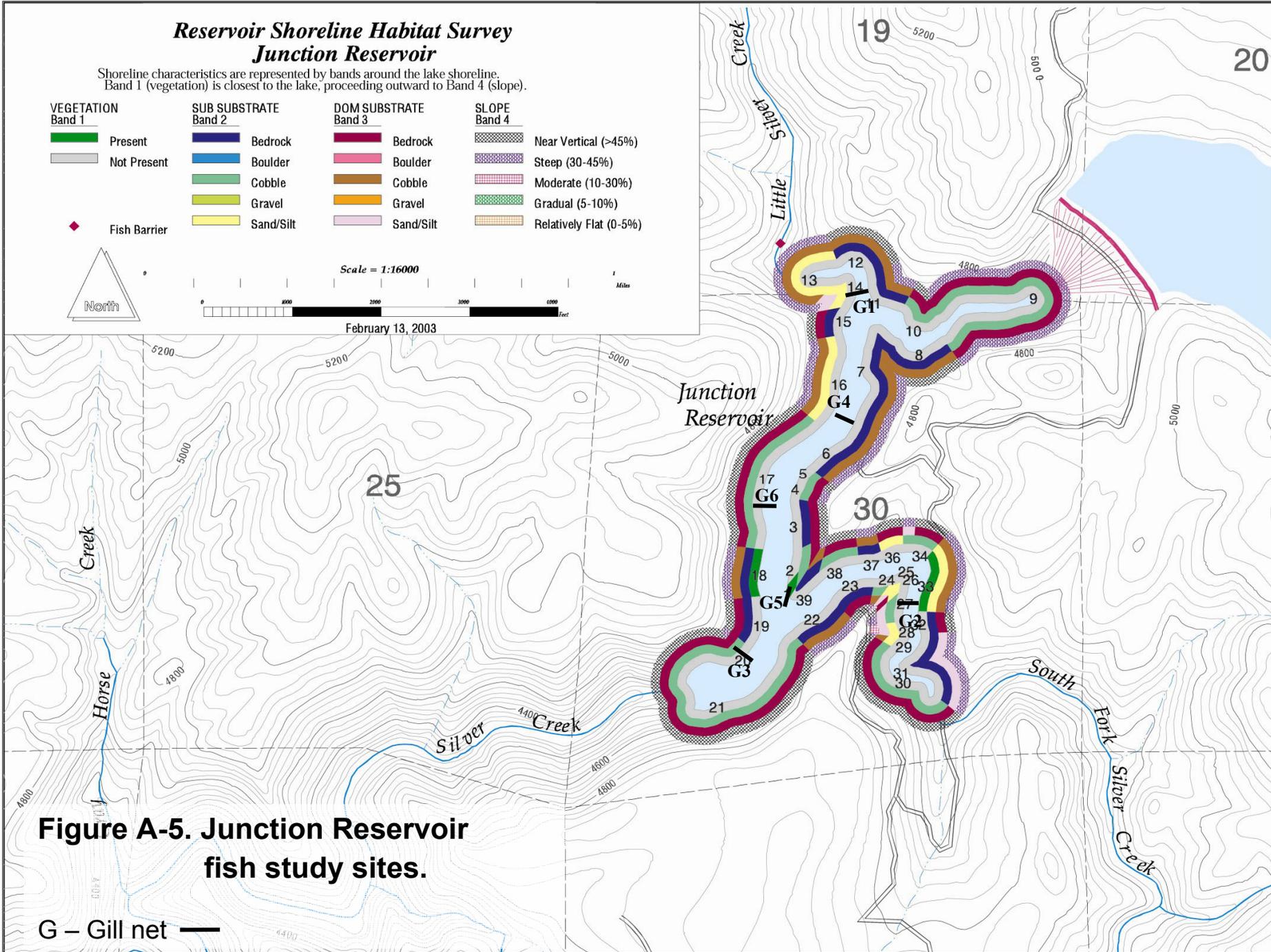


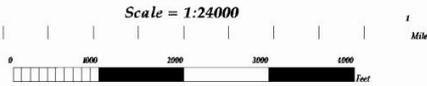
Figure A-5. Junction Reservoir fish study sites.

G – Gill net

Reservoir Shoreline Habitat Survey Slab Creek Reservoir

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |



February 13, 2003

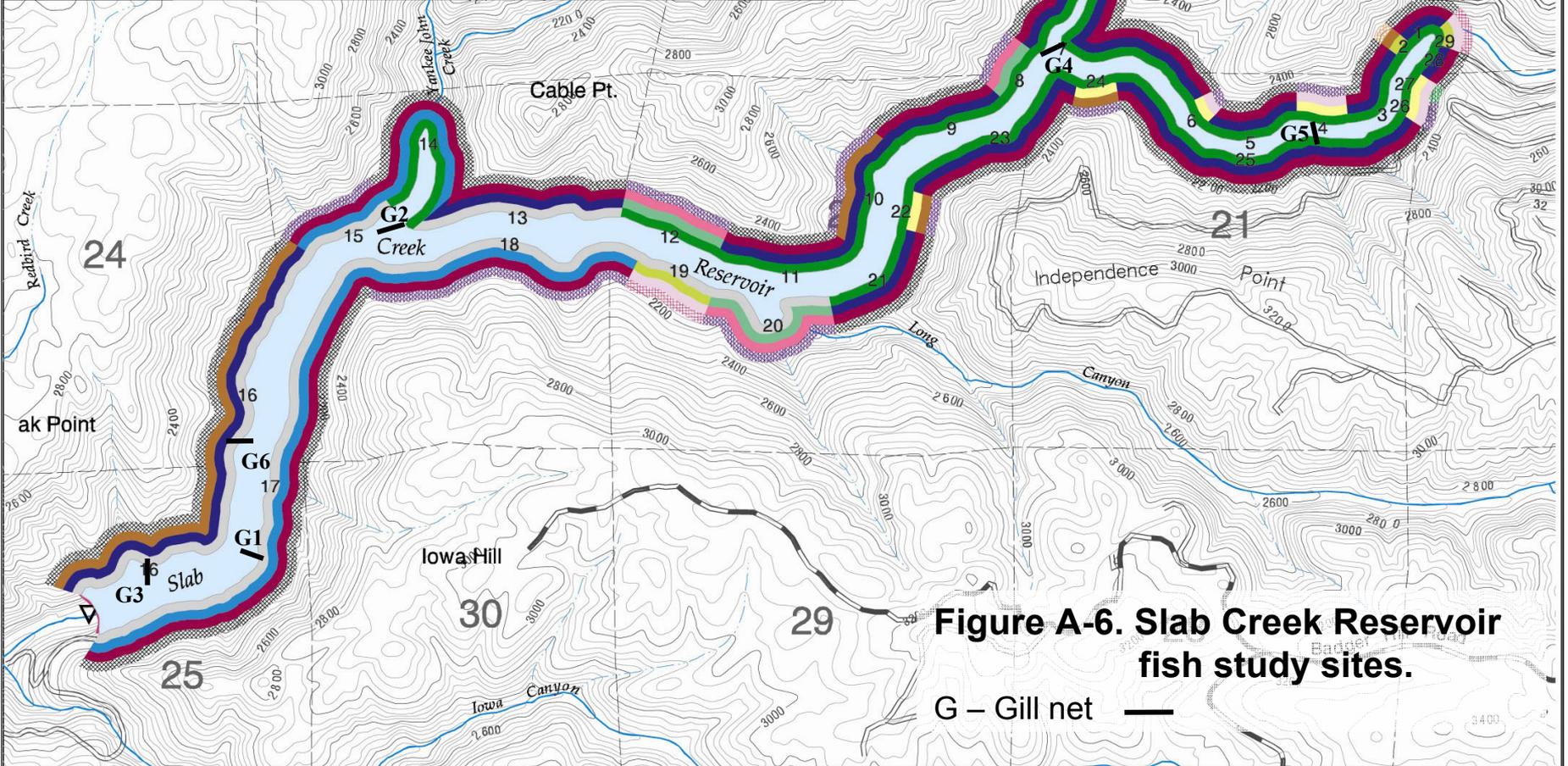


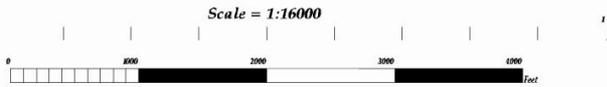
Figure A-6. Slab Creek Reservoir fish study sites.

G – Gill net

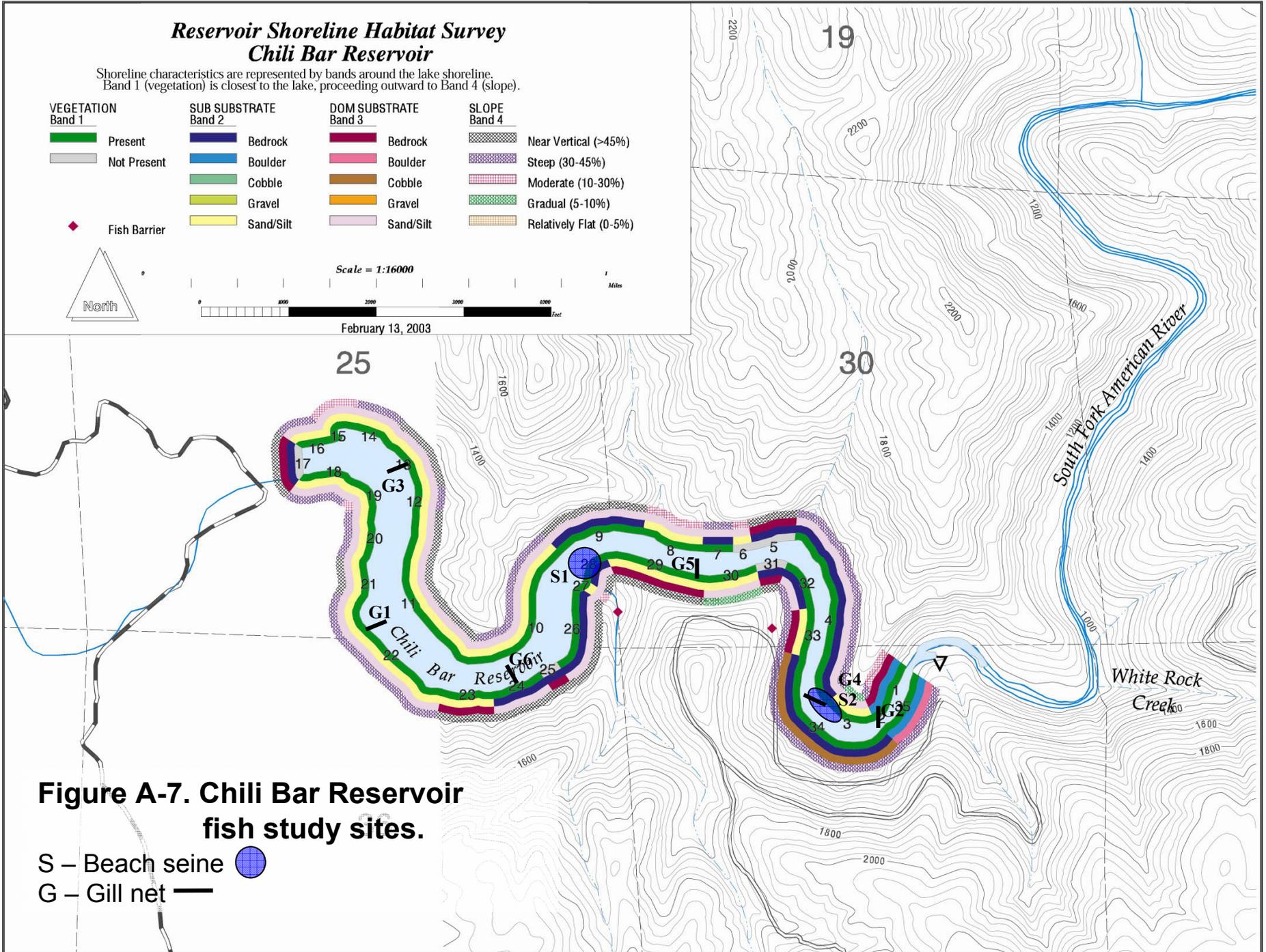
Reservoir Shoreline Habitat Survey Chili Bar Reservoir

Shoreline characteristics are represented by bands around the lake shoreline.
Band 1 (vegetation) is closest to the lake, proceeding outward to Band 4 (slope).

| VEGETATION Band 1 | SUB STRATE Band 2 | DOM STRATE Band 3 | SLOPE Band 4 |
|----------------------|----------------------|----------------------|------------------------|
| Present | Bedrock | Bedrock | Near Vertical (>45%) |
| Not Present | Boulder | Boulder | Steep (30-45%) |
| | Cobble | Cobble | Moderate (10-30%) |
| | Gravel | Gravel | Gradual (5-10%) |
| | Sand/Silt | Sand/Silt | Relatively Flat (0-5%) |



February 13, 2003



**Figure A-7. Chili Bar Reservoir
fish study sites.**

S – Beach seine

G – Gill net

APPENDIX B

UARP RESERVOIR FISH SAMPLING DATA 2002-2003

- Table B-1. SMUD UARP Fisheries Reservoir Sampling Data 2002-2003

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-----------------------|-------------------|------------|
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 420 | 545 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 425 | 790 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 370 | 440 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 396 | 575 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 350 | 390 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 355 | 460 |
| Slab Creek | 10/28/02 | G1 | 1 | 7:10 | 35 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 345 | 400 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | hardhead | 283 | 200 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | hardhead | 260 | 150 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 415 | 770 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 413 | 690 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | hardhead | 250 | 165 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | hardhead | 394 | 535 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 455 | 907.2 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 382 | 555 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | brown trout | 440 | 830 |
| Slab Creek | 10/28/02 | G2 | 1 | 8:30 | 50 | 30 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 501 | 1406.16 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 410 | 630 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 442 | 805 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 447 | 840 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 234 | 160 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 386 | 480 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 490 | 670 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 445 | 820 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | hardhead | 377 | 470 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 380 | 660 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 430 | 840 |
| Slab Creek | 10/28/02 | G3 | 1 | 9:40 | 20 | 15 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 484 | 1315.44 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 415 | 690 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 410 | 570 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 425 | 620 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 412 | 585 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | brown trout | 360 | 465 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 417 | 560 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 410 | 540 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 415 | 730 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 407 | 570 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 348 | 400 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 400 | 505 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 352 | 440 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 350 | 430 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 407 | 630 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 448 | 900 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 430 | 710 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 420 | 690 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 475 | 930 |
| Slab Creek | 10/28/02 | G4 | 1 | 6:20 | 30 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento pikeminnow | 736.6 | 2766.96 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 410 | 515 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 405 | 520 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 400 | 570 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 470 | 997.92 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 460 | 816.48 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | hardhead | 460 | 771.12 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | brown trout | 405 | 730 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 337 | 450 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 407 | 660 |
| Slab Creek | 10/28/02 | G5 | 1 | 4:30 | 20 | 20 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 365 | 530 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 418 | 845 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | hardhead | 390 | 605 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 483 | 1134 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 460 | 907.2 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 442 | 810 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 462 | 915 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | hardhead | 310 | 335 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | hardhead | 380 | 445 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | hardhead | 397 | 600 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 360 | 480 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | hardhead | 361 | 450 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 390 | 650 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 411 | 730 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 445 | 995 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | Sacramento sucker | 361 | 525 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | brown trout | 353 | 440 |
| Slab Creek | 10/28/02 | G6 | 1 | 9:40 | 40 | 25 | 98.4 | 10.79 | 10 | 20 | brown trout | 423 | 775 |
| Ice House | 11/05/02 | G1 | 1 | 24:20 | 35 | 25 | 65.0 | x | 11.7 | 25 | brown trout | 353 | 535 |
| Ice House | 11/05/02 | G2 | 1 | 23:30 | 35 | 25 | 68.5 | 7.50 | 11.7 | 25 | brown trout | 425 | 890 |
| Ice House | 11/05/02 | G2 | 1 | 23:30 | 35 | 25 | 68.5 | 7.50 | 11.7 | 25 | brown trout | 432 | 965 |
| Ice House | 11/05/02 | G2 | 1 | 23:30 | 35 | 25 | 68.5 | 7.50 | 11.7 | 25 | brown trout | 437 | 850 |
| Ice House | 11/05/02 | G2 | 1 | 23:30 | 35 | 25 | 68.5 | 7.50 | 11.7 | 25 | rainbow trout | 345 | 390 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 463 | 952.56 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 415 | 735 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 438 | 915 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 410 | 730 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 400 | 815 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 470 | 997.92 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 302 | 285 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 395 | 660 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 335 | 365 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 311 | 355 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 400 | 735 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 544 | 2041.2 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 475 | 1315.44 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 381 | 620 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 449 | 1134 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | rainbow trout | 285 | 255 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 310 | 385 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 335 | 465 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 274 | 260 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | brown trout | 315 | 380 |
| Ice House | 11/05/02 | G3 | 1 | 23:45 | 20 | 17 | 72.0 | 8.02 | 11.7 | 25 | rainbow trout | 380 | 570 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | rainbow trout | 375 | 465 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | brown trout | 470 | 1088.64 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | brown trout | 448 | 907.2 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | brown trout | 433 | 725.76 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | brown trout | 460 | 861.84 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | brown trout | 420 | 840 |
| Ice House | 11/05/02 | G4 | 1 | 24:05 | 35 | 20 | 70.7 | 7.42 | 11.7 | 25 | rainbow trout | 355 | 465 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 305 | 320 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 312 | 310 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 414 | 805 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 305 | 300 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 390 | 750 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | brown trout | 324 | 345 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | rainbow trout | 300 | 270 |
| Ice House | 11/05/02 | G5 | 1 | 24:00 | 35 | 22 | 69.5 | 7.65 | 11.7 | 25 | rainbow trout | 390 | 760 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | brown trout | 460 | 1043.28 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | brown trout | 373 | 535 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | brown trout | 343 | 455 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | brown trout | 311 | 345 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | rainbow trout | 320 | 355 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | rainbow trout | 361 | 380 |
| Ice House | 11/05/02 | G6 | 1 | 24:10 | 20 | 15 | 65.0 | x | 11.7 | 25 | rainbow trout | 336 | 340 |
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 35 | 0.3 |
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 34 | 0.3 |
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 31 | 0.2 |
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 36 | 0.4 |
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 35 | 0.3 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|-----------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Ice House | 11/04/02 | S1 | 1 | x | 1 | 1 | 68.5 | x | 11.7 | 25 | California roach | 33 | 0.3 |
| Ice House | 11/04/02 | S2 | 1 | x | 4 | 2.5 | x | x | 11.5 | 25 | no fish | | |
| Ice House | 11/04/02 | S3 | 1 | x | 4.5 | 3 | x | x | 11.5 | 25 | no fish | | |
| Ice House | 11/04/02 | S4 | 1 | x | 3.5 | 2 | x | x | 11.5 | 25 | rainbow trout | 70 | 2.4 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 386 | 560 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 342 | 450 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 400 | 600 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 350 | 480 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 460 | 1043.28 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 440 | 861.84 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 414 | 771.12 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | rainbow trout | 481 | 1088.64 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | brown trout | 382 | 590 |
| Loon Lake | 11/01/02 | G1 | 1 | 23:40 | 25 | 20 | 67.7 | 7.32 | 11.4 | 21 | Sacramento sucker | 280 | 340 |
| Loon Lake | 11/01/02 | G2 | 1 | 23:40 | 25 | 18 | 68.7 | 7.58 | 11.4 | 21 | none | | |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 415 | 635 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 440 | 790 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 385 | 570 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | rainbow trout | 337 | 390 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 387 | 600 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 340 | 390 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 391 | 545 |
| Loon Lake | 11/01/02 | G3 | 1 | 24:20:00 | 35 | 25 | 69.1 | x | 11.5 | 25 | brown trout | 435 | 790 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | brown trout | 421 | 650 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | brown trout | 390 | 605 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | brown trout | 415 | 690 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | brown trout | 380 | 500 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | brown trout | 377 | 475 |
| Loon Lake | 11/01/02 | G4 | 1 | 23:30 | 20 | 15 | 70.3 | 7.75 | 11.4 | 25 | rainbow trout | 326 | 325 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | rainbow trout | 229 | 255 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 386 | 515 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 390 | 615 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | rainbow trout | 323 | 365 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 380 | 445 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 421 | 860 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 375 | 520 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 410 | 715 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 392 | 565 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 414 | 625 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 330 | 390 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | brown trout | 370 | 535 |
| Loon Lake | 11/01/02 | G5 | 1 | 23:55 | 40 | 25 | 68.7 | x | 11.4 | 25 | Sacramento sucker | 320 | 420 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | rainbow trout | 315 | 280 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 412 | 615 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 345 | 405 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 315 | 330 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 396 | 600 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 462 | 907.2 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 455 | 907.2 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 332 | 440 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 416 | 585 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | brown trout | 359 | 415 |
| Loon Lake | 11/01/02 | G6 | 1 | 24:30 | 20 | 15 | 66.5 | x | 11.5 | 25 | rainbow trout | 275 | 215 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 47 | 1.2 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 55 | 1 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 41 | 0.9 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 26 | 0.2 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 67 | 3.3 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 47 | 0.9 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 26 | 0.2 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 37 | 0.5 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 61 | 2.2 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 36 | 0.4 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 32 | 0.3 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 28 | 0.2 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|--------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 52 | 1.1 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 50 | 0.6 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 57 | 1 |
| Loon Lake | 10/31/02 | S1 | 1 | x | 4 | 1.5 | x | x | 12 | 25 | California roach | 52 | 0.8 |
| Loon Lake | 10/31/02 | S1 | 2 | x | 3 | 2 | 73.0 | 7.88 | 11.6 | 20 | California roach | 52 | 0.9 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 62 | 1.9 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 60 | 1.8 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 52 | 1.3 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 30 | 0.2 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 25 | 0.1 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 44 | 0.8 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 61 | 1.5 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 37 | 0.5 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 57 | 1.3 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 63 | 2 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 54 | 0.9 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 59 | 1.7 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 57 | 1.2 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 63 | 2.8 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 72 | 2.1 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 27 | 0.2 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 67 | 2.1 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 67 | 2.3 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 52 | 0.9 |
| Loon Lake | 10/31/02 | S1 | 3 | x | 3 | 1.5 | 73.0 | x | 11.4 | 20 | California roach | 54 | 1 |
| Union Valley | 10/25/02 | G1 | 1 | 28:45 | 35 | 20 | 80.3 | 8.00 | 15.5 | 22 | rainbow trout | 395 | 600 |
| Union Valley | 10/25/02 | G1 | 1 | 28:45 | 35 | 20 | 80.3 | 8.00 | 15.5 | 22 | rainbow trout | 448 | 940 |
| Union Valley | 10/25/02 | G1 | 1 | 28:45 | 35 | 20 | 80.3 | 8.00 | 15.5 | 22 | smallmouth bass | 285 | 335 |
| Union Valley | 10/25/02 | G1 | 1 | 28:45 | 35 | 20 | 80.3 | 8.00 | 15.5 | 22 | Sacramento sucker | 405 | 910 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 325 | 510 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 326 | 480 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 302 | 400 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 382 | 750 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 276 | 340 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 291 | 360 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 300 | 340 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 290 | 350 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | kokanee | 335 | 390 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | rainbow trout | 330 | 380 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 380 | 810 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 550 | 1224.72 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 482.6 | 1451.52 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 495.3 | 1270.08 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | kokanee | 382 | 550 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 385 | 800 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 344 | 610 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 482.6 | 1360.8 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 482.6 | 1315.44 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 482.6 | 1360.8 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 482.6 | 1360.8 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 330 | 630 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 335 | 590 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 328 | 560 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 283 | 315 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 320 | 510 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 310 | 400 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 350 | 700 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 357 | 610 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | kokanee | 378 | 490 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 315 | 460 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 325 | 470 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 350 | 670 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 359 | 650 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 342 | 600 |
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | smallmouth bass | 320 | 490 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|--------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Union Valley | 10/25/02 | G2 | 1 | 28:15 | 35 | 27 | 87.1 | 8.61 | 15.5 | 25 | Sacramento sucker | 420 | 460 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 386 | 475 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 370 | 460 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 387 | 560 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 418 | 650 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 391 | 500 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 353 | 395 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 410 | 650 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 361 | 465 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 408 | 585 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 388 | 540 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 371 | 530 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 355 | 500 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 368 | 580 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 352 | 500 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 380 | 535 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | Sacramento sucker | 450 | 1179.36 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 355 | 460 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 395 | 550 |
| Union Valley | 10/25/02 | G3 | 1 | 26:05 | 22 | 15 | 89.4 | x | 14 | 18 | kokanee | 382 | 525 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 331 | 500 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 290 | 365 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 270 | 315 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 373 | 710 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 289 | 385 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 294 | 355 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 326 | 506 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 356 | 580 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 321 | 480 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 275 | 310 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 315 | 440 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 280 | 350 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 350 | 550 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 300 | 450 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 285 | 420 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 357 | 660 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | rainbow trout | 330 | 385 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 351 | 640 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 325 | 460 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 387 | 800 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | Sacramento sucker | 469.9 | 1542.24 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 338 | 540 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 364 | 710 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | Sacramento sucker | 405 | 930 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 300 | 400 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 450 | 1496.88 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 316 | 455 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 418 | 1043.28 |
| Union Valley | 10/25/02 | G4 | 1 | 28:52 | 35 | 20 | 89.3 | x | 15.3 | 25 | smallmouth bass | 326 | 530 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | lake trout | 883.92 | 7121.52 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | smallmouth bass | 312 | 410 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | smallmouth bass | 323 | 460 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | Sacramento sucker | 453 | 1134 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | Sacramento sucker | 427 | 907.2 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | Sacramento sucker | 380 | 710 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | Sacramento sucker | 391 | 885 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | kokanee | 380 | 500 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | rainbow trout | 315 | 285 |
| Union Valley | 10/25/02 | G5 | 1 | 27:45 | 28 | 18 | 84.7 | 8.42 | 15.2 | 21 | rainbow trout | 325 | 340 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 335 | 530 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 360 | 660 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 340 | 590 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 325 | 530 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 320 | 500 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 348 | 690 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|--------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 322 | 540 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 318 | 455 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 305 | 430 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | smallmouth bass | 320 | 430 |
| Union Valley | 10/25/02 | G6 | 1 | 29:45 | 35 | 25 | 78.6 | 8.30 | 15.3 | 25 | rainbow trout | 355 | 475 |
| Junction | 11/15/02 | G1 | 1 | 19:55 | 35 | 35 | 73.0 | x | 11 | 11 | brown trout | 700 | 3220.56 |
| Junction | 11/15/02 | G1 | 1 | 19:55 | 35 | 35 | 73.0 | x | 11 | 11 | Sacramento sucker | 460 | 1134 |
| Junction | 11/15/02 | G1 | 1 | 19:55 | 35 | 35 | 73.0 | x | 11 | 11 | Sacramento sucker | 456 | 1134 |
| Junction | 11/15/02 | G1 | 1 | 19:55 | 35 | 35 | 73.0 | x | 11 | 11 | Sacramento sucker | 450 | 1043.28 |
| Junction | 11/15/02 | G1 | 1 | 19:55 | 35 | 35 | 73.0 | x | 11 | 11 | Sacramento sucker | 400 | 816.48 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 370 | 589.68 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 420 | 861.84 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 385 | 680.4 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 400 | 725.76 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 440 | 952.56 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 445 | 1088.64 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | Sacramento sucker | 452 | 1134 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | brown trout | 380 | 498.96 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | brown trout | 560 | 2131.82 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | brown trout | 315 | 340 |
| Junction | 11/14/02 | G2 | 1 | 22:15 | 25 | 20 | 69.3 | 7.72 | 10.7 | 12 | brown trout | 345 | 375 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 366 | 630 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 440 | 980 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 340 | 480 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 421 | 910 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 360 | 520 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 332 | 445 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 367 | 640 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | Sacramento sucker | 305 | 335 |
| Junction | 11/14/02 | G3 | 1 | 22:35 | 65 | 45 | 67.5 | 7.39 | 10.6 | 11 | brown trout | 340 | 430 |
| Junction | 11/15/02 | G4 | 1 | 20:05 | 48 | 40 | 73.0 | 8.45 | 11 | 11 | Sacramento sucker | 350 | 408.24 |
| Junction | 11/15/02 | G4 | 1 | 20:05 | 48 | 40 | 73.0 | 8.45 | 11 | 11 | Sacramento sucker | 453 | 952.56 |
| Junction | 11/15/02 | G4 | 1 | 20:05 | 48 | 40 | 73.0 | 8.45 | 11 | 11 | Sacramento sucker | 490 | 997.92 |
| Junction | 11/15/02 | G4 | 1 | 20:05 | 48 | 40 | 73.0 | 8.45 | 11 | 11 | Sacramento sucker | 423 | 861.84 |
| Junction | 11/15/02 | G4 | 1 | 20:05 | 48 | 40 | 73.0 | 8.45 | 11 | 11 | Sacramento sucker | 445 | 1088.64 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 465 | 1224.72 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 443 | 1043.28 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 395 | 816.46 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 445 | 1043.28 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 400 | 816.48 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 405 | 861.84 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 417 | 861.84 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 403 | 750 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 395 | 810 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 405 | 780 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | brown trout | 440 | 861.84 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 410 | 830 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 440 | 1043.28 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | brown trout | 310 | 270 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 392 | 770 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 460 | 1179.36 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 435 | 890 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 310 | 370 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 375 | 650 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 380 | 685 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 430 | 930 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 345 | 500 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | Sacramento sucker | 450 | 1088.64 |
| Junction | 11/14/02 | G5 | 1 | 23:10 | 75 | 40 | 67.5 | 7.34 | 10.6 | 12 | brown trout | 325 | 370 |
| Junction | 11/15/02 | G6 | 1 | 18:50 | 65 | 40 | x | x | x | x | Sacramento sucker | 440 | 997.92 |
| Junction | 11/15/02 | G6 | 1 | 18:50 | 65 | 40 | x | x | x | x | Sacramento sucker | 390 | 680.4 |
| Junction | 11/15/02 | G6 | 1 | 18:50 | 65 | 40 | x | x | x | x | brown trout | 320 | 300 |
| Union Valley | 10/24/02 | S1 | 1 | x | x | x | 84.3 | x | 15.5 | 15 | no fish | | |
| Union Valley | 10/24/02 | S1 | 2 | x | x | x | 84.3 | x | 15.5 | 15 | no fish | | |
| Union Valley | 10/24/02 | S2 | 1 | x | 4 | 3 | 84.3 | x | 15.5 | 15 | no fish | | |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|--------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|-------------------|-------------------|------------|
| Union Valley | 10/24/02 | S2 | 2 | x | 4 | 3 | 84.3 | x | 15.5 | 15 | no fish | | |
| Chili Bar | 11/13/02 | G1 | 1 | 5:20 | 35 | 20 | 91.1 | x | 10.6 | 6 | hardhead | 325 | 190 |
| Chili Bar | 11/13/02 | G1 | 1 | 5:20 | 35 | 20 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 353 | 400 |
| Chili Bar | 11/13/02 | G2 | 1 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 365 | 408.24 |
| Chili Bar | 11/13/02 | G2 | 1 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 412 | 635.04 |
| Chili Bar | 11/13/02 | G2 | 1 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 407 | 680.4 |
| Chili Bar | 11/13/02 | G2 | 1 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 490 | 1179.36 |
| Chili Bar | 11/13/02 | G2 | 2 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 420 | 710 |
| Chili Bar | 11/13/02 | G2 | 2 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 401 | 615 |
| Chili Bar | 11/13/02 | G2 | 2 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 410 | 740 |
| Chili Bar | 11/13/02 | G2 | 2 | 5:50 | 15 | 10 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 435 | 850 |
| Chili Bar | 11/13/02 | G3 | 1 | 5:20 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 | hardhead | 285 | 150 |
| Chili Bar | 11/13/02 | G3 | 1 | 5:20 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 | Sacramento sucker | 460 | 980 |
| Chili Bar | 11/13/02 | G3 | 1 | 5:20 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 | Sacramento sucker | 460 | 980 |
| Chili Bar | 11/13/02 | G3 | 1 | 5:20 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 | brown trout | 490 | 997.92 |
| Chili Bar | 11/13/02 | G3 | 2 | 5:20 | 25 | 15 | 91.1 | 10.23 | 10.6 | 6 | hardhead | 399 | 500 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 502 | 1179.36 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 502 | 1179.36 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 515 | 1315.44 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 510 | 1179.36 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 415 | 635.04 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 482 | 997.92 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 390 | 635.04 |
| Chili Bar | 11/13/02 | G4 | 1 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 441 | 816.48 |
| Chili Bar | 11/13/02 | G4 | 2 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 432 | 816.48 |
| Chili Bar | 11/13/02 | G4 | 2 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 421 | 635.04 |
| Chili Bar | 11/13/02 | G4 | 2 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 456 | 861.84 |
| Chili Bar | 11/13/02 | G4 | 2 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 444 | 952.56 |
| Chili Bar | 11/13/02 | G4 | 2 | 5:20 | 10 | 5 | 89.2 | 9.97 | 10 | 7 | Sacramento sucker | 360 | 453.6 |
| Chili Bar | 11/13/02 | G5 | 1 | 5:30 | 15 | 5 | 91.1 | x | 10.6 | 6 | hardhead | 396 | 515 |
| Chili Bar | 11/13/02 | G5 | 1 | 5:30 | 15 | 5 | 91.1 | x | 10.6 | 6 | hardhead | 377 | 460 |
| Chili Bar | 11/13/02 | G5 | 1 | 5:30 | 15 | 5 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 390 | 550 |
| Chili Bar | 11/13/02 | G5 | 1 | 5:30 | 15 | 5 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 379 | 540 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 376 | 460 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 275 | 180 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | hardhead | 387 | 495 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | hardhead | 371 | 390 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | hardhead | 360 | 380 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | hardhead | 384 | 425 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | brown trout | 358 | 350 |
| Chili Bar | 11/13/02 | G6 | 1 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | hardhead | 437 | 750 |
| Chili Bar | 11/13/02 | G6 | 2 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 286 | 210 |
| Chili Bar | 11/13/02 | G6 | 2 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 302 | 275 |
| Chili Bar | 11/13/02 | G6 | 2 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | Sacramento sucker | 395 | 620 |
| Chili Bar | 11/13/02 | G6 | 2 | 5:20 | 15 | 15 | 91.1 | x | 10.6 | 6 | brown trout | 468 | 830 |
| Gerle Creek | 10/29/03 | G1 | 1 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 335 | 375 |
| Gerle Creek | 10/29/03 | G1 | 1 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 343 | 365 |
| Gerle Creek | 10/30/03 | G1 | 2 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 360 | 445 |
| Gerle Creek | 10/30/03 | G1 | 2 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 299 | 240 |
| Gerle Creek | 10/30/03 | G1 | 2 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 314 | 290 |
| Gerle Creek | 10/30/03 | G1 | 2 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 329 | 360 |
| Gerle Creek | 10/30/03 | G1 | 2 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 321 | 260 |
| Gerle Creek | 10/31/03 | G1 | 4 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 315 | 300 |
| Gerle Creek | 10/31/03 | G1 | 4 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 226 | 155 |
| Gerle Creek | 10/31/03 | G1 | 4 | 45.25 | 32.5 | 21 | 81.7 | 8.64 | 12.7 | 41 | brown trout | 323 | 325 |
| Gerle Creek | 10/29/03 | G3 | 1 | 44.75 | 23 | 18 | 85.6 | 8.86 | 13 | 32 | brown trout | 312 | 300 |
| Gerle Creek | 10/29/03 | G3 | 1 | 44.75 | 23 | 18 | 85.6 | 8.86 | 13 | 32 | brown trout | 325 | 340 |
| Gerle Creek | 10/30/03 | G3 | 2 | 44.75 | 23 | 18 | 85.6 | 8.86 | 13 | 32 | brown trout | 367 | 450 |
| Gerle Creek | 10/30/03 | G4 | 2 | 45.74 | 17.8 | 13 | 80.1 | 8.49 | 12.8 | 32 | brown trout | 300 | 255 |
| Gerle Creek | 10/30/03 | G4 | 2 | 45.74 | 17.8 | 13 | 80.1 | 8.49 | 12.8 | 32 | brown trout | 299 | 250 |
| Gerle Creek | 10/30/03 | G4 | 2 | 45.74 | 17.8 | 13 | 80.1 | 8.49 | 12.8 | 32 | brown trout | 296 | 285 |
| Gerle Creek | 10/30/03 | G4 | 2 | 45.74 | 17.8 | 13 | 80.1 | 8.49 | 12.8 | 32 | brown trout | 302 | 240 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 315 | 280 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 360 | 450 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 300 | 260 |

SMUD UARP - Fisheries Reservoir Sampling Data 2002-2003.

| Reservoir | Pull Date | Net # | Net Check Haul # | Total Time Fished (hr) | Max Depth (ft) | Average Depth (ft) | DO % | DO (mg/l) | Water Temp (C) | Secchi (ft) | Species | Total Length (mm) | Weight (g) |
|-------------|-----------|-------|------------------|------------------------|----------------|--------------------|------|-----------|----------------|-------------|------------------|-------------------|------------|
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 301 | 280 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 314 | 300 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 327 | 350 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 340 | 320 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 304 | 275 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 290 | 240 |
| Gerle Creek | 10/30/03 | G5 | 2 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 336 | 400 |
| Gerle Creek | 10/31/03 | G5 | 4 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 297 | 245 |
| Gerle Creek | 10/31/03 | G5 | 4 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 318 | 295 |
| Gerle Creek | 10/31/03 | G5 | 4 | 45.58 | 13 | 8 | 81.5 | 8.63 | 12.9 | 32 | brown trout | 335 | 315 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 307 | 220 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 306 | 250 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 342 | 420 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 317 | 350 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 318 | 295 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 316 | 360 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 346 | 400 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 333 | 415 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 285 | 275 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 331 | 355 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 275 | 280 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 319 | 395 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 295 | 270 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 306 | 305 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 282 | 260 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 348 | 420 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 302 | 360 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 298 | 300 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 309 | 295 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 336 | 380 |
| Gerle Creek | 10/30/03 | G6 | 2 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 340 | 355 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 310 | 255 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 327 | 390 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 340 | 410 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 333 | 360 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 315 | 360 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 335 | 375 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 299 | 265 |
| Gerle Creek | 10/31/03 | G6 | 4 | 45.58 | 12.4 | 8 | 79.4 | 8.56 | 13.2 | 32 | brown trout | 308 | 315 |
| Gerle Creek | 10/29/03 | S2 | 1 | x | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 | California roach | 34 | 0.4 |
| Gerle Creek | 10/29/03 | S2 | 1 | x | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 | California roach | 29 | 0.4 |
| Gerle Creek | 10/29/03 | S2 | 1 | x | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 | California roach | 40 | 0.8 |
| Gerle Creek | 10/29/03 | S2 | 1 | x | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 | California roach | 25 | 0.2 |
| Gerle Creek | 10/29/03 | S2 | 1 | x | 3 | 1 | 81.5 | 8.63 | 12.9 | 41 | California roach | 29 | 0.3 |

APPENDIX C

FISH STOCKING RECORDS

- Table C-1a-g. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters

Table C-1a. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Buck Island Lake | | | Chili Bar Reservoir | Gerle Creek | | | |
|---------|------------------|---------------------|-------------------|---------------------|---------------------|--------------------|-------------------|------------------|
| | Crosses | Rainbow fingerlings | Brook fingerlings | Rainbow fingerlings | Rainbow fingerlings | Rainbow catchables | Brown fingerlings | Brown catchables |
| 1954 | | | 10000 | | | 1495 | | |
| 1955 | | | 10080 | | | | | |
| 1956 | | | | | | | | |
| 1957 | | | | | | | | |
| 1958 | | | 9940 | | | 6189 | | |
| 1959 | | | 9900 | | | 4352 | | |
| 1960 | | | 7455 | | | 4507 | | |
| 1961 | | | 9900 | | | 4332 | | |
| 1962 | | | 8960 | | 19500 | 4496 | 18002 | 10600 |
| 1963 | | | 7840 | | | 1509 | 19980 | |
| 1964 | | | 6860 | 9900 | | | 3030 | |
| 1965 | | | 5775 | | | | | |
| 1966 | | | 7000 | | | | | |
| 1967 | | | 6500 | | | | | |
| 1968 | | | 6300 | | | | | |
| 1969 | | | 2808 | | | | | |
| 1970 | | 6144 | | | | | | |
| 1971 | | 6400 | | | | | | |
| 1972 | | 6250 | | | | | | |
| 1973 | | 5280 | | | | | | |
| 1974 | 5075 | | | | | | | |
| 1975 | 4938 | | | | | | | |
| 1976 | | | 4980 | | | | | |
| 1977 | Canceled | | | | | 6800 | | |
| 1978 | | | | | | | | |
| 1979 | | | | | | | | |
| 1980 | | | | | | | | |
| 1981 | | | | | | | | |
| 1982 | | | | | | | | |
| 1983 | | | | | | | | |
| 1984 | | | | | | | | |
| 1985 | | | | | | | | |
| 1986 | | | | | | | | |
| 1987 | | | | | | | | |
| 1988 | | | | | | | | |
| 1989 | | | | | | | | |
| 1990 | | | | | | | | |
| 1991 | | | | | | | | |
| 1992 | | | | | | | | |
| 1993 | | | | | | | | |
| 1994 | | | | | | | | |
| 1995 | | | | | | | | |
| 1996 | | | | | | | | |
| 1997 | | | | | | | | |
| 1998 | | | | | | | | |
| 1999 | | | | | | | | |
| 2000 | | | | | | | | |

| Table C-1a. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters. | | | | | | | | |
|--|-------------------------|----------------------------|--------------------------|----------------------------|----------------------------|---------------------------|--------------------------|-------------------------|
| Waters: | Buck Island Lake | | | Chili Bar Reservoir | Gerle Creek | | | |
| Year | Crosses | Rainbow fingerlings | Brook fingerlings | Rainbow fingerlings | Rainbow fingerlings | Rainbow catchables | Brown fingerlings | Brown catchables |
| 2001 | | | | | | | | |
| 2002 | | | | | | | | |
| 2003 | | | | | | | | |
| 2004 | | | | | | | | |

Table C-1b. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | | Ice House Reservoir | | | | | | | | |
|---------|--------------------|-----------------------|------------------------|-------------------|------------------|---------|-------------------|------------------|---------------------|---------------------|
| Year | Rainbow catchables | Lake trout catchables | Lake trout fingerlings | Brook fingerlings | Brook Catchables | Crosses | Brown fingerlings | Brown catchables | Kokanee fingerlings | Rainbow fingerlings |
| 1954 | | | | | | | | | | |
| 1955 | | | | | | | | | | |
| 1956 | | | | | | | | | | |
| 1957 | | | | | | | | | | |
| 1958 | | | | | | | | | | |
| 1959 | | | | | | | | | | |
| 1960 | | | | | | | | | 25740 | 419050 |
| 1961 | | | | | | | | | 100000 | 50000 |
| 1962 | | | | | | | | | 97200 | 100520 |
| 1963 | | | | | | | | | 42000 | 75000 |
| 1964 | | | | | | | | | 52800 | 12156 |
| 1965 | | | | | | | | | 45000 | 18873 |
| 1966 | | | | | | | | 1596 | 66000 | 29658 |
| 1967 | | | | | | | | 5035 | | 33185 |
| 1968 | | | | | 1250 | | | | | |
| 1969 | 25573 | | | | | | | 10100 | | |
| 1970 | 25100 | | | | | | | 4900 | | |
| 1971 | 24035 | | | | | | | | | |
| 1972 | 25760 | | | | | | | | | |
| 1973 | 23640 | | | | | | | | 22016 | 5250 |
| 1974 | 25500 | | | | | 15120 | | | 9600 | |
| 1975 | 14500 | | | | | 7350 | | | | |
| 1976 | 28828 | | | | | 5016 | | | | |
| 1977 | 35540 | | | | | 15270 | | | | |
| 1978 | 20890 | | | | | | | | | |
| 1979 | 17400 | | | | | 14740 | | | | |
| 1980 | 16020 | | | | | 7136 | | | | |
| 1981 | 7850 | | | | | 16465 | | | | |
| 1982 | 34120 | | | | | | | | | |
| 1983 | 24400 | | | | 5100 | | | | | |
| 1984 | 30110 | | | | 4080 | | | 1040 | | |
| 1985 | 60620 | | | | | | | | | |

| Table C-1b. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters. | | | | | | | | | | |
|--|----------------------------|------------------------------|-------------------------------|--------------------------|-------------------------|----------------|--------------------------|-------------------------|----------------------------|----------------------------|
| Waters: | Ice House Reservoir | | | | | | | | | |
| Year | Rainbow catchables | Lake trout catchables | Lake trout fingerlings | Brook fingerlings | Brook Catchables | Crosses | Brown fingerlings | Brown catchables | Kokanee fingerlings | Rainbow fingerlings |
| 1986 | 33470 | | | | | | | | | |
| 1987 | 37880 | | | | | | | 2520 | | |
| 1988 | 31340 | | | | | | | | | |
| 1989 | 19940 | | | | | | | | | |
| 1990 | 20040 | | | | | | | | | |
| 1991 | 13500 | | | | 2850 | | | | | |
| 1992 | 16060 | | 11000 | 5500 | | | | 7750 | | 82250 |
| 1993 | 26590 | | | | | | | 4050 | | |
| 1994 | 27700 | | | | | | | | | |
| 1995 | 9000 | | | | | | | 1600 | | |
| 1996 | 19000 | | | | | | 10000 | | | |
| 1997 | 19600 | | | | | | | 3520 | | |
| 1998 | 14350 | | | | | | | 2880 | | |
| 1999 | 23600 | 1900 | | | | 6150 | | 3520 | | |
| 2000 | 18890 | | | | | | 5400 | 2880 | | |
| 2001 | 20000 | | | | | | 5000 | 3200 | | |
| 2002 | 20000 | | | | | | 10000 | 3200 | | |
| 2003 | 20000 | | | | | | 10000 | 3200 | | |
| 2004 | 19000 | | | | | | 10000 | 2400 | | |

Table C-1c. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Loon Lake | | | | | Lyons Creek | Rockbound Lake | | | | |
|---------|-----------|---------|-----------------------|---------------------|-------------------|--------------------|--------------------|------------------------|---------|---------------------|-------------------|
| | Year | Crosses | Lake trout catchables | Rainbow fingerlings | Brook fingerlings | Rainbow catchables | Rainbow catchables | Lake trout fingerlings | Crosses | Rainbow fingerlings | Brook fingerlings |
| 1954 | | | 24640 | 25000 | | | | | | 7952 | 8000 |
| 1955 | | | 25200 | 24960 | | | | | | 8000 | 8040 |
| 1956 | | | 24975 | 24983 | | | | | | 7992 | 8058 |
| 1957 | | | | | | 1997 | | | | 8100 | 8000 |
| 1958 | | | 25200 | 24820 | | 2497 | | | | 8040 | 7440 |
| 1959 | | | 14784 | 14910 | | 1676 | | | | 7920 | 7920 |
| 1960 | | | | | | 718 | | | | 7920 | |
| 1961 | | | | | | 1519 | | | | 9900 | 15510 |
| 1962 | | | 14960 | | | | | | | 8160 | 10081 |
| 1963 | 43200 | | 12375 | | | | | | | 7650 | 7840 |
| 1964 | 30000 | | 349600 | | | | | | | 8000 | 7840 |
| 1965 | | | 205225 | | | | | | | 8000 | 6750 |
| 1966 | | | 144000 | | | | | | | 7820 | |
| 1967 | | | 117425 | | | | | | | 7800 | |
| 1968 | | | 74973 | | | | | | | 6300 | |
| 1969 | 42960 | | | 4930 | | | | | | 2808 | |
| 1970 | | | | | | | | | | 8192 | |
| 1971 | | | 75040 | | | 15520 | | | | 8000 | |
| 1972 | | | 101250 | | | 11380 | | | | 7500 | |
| 1973 | | | | | | 10215 | | | | 5280 | |
| 1974 | | | 19950 | | | 16400 | | | | 7400 | |
| 1975 | | | | | | | | | 7560 | | |
| 1976 | 15120 | | | | | 21530 | | | | 8040 | |
| 1977 | 15525 | | | | | 26610 | | | | 10127 | |
| 1978 | 26920 | | | 24800 | 20300 | | | 8002 | | | |
| 1979 | 15890 | | | 988 | 17180 | | | 8000 | | | |
| 1980 | 41615 | | | | 15890 | | | 8064 | | | |
| 1981 | | | 25000 | | 27590 | | | 8000 | | | |
| 1982 | | | | | 30590 | | | 7975 | | | |
| 1983 | | | | | 26440 | | | 8000 | | | |
| 1984 | | | | | 43600 | | | 8000 | | | |
| 1985 | | | | | 69240 | | | | | 8000 | |

| Waters: | Loon Lake | | | | | Lyons Creek | Rockbound Lake | | | |
|----------------|------------------|------------------------------|----------------------------|--------------------------|---------------------------|---------------------------|-------------------------------|----------------|----------------------------|--------------------------|
| Year | Crosses | Lake trout catchables | Rainbow fingerlings | Brook fingerlings | Rainbow catchables | Rainbow catchables | Lake trout fingerlings | Crosses | Rainbow fingerlings | Brook fingerlings |
| 1986 | | | | | 36430 | | | | 8000 | |
| 1987 | | | | | 19580 | | | | 8000 | |
| 1988 | | | | | 34250 | | | | 9000 | |
| 1989 | | | | | 30140 | | | | 8000 | |
| 1990 | | | | | 24200 | | | | 8100 | |
| 1991 | | | | | 19500 | | | | 8100 | |
| 1992 | | | | | 33890 | | 8000 | | | |
| 1993 | | | | | 22100 | | | | 8000 | |
| 1994 | | | | | 17400 | | | | 8000 | |
| 1995 | | | | | 8000 | | | | 8000 | |
| 1996 | | | | | 17500 | | | | 8050 | |
| 1997 | | | | | 20900 | | | | 10000 | |
| 1998 | | | | | 12900 | | | | 8000 | |
| 1999 | | 1900 | | | 22100 | | | 8050 | | |
| 2000 | | | | | 19250 | | | | 8000 | |
| 2001 | | | | | 20000 | | | | 8000 | |
| 2002 | | | | | 20000 | | | | 8000 | |
| 2003 | | | | | 20000 | | | | 8000 | |
| 2004 | | | | | 18000 | | | | 8000 | |

| Waters: | Rubicon Reservoir | | | Rubicon Lake | | | Silver Creek, Jones Fork | Silver Creek |
|---------|-------------------|---------|---------------------------|------------------------|---------|------------------------|-----------------------------|----------------------|
| | Year | Crosses | Lake trout fingerlings | Rainbow fingerlings | Crosses | Rainbow fingerlings | Brook fingerlings | Brown fingerlings |
| 1954 | | | | | | 2000 | 3000 | |
| 1955 | | | | | | 3320 | | |
| 1956 | | | | | | 2040 | | |
| 1957 | | | | | | 2000 | | |
| 1958 | | | | | | 2000 | | 999 |
| 1959 | | | | | | 2024 | | |
| 1960 | | | | | | 1980 | | 718 |
| 1961 | | | | | | 1980 | | |
| 1962 | | | | | | 2240 | | |
| 1963 | | | | | | 980 | | |
| 1964 | | | | | | 1960 | | |
| 1965 | | | | | | 2040 | | |
| 1966 | | | | | | | | |
| 1967 | | | | | | 6000 | | |
| 1968 | | | | | | 500 | | |
| 1969 | | | | | | 1000 | | |
| 1970 | | | | | | 1000 | | |
| 1971 | | | | | | 1000 | | |
| 1972 | | | | | | 828 | | |
| 1973 | | | | | 1000 | | | |
| 1974 | | | | | 1000 | | | 1010 |
| 1975 | 12082 | | | | 1008 | | | |
| 1976 | | | | | | 1020 | | |
| 1977 | | | | | | 1004 | | |
| 1978 | 10026 | | | | 1004 | | | |
| 1979 | 10000 | | | | 1000 | | | |
| 1980 | | | | | 10976 | | | |
| 1981 | 10000 | | | | | | | |
| 1982 | 9900 | | | | | | | |
| 1983 | 10000 | | | | | | | |
| 1984 | 10000 | | | | | | | |
| 1985 | | | | | | | | |
| 1986 | | | | | | | | |
| 1987 | | | | | | | | |
| 1988 | | | | | | | | |
| 1989 | | | | | | | | |
| 1990 | | | | | | | | |
| 1991 | | | | | | | | |
| 1992 | | | 10000 | | | | | |
| 1993 | | | 10000 | | | | | |
| 1994 | | | 10000 | | | | | |
| 1995 | | | 10000 | | | | | |
| 1996 | | | 9800 | | | | | |
| 1997 | | | 10000 | | | | | |
| 1998 | | | 8000 | | | | | |
| 1999 | 9450 | | | | | | | |
| 2000 | | | 10000 | | | | | |

Table C-1d. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Rubicon Reservoir | | | Rubicon Lake | | | Silver Creek, Jones Fork | Silver Creek |
|----------------|--------------------------|-------------------------------|----------------------------|---------------------|----------------------------|--------------------------|---------------------------------|---------------------------|
| Year | Crosses | Lake trout fingerlings | Rainbow fingerlings | Crosses | Rainbow fingerlings | Brook fingerlings | Brown fingerlings | Rainbow Catchables |
| 2001 | | | 10000 | | | | | |
| 2002 | | | 10000 | | | | | |
| 2003 | | | 10000 | | | | | |
| 2004 | | | 10000 | | | | | |

Table C-1e. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Silver Creek, Little | Silver Creek, South Fork | | | | |
|----------------|-----------------------------|---------------------------------|---------------------------|----------------------------|-------------------------|--------------------------|
| Year | Brown fingerlings | Crosses | Rainbow catchables | Rainbow fingerlings | Brown catchables | Brown fingerlings |
| 1954 | | | 2117 | | | 2250 |
| 1955 | | | 2150 | | | |
| 1956 | | | 1997 | | | |
| 1957 | | | | | | |
| 1958 | 11000 | | 1499 | | | |
| 1959 | | | 1816 | | | |
| 1960 | | | | | | |
| 1961 | | | 1505 | 9997 | 5010 | 9000 |
| 1962 | | | 2491 | 7500 | | 20004 |
| 1963 | | | 1525 | 16751 | | 10625 |
| 1964 | | | 2511 | | | |
| 1965 | | | 1994 | | | |
| 1966 | | | 24133 | | | |
| 1967 | | | | | | |
| 1968 | | | 1534 | | | |
| 1969 | | 1387 | 645 | | | |
| 1970 | | | 1657 | | 443 | |
| 1971 | | | 2476 | | | |
| 1972 | | | 1548 | | | |
| 1973 | | 270 | 1159 | | | |
| 1974 | | | | | | |
| 1975 | | | 637 | | | |
| 1976 | | | 910 | | | |
| 1977 | | | 1120 | | | |
| 1978 | | | 767 | | | |
| 1979 | | 135 | 850 | | | |
| 1980 | | | 819 | | | |
| 1981 | | | 810 | | | |
| 1982 | | | 925 | | | |
| 1983 | | | 487 | | | |
| 1984 | | | 1010 | | | |
| 1985 | | | 780 | | | |
| 1986 | | | 1075 | | | |
| 1987 | | | 260 | | | |

Table C-1e. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Silver Creek, Little | Silver Creek, South Fork | | | | |
|----------------|-----------------------------|---------------------------------|---------------------------|----------------------------|-------------------------|--------------------------|
| Year | Brown fingerlings | Crosses | Rainbow catchables | Rainbow fingerlings | Brown catchables | Brown fingerlings |
| 1988 | | | 280 | | | |
| 1989 | | | 630 | | | |
| 1990 | | | | | | |
| 1991 | | | | | | |
| 1992 | | | | | | |
| 1993 | | | | | | |
| 1994 | | | | | | |
| 1995 | | | | | | |
| 1996 | | | | | | |
| 1997 | | | | | | |
| 1998 | | | | | | |
| 1999 | | | | | | |
| 2000 | | | | | | |
| 2001 | | | | | | |
| 2002 | | | | | | |
| 2003 | | | | | | |
| 2004 | | | | | | |

Table C-1f. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Waters: | Union Valley Reservoir | | | | | | | |
|----------------|-------------------------------|---------------------------|-------------------------|---------------------------|-------------------------------|------------------------------|----------------------------|----------------|
| Year | Brown catchables | Rainbow catchables | Brook catchables | Kokanee fingerling | Lake trout fingerlings | Lake trout catchables | Rainbow fingerlings | Crosses |
| 1954 | | | | | | | | |
| 1955 | | | | | | | | |
| 1956 | | | | | | | | |
| 1957 | | | | | | | | |
| 1958 | | | | | | | | |
| 1959 | | | | | | | | |
| 1960 | | | | | | | | |
| 1961 | | | | | | | | |
| 1962 | | | | | | | 367106 | |
| 1963 | | | | 151110 | | | 531110 | |
| 1964 | | | | 122160 | | | 621782 | |
| 1965 | | | | 94500 | | | 250500 | |
| 1966 | | | | 147000 | | | 288403 | |
| 1967 | | | | 197950 | | | 99000 | |
| 1968 | | 3500 | | | | | | |
| 1969 | 200 | 21768 | | | | | 67981 | 98508 |
| 1970 | | | | | | | | |
| 1971 | | 22790 | | | | | | 30720 |
| 1972 | | 21330 | | | | | 5180 | 4987 |
| 1973 | | 20960 | | 55040 | | | 20096 | 7227 |
| 1974 | | 14900 | | | | | 29808 | 7215 |
| 1975 | | 24517 | | | | | 10008 | 30210 |

| Waters: | Union Valley Reservoir | | | | | | | |
|----------------|-------------------------------|---------------------------|-------------------------|---------------------------|-------------------------------|------------------------------|----------------------------|----------------|
| Year | Brown catchables | Rainbow catchables | Brook catchables | Kokanee fingerling | Lake trout fingerlings | Lake trout catchables | Rainbow fingerlings | Crosses |
| 1976 | | 6500 | | | | | | 60000 |
| 1977 | | | | | | | | 9984 |
| 1978 | 4500 | 32780 | | | | | | 14960 |
| 1979 | 4800 | 23320 | | | 3500 | | | 2080 |
| 1980 | 4988 | 19809 | | | | | | 27128 |
| 1981 | | 30155 | | | | | | |
| 1982 | 5400 | | | | | | | 25865 |
| 1983 | 9900 | 22660 | | | | | | |
| 1984 | 4000 | 24960 | | | | | | |
| 1985 | | 54760 | | | 4500 | | | |
| 1986 | | 40720 | | | | | | |
| 1987 | | 12900 | | | | | | |
| 1988 | | 17810 | | | | | | |
| 1989 | | 15560 | | | | | | |
| 1990 | | 26330 | 2380 | | | | | |
| 1991 | | 11200 | 2850 | | | | | |
| 1992 | | 1530 | | | 4110 | | | |
| 1993 | | 29100 | | | | | | |
| 1994 | | 18500 | | 51200 | 19400 | | | |
| 1995 | | 8000 | | 50000 | | | | |
| 1996 | | 19000 | | 71070 | 25024 | | | |
| 1997 | | 21600 | | | | | | |
| 1998 | | 17650 | | 76800 | 1236 | | | |
| 1999 | | 18960 | | 24660 | 2720 | 1900 | 32000 | 122385 |
| 2000 | | 13100 | | 75026 | 2700 | | | |
| 2001 | | 14000 | | 50000 | 1000 | | | |
| 2002 | | 14000 | | 50000 | 5000 | | | |
| 2003 | | 14000 | | 25000 | 10000 | | | |
| 2004 | | 14000 | | 25000 | | | | |

| Waters: | Wrights Lake | | | | | | |
|----------------|---------------------------|--------------------------|-------------------------|--------------------------|-------------------------|----------------------------|----------------|
| Year | Rainbow catchables | Brook fingerlings | Brook catchables | Brown fingerlings | Brown catchables | Rainbow fingerlings | Crosses |
| 1954 | 4000 | | | | | | |
| 1955 | 5420 | | | | | | |
| 1956 | | 5100 | | 8835 | | | |
| 1957 | | 5040 | | 9792 | | | |
| 1958 | | 27000 | | | | | |
| 1959 | | 24090 | | | | | |
| 1960 | | 9900 | | 10500 | | | |
| 1961 | | 14850 | | 9000 | | | |
| 1962 | | 14960 | | 10004 | | | |

Table C-1g. Fish stocking reported by the California Department of Fish and Game in the Area of Potential Effect and other selected waters.

| Wrights Lake | | | | | | | |
|---------------------|---------------------------|--------------------------|-------------------------|--------------------------|-------------------------|----------------------------|----------------|
| Waters: | | | | | | | |
| Year | Rainbow catchables | Brook fingerlings | Brook catchables | Brown fingerlings | Brown catchables | Rainbow fingerlings | Crosses |
| 1963 | | 10290 | | 21250 | | | |
| 1964 | | 10080 | | 19975 | | | |
| 1965 | | 9520 | | 20460 | | | |
| 1966 | | | | 5004 | | | |
| 1967 | | 12000 | | 7000 | | | |
| 1968 | | | | 4020 | | 4067 | 3008 |
| 1969 | 2377 | | | 4032 | | | 1973 |
| 1970 | | | | | | | |
| 1971 | 3000 | | | | | | 7967 |
| 1972 | 4495 | 2484 | | | | | |
| 1973 | 3873 | 1408 | | 2480 | | | 675 |
| 1974 | 3945 | 2496 | | | | | |
| 1975 | 2632 | | | | | | |
| 1976 | 5070 | 2010 | | | | | |
| 1977 | 3320 | | | | 1650 | | |
| 1978 | 2917 | 3840 | | 1992 | 2000 | | |
| 1979 | 2550 | 1995 | | | 1620 | | 1215 |
| 1980 | 4068 | 1980 | | | | | |
| 1981 | 4095 | 2025 | | | | | |
| 1982 | 3767 | | | | | | |
| 1983 | 2100 | | | | 1000 | | |
| 1984 | 2020 | | | | 5025 | | |
| 1985 | 5125 | | | | 990 | | |
| 1986 | 2395 | | | | | | |
| 1987 | 2700 | | | | 2685 | | |
| 1988 | 2100 | | | | 1700 | | |
| 1989 | 4100 | | | | 1950 | | |
| 1990 | 875 | | 850 | | | | |
| 1991 | 1555 | | 950 | | | | |
| 1992 | 1865 | | | | 3100 | | |
| 1993 | 2250 | | | | 1050 | | |
| 1994 | 1010 | | | | | | |
| 1995 | 800 | | | | 800 | | |
| 1996 | | | | | | | |
| 1997 | 3820 | | | | 1810 | | |
| 1998 | 1080 | | | | 1360 | | |
| 1999 | | | | | | | |
| 2000 | 1660 | | | | 1440 | | |