

**Placer County Water Agency  
Middle Fork American River Project  
(FERC Project No. 2079)**

**SUPPLEMENTAL BIOLOGICAL  
TECHNICAL STUDY REPORT – 2011**



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## **1.0 INTRODUCTION**

The Placer County Water Agency (PCWA) filed an Application for New License [herein referred to as the License Application] for the Middle Fork American River Project (MFP or Project) on February 23, 2011 (PCWA 2011a). PCWA's License Application contained terrestrial resources information that was based on studies conducted between 2005 and 2010. Following submittal of the License Application, PCWA conducted supplemental surveys that were necessary to augment terrestrial resource information available to FERC for consideration in their National Environmental Policy Act (NEPA) analysis. This additional information should facilitate a more robust and inclusive NEPA analysis by FERC.

## **2.0 BACKGROUND**

In support of the License Application, PCWA completed biological resource surveys in 2005 and 2010. The scope of these surveys (i.e., objectives and methods) were developed in consultation with state and federal resource agencies, Native American Tribes, local government organizations (NGOs) and members of the public. The results of the biological resource surveys are documented in the following reports:

- TERR 2 - Special-Status Plants Technical Study Report (TERR 2 - TSR) (PCWA 2011b);
- TERR 3 - Noxious Weeds Technical Study Report (TERR 3 – TSR) (PCWA 2011c);
- TERR 4 - Special-Status Wildlife Technical Study Report (TERR 4 – TSR) (PCWA 2011d); and
- AQ 10 - Riparian Resources Technical Study Report (AQ 10 – TSR) (PCWA 2011e).

Additional biological resource information reported in Section 6.0 below was obtained during supplemental surveys completed in 2011. These surveys were conducted consistent with objectives and study approaches (Technical Study Plans [TSPs]) that were approved by state and federal resource agencies, Native American Tribes, and local government organizations (NGOs). Federal Energy Regulatory Commission (FERC) provided approval for the TSPs in its study plan determination letter dated July 18, 2008 (FERC 2008).

## **3.0 STUDY OBJECTIVES**

The 2011 survey effort focused on identifying botanical and wildlife resources that may be present in previously unsurveyed areas. The study objectives of the supplemental botanical and wildlife surveys are consistent with those identified in the FERC-approved TERR 2, TERR 3, TERR 4, and AQ 10 TSPs (available in Supporting Document (SD) H of PCWA's Pre-Application Document (PAD) (PCWA 2007). Specific study objectives for each survey type are provided below in Section 5.0.

## 4.0 EXTENT OF STUDY AREA

Supplemental surveys were conducted at: 1) new gages and associated features included in PCWA's Proposed Action for which, at the time of the submittal of the License Application, the precise location was unknown; 2) new Project roads or road segments included in PCWA's Proposed Action that were added just prior to the submittal of the License Application, after FERC-approved technical studies had been completed; and 3) proposed Project recreation facilities and features included in resource agency preliminary conditions and recommendations.

The areas that PCWA surveyed for biological resources in 2011 are graphically depicted on Map 1 and described in the following subsections. A list of the facilities that were surveyed in 2011, as well as the specific survey types conducted at each facility, is provided in Table 1. The areas surveyed around each facility type are consistent with the TSPs that were approved by state and federal resource agencies, Native American Tribes, local government organizations (NGOs). These TSPs were also approved by FERC in its study plan determination letter dated July 2009.

### 4.1 SPECIAL-STATUS PLANTS AND NOXIOUS WEEDS

The area surveyed around each facility type for special-status plants and noxious weeds included the area necessary for operation and maintenance of the facility plus an additional buffer. These areas were consistent with the TERR 2 and TERR 3 TSPs (PCWA 2007). These areas are shown below:

Study Area	Project Facilities and Features / Project Recreation Facilities and Features
10 feet	<ul style="list-style-type: none"> <li>• on either side of trails</li> </ul>
20 feet	<ul style="list-style-type: none"> <li>• around the perimeter of the large reservoirs, medium reservoirs, and diversion pools</li> <li>• outside the perimeter fence of powerhouses, switchyards, and substations</li> <li>• around ancillary support facilities and Project fences</li> </ul>
30 feet	<ul style="list-style-type: none"> <li>• on either side of penstocks, valve houses, and removable sections</li> <li>• around gaging stations and weirs</li> <li>• on either side of communication lines, powerlines, photovoltaic poles and lines, and roads and access points</li> </ul>
60 feet	<ul style="list-style-type: none"> <li>• around intakes, gatehouses, surge tanks, adits, portals, microwave reflectors, radio towers, sediment disposal areas, and drop inlets</li> </ul>
100 feet	<ul style="list-style-type: none"> <li>• around Project recreation facilities and dispersed concentrated use areas</li> </ul>

### 4.2 SPECIAL-STATUS WILDLIFE

The survey area for general wildlife surveys is 100 feet around Project facilities and features and Project recreation facilities and features. This area is consistent with the TERR 4 TSP (PCWA 2007).

### **4.3 RIPARIAN RESOURCES**

Riparian vegetation surveys were conducted at the Project facilities and features that occur along bypass reaches associated with the MFP. The survey area included all areas within the construction footprint where construction and construction-related activities are expected to occur for the Project facilities and features (PCWA 2011a, Appendix A; USDA 2011, Recreation Plan). Specific survey locations are identified in Table 1, and the construction footprints are shown in Map 5.

### **5.0 STUDY APPROACH**

The study approaches for the botanical and wildlife surveys are consistent with those described in the TERR 2, TERR 3, TERR 4, and AQ 10 TSPs (PCWA 2007). The following subsections summarize these study approaches by resource area.

#### **5.1 SPECIAL-STATUS PLANTS**

The objective of the special-status plant surveys conducted in 2011 was to document special-status plants and mosses at the areas listed in Table 1.

For the purposes of this report, a special-status species is defined as any plant species that is granted protection by a federal or state agency:

- Federally listed species granted status by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA) include threatened (FT), endangered (FE), proposed threatened or endangered (FPT, FPE), candidate (FC), or listed species proposed for delisting (FPD). The U.S. Department of Agriculture - Forest Service (USDA-FS) grants status to Forest Service Sensitive (FSS) plants and mosses, as designated on lists developed by each forest (USDA-FS 2006a and 2006b).
- Plant species that are granted status by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA) include state threatened (ST), endangered (SE), rare (SR), and California Species of Special Concern (CSC).
- The California Native Plant Society (CNPS) also maintains a rating system for rare, threatened, or endangered plants in California. Under the California Environmental Quality Act (CEQA), special-status plants include species listed on CNPS Lists 1B and 2. The ratings included on those lists are: 1B - rare, threatened, or endangered in California and elsewhere, and 2 - rare in California but more common elsewhere.

A list of special-status plants known to occur or potentially occurring in the MFP was developed in consultation with resources agencies and was provided in the (PCWA 2011a). This target special-status species list was used in conducting supplemental special-status plant surveys and is provided as Table 2.

Determination of survey timing and botanical survey methods are described below.

### 5.1.1 Survey Timing

Surveys for special-status plants were conducted at the proper time of year when rare, threatened, and endangered plants are both evident and identifiable (i.e., when the plants are flowering). The appropriate timing for conducting special-status plant surveys was determined based on a literature review of blooming periods for species potentially occurring in the study area (PCWA 2011a). The survey timing was further refined in consideration of weather conditions in 2011 (e.g., timing of snowmelt) and through consultation with ENF and TNF. Early season surveys were conducted June 13–July 12, 2011, and late season surveys were conducted July 25–29, 2011.

### 5.1.2 Survey Methods

All special-status plant surveys were conducted in accordance with the *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities* (CDFG 2000). Two teams of two botanists searched for and recorded the occurrence of special-status plant species in the survey area using various systematic field techniques (e.g., zig-zag patterns, random meandering, and linear transects) as appropriate. Surveys were conducted only in accessible areas.

Surveys were floristic in nature, and nomenclature was based on The Jepson Manual (Hickman 1993). All plant species observed during field surveys were recorded and identified to the level necessary to determine whether they were a special-status plant, or a plant species with unusual or significant range extensions. Samples of all moss species observed were collected and labeled with the date and location, as well as a description of the habitat where the moss was growing. All mosses were later identified to species by a bryologist.

For each special-status plant or moss population identified, the following data were recorded on datasheets developed for the TERR 2 TSR (PCWA 2011b) surveys:

- Date
- General location
- Geographic Positioning System (GPS) location coordinates (in North American Datum (NAD) 83)
- Photograph number
- Vegetation community
- Population size (i.e., polygon size)
- Approximate number of individuals

When a special-status plant or moss species was identified on the perimeter of the study area, the study area was expanded to document the extent of the population. The location of each special-status species was mapped on a 7.5-minute USGS quadrangle.

California Natural Diversity Database Field Survey Forms for each population identified were completed and submitted to CDFG.

## 5.2 NOXIOUS WEEDS

The objective of the noxious weed surveys conducted in 2011 was to document noxious weed populations at the areas listed in Table 1.

A list of target noxious weeds species was developed for the TERR 3 – Noxious Weeds TSP through a review of Cal-IPC's *California Invasive Plant Inventory* (Cal-IPC 2006), and CDFA's *Noxious Weed Pest Ratings* (California Department of Food and Agriculture (CDFA 2007), and information provided by the U.S. Department of Agriculture – Forest Service (USDA-FS). This list of noxious weeds was included as Table 7-2 in SD F of the PAD (PCWA 2007). This list of target noxious weed species was used in conducting the 2011 supplemental noxious weed surveys and is included as Table 3.

Noxious weed surveys were conducted in conjunction with special-status plant surveys (June 13–July 12, 2011, and July 25–29, 2011). Survey methods were consistent with Section 2083 of the *Forest Service Manual, Information and Reporting Guidelines for Noxious Weeds* (USDA-FS 1995). Two teams of two botanists searched for and recorded the occurrence of target noxious weed species in the survey area using various systematic field techniques (e.g., zig-zag patterns, random meandering, and linear transects) as appropriate. Surveys were conducted only in accessible areas.

For each noxious weed population identified, the following data were recorded on datasheets developed for the TERR 3 (PCWA 2011c) surveys:

- Species
- Date
- General location
- Geographic Positioning System (GPS) location coordinates
- Population size (i.e., area in square feet and acres)
- Infestation level: low (<5% cover); moderate (6–25% cover); and high (>25% cover).

Data obtained from field surveys on the location and extent of noxious weed populations were processed and developed into maps. GIS layers showing the location of noxious weeds, existing Project facilities and features, Project recreation facilities, and dispersed concentrated use areas were overlaid on full color orthophotographs of the study area. Because the study area often contained more than one noxious weed species in a single location, overlapping noxious weed populations were grouped together into inclusive polygons for mapping purposes.

### 5.3 SPECIAL-STATUS WILDLIFE

The objective of the special-status wildlife surveys conducted in 2011 was to identify wildlife species use and diversity at the areas listed in Table 1.

For the purpose of this document, a special-status wildlife species is defined as any animal species that is granted status by a federal, state, or local agency:

- Federal listed species granted status by U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) include Federal Threatened (FT), Federal Endangered (FE), Federal Threatened (Proposed) (FPT), Federal Endangered (Proposed) (FPE), Federal Candidate for Listing (FC), or Federal Proposed for Delisting (FPD). In addition, the U.S. Department of Agriculture - Forest Service (USDA-FS) grants special status to Forest Service Sensitive (FSS) wildlife species and National Forest Management Indicator Species (MIS) for each specific forest under their jurisdiction.
- State of California listed terrestrial wildlife species which are granted status by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA) include State Threatened (ST), State Endangered (SE), California Fully Protected species (CFP), and California Species of Concern (CSC).

A list of special-status wildlife known to occur or potentially occurring in the MFP was developed in consultation with resources agencies and was provided in the License Application (PCWA 2011a). This list of target special-status wildlife was used in conducting the 2011 supplemental special-status wildlife surveys and is included as Table 4.

The TERR 4 - Special-Status Wildlife TSP describes focused field surveys for raptors including bald eagles, osprey, and northern goshawk, which were conducted within ¼ mile of Project reservoirs, large bypass and peaking stream reaches. Because the areas to be surveyed in 2011 (Table 1) are all within the survey area in which protocol-level surveys for bald eagles and osprey were completed in 2007 and 2008, additional bald eagle and osprey surveys were not necessary. Therefore, raptor surveys in 2011 included northern goshawk only. General wildlife surveys conducted in 2011 included avian area searches and Terrestrial Visual Encounter Surveys (TVES), as well as compilation of incidental wildlife observations recorded during supplemental special status plant, noxious weed, and other special-status wildlife surveys.

#### 5.3.1 Northern Goshawk Surveys

Northern goshawk surveys were conducted July 25, 2011, during northern goshawk nesting season, in accordance with the intensive search survey guidelines described in the *Northern Goshawk Inventory and Technical Monitoring Guide* (Woodbridge and Hargis 2006). A summary of development of survey area maps and field survey methods is provided below.

### **5.3.1.1 Survey Area Maps**

A preliminary survey map was developed showing the location of northern goshawk habitat within  $\frac{1}{4}$  of each proposed new facility that had not been previously surveyed for northern goshawks. Based on a review of the preliminary survey maps considering northern goshawk habitat requirements, it was determined that supplemental surveys for northern goshawk would be conducted at only two Project facilities in the vicinity of Ellicott Bridge, the Ellicott Bridge Parking Area (new) and the Rubicon River above Ellicott Bridge (RREB) Gage (existing, added to MFP). These were the only areas that represented potential northern goshawk habitat, which is defined as:

- USDA-FS northern goshawk PACs, and
- Any other forested areas that have the following characteristics important to habitat for northern goshawk as defined by USDA-FS (USDA-FS 2004a) including:
  - Trees in the dominant and co-dominant crown classes averaging at least 24 inches diameter at breast height (dbh)
  - At least 70% tree canopy cover in westside conifer and eastside mixed conifer forests, and at least 60% tree canopy cover in eastside pine forests

Refer to Map 4 for the location of northern goshawk surveys.

### **5.3.1.2 Survey Methods**

Focused northern goshawk surveys were conducted during northern goshawk nesting season on July 25, 2011. Because of the limited size of the survey area, the survey was conducted by a single observer. Three transects spaced approximately 30 meters apart were established within the survey area. The observer walked along each transect and broadcast ten-second northern goshawk vocalizations at six points along each transect. Broadcasts were sounded three times at approximately 60, 180, and 300 degrees from each point. Between the broadcasts, surveyor listened and watched for any signs of northern goshawks for roughly 30 seconds before rotating to the next degree. Both the adult alarm call and the juvenile wail call were broadcast. Observer walked at a slow pace, allowing sufficient time to scan the ground, trees, low limbs and downed logs for any possible northern goshawk signs (feathers, prey remains, whitewash, or nests). All detections of northern goshawk or their sign were recorded and/or collected as necessary for species verification. General survey information was recorded for each site including date, observer name, survey method, wind speed, cloud cover, temperature and survey time.

## **5.3.2 General Wildlife**

### **5.3.2.1 Avian Area Searches**

Avian area searches are a commonly employed bird censusing technique effective for the detection of a majority of songbirds and woodpeckers derived from the USDA-FS's

*Multiple Species Inventory and Monitoring Protocol: A Technical Guide for Monitoring Plants and Animals on National Forest Service Lands* (MSIM) (Manley et al. 2006). Avian area searches were conducted to document avian species assemblages and CWHR habitat use.

Avian surveys were conducted twice—once between June 13 and June 15, 2011 to document breeding bird assemblages, and once between September 26 and September 27, 2011 to document resident (i.e., non-breeding, non-migratory) bird assemblages. Search area polygons were established within 100 feet of project facilities. Twenty minute searches were conducted within each search area from sunrise to 1000 hours. Two observers walked randomly around the designated polygon, noting each bird species heard or seen within the polygon. Observers also made a visual search for bird nests or special-status species, particularly in areas supporting riparian vegetation. “Flyovers” (i.e., birds passing overhead) were also noted. Surveys were not conducted in windy (i.e., Beaufort rating of 3 or greater) or rainy conditions, or when noise levels (e.g., from falling water or equipment) were too loud to allow for accurate detection of bird songs and calls. Specifically, early season avian area searches were not conducted in the vicinity of Middle Fork Interbay because the noise levels from water spilling over the dam prevented detection of bird song and bird calls.

The following data were recorded on datasheets developed for these studies:

- Date
- General location
- GPS coordinates
- Weather conditions (e.g., wind speed)
- CWHR wildlife habitat
- Start and stop time
- Bird species observed
- Incidental wildlife species observed

### **5.3.2.2 Terrestrial Visual Encounter Surveys**

TVES are general wildlife surveys designed to detect a variety of terrestrial species, especially mammals, reptiles, and diurnal raptors. These were conducted to determine wildlife species diversity and habitat use. Survey methods are described in the USDA-FS’s *Multiple Species Inventory and Monitoring Protocol: A Technical Guide for Monitoring Plants and Animals on National Forest Service Lands* (MSIM) (Manley et al. 2006). The MSIM was developed by USDA-FS to identify cost-effective and reliable sampling methods for each of several taxonomic groups found on National Forest lands, including reptiles, terrestrial birds, and mammals.

TVES were conducted in conjunction with avian point count surveys and the TERR 2 - (PCWA 2011b) TERR 3 (PCWA 2011c) surveys. TVES were conducted between 0800 and 1800 hours. Two observers searched methodically within each survey area, walking in a zigzag pattern to cover the entire area. Surveys were conducted only in accessible areas. Wildlife signs to be recorded included direct species observation, scat, pellets, whitewash, tracks, nests, fur or feathers, burrows, dens, latrines, prey remains, vegetation browse, food caches, and markings on the ground or on tree bark. The following data were recorded on datasheets developed for these studies:

- Date
- Time
- General location
- Weather conditions
- CWHR wildlife habitat
- Wildlife sign observed
- Specific location or GPS coordinates of sign
- Photographs of sign
- Incidental wildlife species observed

### **5.3.3 Incidental Wildlife Observations**

Incidental wildlife observations documented during the 2011 survey season were compiled and reviewed. The following data were obtained for each observation, when possible: date, location of observation, and species observed. These data were entered into a spreadsheet and reviewed for accuracy and reliability. Follow-up contact with the original observer was made to obtain additional information or clarification, as necessary.

## **5.4 RIPARIAN RESOURCES**

The objective of riparian surveys conducted in 2011 was to identify riparian vegetation located at the previously unsurveyed areas listed in Table 1. Surveys were focused on the characterization and documentation of woody riparian species including Fremont and black cottonwoods (*Populus fremontii* and *Populus balsamifera*, respectively), white and mountain alders (*Alnus rhombifolia* and *Alnus incana* ssp. *tenuifolia*, respectively), and willows (*Salix* sp.). Surveys were conducted only in accessible areas.

At each accessible location, riparian vegetation established within the proposed construction footprint, including the construction site and all associated work areas and access routes, was identified, described, and mapped. Survey information recorded for each site included:

- Date

- General location of riparian vegetation
- Riparian species present
- Form (tree/shrub)
- Approximate height of individual trees
- Number of individuals by species
- Age class of each individual<sup>1</sup>
- Diameter at breast height (trees)

The locations of the riparian vegetation were documented with Trimble GPS (where possible) or delineated on field maps. These data were then downloaded or digitized in GIS, as appropriate, and maps showing the locations of the riparian vegetation produced. The total acreage of riparian vegetation affected at each location was then determined.

## **6.0 RESULTS**

### **6.1 SPECIAL-STATUS PLANTS**

Eleven populations of Stebbins' phacelia (*Phacelia stebbinsii*) (FSS, CNPS 1B.2) occupying a total of approximately 0.26 acres were identified during the 2011 special-status plant surveys. All of these populations were found along the Hell Hole Trail. Five other populations were also recorded during surveys of the Upper Hell Hole Trail that had been previously identified and documented during 2006–2008 surveys. Maps showing the location and extent of Stebbins' phacelia populations along Hell Hole Trail are provided as Maps 2a–c. Refer to Table 5 for a list of each Stebbins' phacelia population, its area, and the estimated number of individual plants in each population.

California Natural Diversity Database Field Survey Form submitted to CDFG are provided as Appendix A.

### **6.2 NOXIOUS WEEDS**

Eighteen noxious weed species totaling approximately 11.82 acres were identified during the 2011 surveys. The most abundant noxious weed species observed were red (sheep) sorrel (*Rumex acetosella*) (approximately 7.4 acres), which was primarily observed in roadside areas and other disturbed locations, and cheatgrass (*Bromus tectorum*) (approximately 1 acre), which was observed in disturbed areas with well-

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<sup>1</sup> The age class of each tree or shrub (or group of trees or shrubs) was determined based on the following definitions (consistent with AQ 10 – TSR [PCWA 2011e]): Young/Seedlings: Shrubs with less than 10 stems per individual, or trees with diameters (diameter at breast height (DBH) less than 3 inches). The canopy diameter is less than 0.75 meters. Medium-Aged: Shrubs with between 10 and 60 stems per individual, trees with DBHs between 3 and 9 inches, and the canopy diameter is between 0.75 and 2 meters. Mature/Old: Shrubs with more than 60 stems per individual, trees with DBH's greater than 9 inches, and the canopy diameter is greater than 2.5 meters.

drained rocky soils. Other commonly observed noxious weed species included rat-tail fescue (*Vulpia myuros*) (approximately 0.8 acre) and klamathweed (*Hypericum perforatum*) (approximately 0.4 acre).

Refer to Table 6 for a summary of the total acreage of each noxious weed species. Table 7 provides a list of each noxious weed population identified and the location, population sizes and level of infestation. Maps 3-1 and 3-1a–k provide the location of each noxious weed polygon and map identification numbers.

### **6.3 SPECIAL-STATUS WILDLIFE**

#### **6.3.1 Northern Goshawk Surveys**

No northern goshawks were detected during northern goshawk surveys in 2011. A final northern goshawk survey area habitat map is provided as Map 4.

#### **6.3.2 General Wildlife**

##### **6.3.2.1 Avian Area Searches**

A total of 24 birds identifiable to species were detected by sound or sight during early season (spring/summer) avian area search surveys. Bird species detected during the early season surveys represent birds that are migrating through the area and summer breeding birds, as well as resident birds. No special-status bird species were detected.

A total of seven species were detected by sound or sight during late season (fall) avian point count and area search surveys. Species detected during the late season surveys represent resident birds that are present year-round. No special-status bird species were detected.

Refer to Table 8 for a summary of the results of the avian area searches.

##### **6.3.2.2 Terrestrial Visual Encounter Surveys**

Three special-status wildlife species were observed during TVES: bald eagle (*Haliaeetus leucocephalus*, FSS, CE, CFP), sooty grouse (*Dendragapus obscurus*, MIS), and mule deer (*Odocoileus hemionus*, MIS). Common species or their sign observed included reptiles such as Sierran alligator lizard (*Elgaria coerulea palmeri*) and rattlesnake species (*Crotalus* sp.), raptors such as golden eagle (*Aquila crhytaetos*), osprey (*Pandion haliaetus*), and red-tailed hawk (*Buteo jamaicensis*), and mammals such as California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), and black bear (*Ursus americanus*). The greatest species diversity and number of detections were documented in the Hell Hole and French Meadows areas.

Refer to Table 9 for a summary of wildlife species detected at each survey location during TVES.

### 6.3.3 Incidental Wildlife Observations

Fifty-five incidental wildlife observations were made by survey crews during the 2011 survey season. This includes seven special-status bird species— Cassin's finch (*Carpodacus cassinii*, BCC), fox sparrow (*Passerella iliaca*, MIS), hairy woodpecker (*Picoides villosus*, MIS), mountain quail (*Oreortyx pictus*, MIS), olive-sided flycatcher (*Contopus cooperi*, CSC), summer tanager (*Piranga rubra*, CSC), and yellow warbler (*Dendroica petechia*, CSC). Refer to Table 10 for a complete list of incidental observations of special-status and common wildlife.

## 6.4 RIPARIAN RESOURCES

Riparian vegetation was mapped at five of the 12 areas along bypass reaches associated with the MFP that were surveyed (Table 1). The vegetation was relatively sparse at all locations and consisted of primarily young/seedlings or medium-aged willow and alder species. A total of approximately 0.05 acres (2,336.68 square feet) of riparian vegetation was documented at the following locations:

- North Fork American River above American River Pump Station facilities (.01 acre). This includes:
  - North Fork American River above American River Pump Station Gage (NFARPS) (new);
  - Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new);
  - North Fork American River Gage above American River Pump Station Trail (new);
- Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP) (.02 acre); and
- Middle Fork American River above Ralston Afterbay Trail (existing, added to MFP) (.02 acre).

No riparian vegetation was established at the other locations surveyed including the stream gage, photovoltaic pole and powerline, and gage access trails at North Fork Long Canyon Creek below Diversion Dam and at Middle Fork American River below Interbay Dam, as well as at the Photovoltaic Pole and Powerline at Duncan Creek Gage at Diversion Tunnel.

Table 11 provides a summary of the results of riparian vegetation documented. Refer to Map 5 for a graphical depiction of the location of riparian vegetation at each location.

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**TABLES**

**Table 1. Field Survey Locations and Types of Surveys Implemented.**

	Type of Supplemental Survey Implemented					
	Special-Status Plant Surveys	Noxious Weed Surveys	Northern Goshawk Surveys	Avian Area Searches	Terrestrial Visual Encounter Surveys	Riparian Vegetation Surveys
<b>Project Facilities and Features / Project Recreation Facilities and Features</b>						
<b>Gaging Stations</b>						
<b>Stream Gages</b>						
North Fork Long Canyon Creek below Diversion Dam (NFLCC) (new)	X	X		X	X	X
Middle Fork American River below Interbay Dam (MFARIB) (new)	X	X		X	X	X
North Fork American River above American River Pump Station (NFARPS) (new)	X	X		X	X	X
<b>Project Communication Lines and Powerlines</b>						
<b>Photovoltaic Poles and Powerlines</b>						
Photovoltaic Pole and Powerline at Duncan Creek Gage at Diversion Tunnel (new)	X	X			X	X
Photovoltaic Pole and Powerline at Middle Fork American River Gage below Interbay Dam (new)	X	X		X	X	X
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam (new)	X	X		X	X	X
Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new)	X	X		X	X	X
<b>Project Roads</b>						
<b>Duncan Creek Area</b>						
Duncan Creek Diversion Intake Road	X	X			X	
<b>French Meadows Area</b>						
Duncan Creek - Middle Fork Tunnel Portal Road	X	X			X	
French Meadows Spillway East Access Road	X	X			X	
French Meadows Dam North Leakage Weir Road	X	X			X	
French Meadows Campground Water Supply Facility Access Road	X	X			X	
<b>Hell Hole Area</b>						
Spur on North Side of Operator Cottages	X	X			X	
Spur on South Side of Operator Cottages	X	X			X	

**Table 1. Field Survey Locations and Types of Surveys Implemented (continued).**

	Type of Supplemental Survey Implemented					
	Special-Status Plant Surveys	Noxious Weed Surveys	Northern Goshawk Surveys	Avian Area Searches	Terrestrial Visual Encounter Surveys	Riparian Vegetation Surveys
<b>Project Facilities and Features / Project Recreation Facilities and Features</b>						
<b>Project Roads (continued)</b>						
<b>Long Canyon Area</b>						
North Fork Long Canyon Creek Gage below Diversion Dam Trail (new)	X	X		X	X	X
<b>Middle Fork Interbay Area</b>						
Middle Fork American River Access Trail below Interbay Dam Trail (new)	X	X		X	X	X
<b>Project Trails</b>						
<b>Ralston Afterbay Area</b>						
Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP) <sup>5</sup>	X	X			X	X
North Fork American River Gage above American River Pump Station Trail (new)	X	X		X	X	X
<b>Project Recreation Facilities</b>						
<b>French Meadows Area</b>						
Bear Campground Unit –Coyote Group Campground	X	X			X	
French Meadows Picnic Area (reduce, enhance)	X	X			X	
French Meadows RV Dump Station (enhance)	X	X			X	
French Meadows RV Dump Station Access Road	X	X			X	
Poppy Trail (existing, added to MFP)	X	X			X	
French Meadows Reservoir Trail (new)	X	X			X	
<b>Hell Hole Area</b>						
Ellicott Bridge Parking Area (new)	X	X	X	X	X	
Hell Hole Reservoir Trail (existing, added to MFP)	X	X			X	
Big Meadows Campground Road	X	X			X	
<b>Ralston Afterbay Area</b>						
Ralston Picnic Area (reduce, enhance)	X	X			X	
Middle Fork American River above Ralston Afterbay Trail (existing, added to MFP)	X	X			X	X
<b>Project Recreation Facility Water Supplies</b>						
Middle Meadows Group Campground Water Supply	X	X			X	
Big Meadows Campground Water Supply Facility Access	X	X			X	

**Table 2. Special-status Plant Species in the Vicinity of the MFP.**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Known to Occur Within the MFP during the Term of the New License</b>							
<i>Clarkia biloba</i> ssp. <i>brandegeae</i>	Brandegee's clarkia	FSS <sup>2</sup>	–	1B.2	May–July	Chaparral, cismontane woodland, often roadcuts. From 950 to 3,200 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by CNDDDB in rocky, upland areas along the MFAR river canyon.
<i>Fritillaria eastwoodiae</i>	Butte County fritillary	FSS <sup>2</sup>	–	3.2	March–May	Chaparral, cismontane woodland, lower montane coniferous forest (openings), wet and dry slopes red clay or sandy loam. From 100 to 5,000 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by CNDDDB in rocky, upland areas along the MFAR.
<i>Lewisia serrata</i>	Saw-toothed lewisia	FSS <sup>3</sup>	–	1B.1	May–June	Broad-leaved upland forest, lower montane coniferous forest, and riparian forest on mesic steep, nearly vertical cliffs and inner gorges. From 2,800 to 4,800 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by USDA-FS and CNDDDB in rocky, upland areas along Long Canyon Creek.
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	FSS <sup>3</sup>	–	1B.2	June–July	Cismontane woodland and lower montane coniferous forest, and meadows and seeps. Found on dry, open rocky sites (bedrock outcrops, rubble, or talus) on ledges and moderate or steep slopes as well as inner gorges and near seeps on ENF and TNF. From 2,000 to 7,050 feet in elevation.	Known to occur in the vicinity of the MFP. A total of 49 populations (112 acres) were documented during the TERR 2 – Special-Status Plants surveys (PCWA 2009) and subsequent surveys in the vicinity of new gaging stations to be added to the MFP. Known populations include: <ul style="list-style-type: none"> <li>§ Two small populations in the vicinity of Brushy Creek (approximately 200 individuals)</li> <li>§ Four individuals in the vicinity of the Rubicon River at Ellicott Bridge</li> <li>§ 1 individuals in the vicinity of French Meadows Reservoir</li> <li>§ 44 populations in the vicinity of Hell Hole Reservoir (approximately 2.4 to 4.7 million individuals)</li> </ul> Additional populations are documented by USDA-FS and CNDDDB in rocky, upland areas along the Rubicon River, Long Canyon Creek, and Duncan Creek.
<b>Special-status Plants Potentially Occurring Within the MFP during the Term of the New License</b>							
<i>Allium tribracteatum</i>	Three-bracted onion	FSS	–	1B.2	April–August	Chaparral, lower montane coniferous forest and upper montane coniferous forest. From 3,600 to 9,800 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Arctostaphylos nissenana</i>	Nissenan manzanita	FSS	–	1B.2	February–March	Open, rocky ridges and acidic shale and slate soils in chaparral and closed-cone coniferous forests. Found in almost pure colonies on hard shale substrate primarily where other shrubs and trees are absent. From 1,450 to 3,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Astragalus webberi</i>	Webber's milk-vetch	FSS	–	1B.2	May–July	Lower montane coniferous forest. From 2,400 to 3,700 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Campylopodiella stenocarpa</i>	Flagella-like atractylocarpus	–	–	2.2	N/A	Cismontane woodlands. From 300 to 1,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

**Table 2. Special-status Plant Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)</b>							
<i>Chlorogalum grandiflorum</i>	Red Hills soaproot	–	–	1B.2	May–June	Cismontane woodland, chaparral, and lower montane coniferous forests on serpentine or gabbro soils. From 850 to 3,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. Several populations of Red Hills soaproot are documented by CNDDDB in the vicinity of the MFP. These populations occur along PG&E powerline rights-of-way on the rocky ledge above the river canyon near Ralston Afterbay and near the confluence of the Rubicon River and Long Canyon Creek. These populations will not be affected by the Proposed Action (i.e., routine operation and maintenance of the MFP).
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	Big-scale balsamroot	FSS	–	1B.2	March–June	Chaparral, cismontane woodland, valley and foothill grassland, and vernal moist meadows on sandstone, serpentine, or basalt outcrops. From 300 to 4,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Botrychium ascendens</i>	Upswept moonwort	FSS	–	2.3	Fertile July–August	Lower montane coniferous forests near streams, grassy fields, meadows and seeps. From 4,800 to 7,300 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Botrychium crenulatum</i>	Scalloped moonwort	FSS	–	2.2	Fertile June–July	Lower and upper montane coniferous forests, bogs, fens, and moist meadows. From 4,900 to 10,800 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Botrychium lunaria</i>	Common moonwort	FSS	–	2.3	August	Meadows and seeps, moist riparian areas, subalpine coniferous forest and upper montane coniferous forest. From 7,500 to 11,000 feet elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Botrychium minganense</i>	Mingan moonwort	FSS	–	2.2	July–September	Mesic areas in lower and upper montane coniferous forest, moist riparian areas, and meadows and seeps. From 4,000 to 6,700 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Botrychium montanum</i>	Mountain moonwort (western goblin)	FSS	–	2.1	July–September	Lower and upper montane coniferous forests, and meadows and seeps. From 4,500 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Bruchia bolanderi</i>	Bolander's bruchia	FSS	–	2.2	N/A	Lower and upper montane coniferous forest, meadows, seeps, and fens in damp soils. From 4,000 to 9,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Calochortus clavatus</i> var. <i>avius</i>	Pleasant Valley mariposa lily	FSS	–	1B.2	March–June	In openings, often south-facing slopes and ridgetops, of lower montane coniferous forests with Josephine silt loam and volcanic soils. From 1,000 to 6,300 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

**Table 2. Special-status Plant Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)</b>							
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper	FSS	–	4.2	March–August	Lower montane coniferous forest, serpentine seeps and streambanks. From 500 to 7,200 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Cypripedium montanum</i>	Mountain lady's-slipper	FSS	–	4.2	March–August	Broad-leaved upland and lower montane coniferous forests in moist areas or on dry shaded slopes with northern aspects and loam soils. From 600 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Epilobium howellii</i>	Subalpine fireweed	FSS	–	4.3	July–August	Mesic areas in subalpine coniferous forest, wet meadows, fens, and mossy seeps. From 6,000 to 9,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Epilobium oreganum</i>	Oregon fireweed		–	1B.2	June–September	Bogs, fens, meadows, small streams and ditches in lower and upper montane coniferous forests. From 1,600 to 8,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Erigeron miser</i>	Starved fleabane	FSS	–	1B.3	June–October	Upper montane coniferous forest, rocky soils. From 6,000 to 8,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Eriogonum tripodum</i>	Tripod buckwheat	FSS	–	4.2	May–July	Chaparral, cismontane woodlands, often on serpentine outcroppings. From 650 to 5,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	Donner Pass buckwheat	FSS	–	1B.2	July–September	Upper montane coniferous forests, chaparral, and meadows. Volcanic and rocky soils. From 6,000 to 8,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Fissidens aphelotaxifolius</i>	Brook pocket-moss	FSS	–	2.2	N/A	Lower and upper montane coniferous forest, rock, stream channels and waterfalls. From 6,500 to 7,200 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
<i>Helodium blandowii</i>	Blandow's bog-moss	FSS	–	2.3	N/A	Meadows, seeps, fens, and subalpine coniferous forest; damp soil. From 6,500 to 8,900 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Horkelia parryi</i>	Parry's horkelia	FSS	–	1B.2	April–June	Chaparral, cismontane woodland on stony, disturbed sites with slightly acidic soils. From 250 to 3,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Ivesia aperta</i> var. <i>aperta</i>	Sierra Valley mousetail	FSS	–	1B.2	June–September	Great Basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland, vernal pools - vernal mesic, usually volcanic. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

**Table 2. Special-status Plant Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)</b>							
<i>Ivesia aperta</i> var. <i>canina</i>	Dog Valley mousetail	FSS	–	1B.1	June–August	Openings in lower montane coniferous forests and in meadows and seeps. Volcanic and rocky soils. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Ivesia sericoleuca</i>	Plumas mousetail	FSS	–	1B.2	May–September	Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Ivesia webberi</i>	Webber's mousetail	FC FSS		1B.1	May–July	Great Basin scrub, lower montane coniferous forest, in sandy or gravelly soils. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Lewisia cantelovii</i>	Cantelow's lewisia	FSS	–	1B.2	May–October	Broadleaf upland, chaparral, cismontane woodlands, and lower montane coniferous forests. From 1,000 to 4,500 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Lewisia kelloggii</i> ssp. <i>Hutchisonii</i>	Hutchison's lewisia (subspecies <i>hutchisonii</i> )	FSS	–	3.3	July–August	Decomposed granite and slate soils (volcanic soils), at the north sides of passes and ridge-tops from 5,200 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Lewisia kelloggii</i> ssp. <i>Kelloggii</i>	Hutchison's lewisia (subspecies <i>kelloggii</i> )	FSS	–	–	July–August	Upper montane coniferous forest, rocky open ridges and granitic and volcanic balds. From 5,000 to 9,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Lupinus dalesiae</i>	Quincy lupine	FSS	–	4.2	May–August	Lower and upper montane coniferous forests. From 3,000 to 8,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Meesia triquetra</i>	Three-ranked hump moss	FSS	–	4.2	N/A	In acidic montane meadows. From 4,250 to 9,700 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Meesia uliginosa</i>	Broad-nerved hump moss	FSS	–	2.2	N/A	Bogs, fens, and rock fissures, upper montane and subalpine coniferous forests, meadows and seeps in damp soil. From 4,250 to 9,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Mielichhoferia elongata</i>	Elongate copper-moss	FSS		2.2	N/A	Cismontane woodland, rock with copper/heavy metals. From 1,500 and 4,250 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Monardella folletii</i>	Follett's mountainbalm	FSS	–	1B.2	June–September	Lower montane coniferous forests in rocky, serpentine soils. From 1,650 to 6,550 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

**Table 2. Special-status Plant Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)</b>							
<i>Navarretia prolifera</i> ssp. <i>lutea</i>	Yellow bur navarretia	FSS	–	4.3	May–July	Chaparral, cismontane woodland. Dry rocky flats, often on Ledmount soils. Often on lava caps or other openings, rocky ridgelines, saddles, and eroding ephemeral drainages. From 2,300 to 5,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Ophioglossum pusillum</i>	Northern adder's tongue	–	–	2.2	July	Margins of marshes and swamps and mesic areas of Valley and foothill grasslands. From 3,280 to 6,500 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Packera layneae</i> ( <i>Senecio layneae</i> )	Layne's ragwort	FT FSS	SR	1B.2	April–July	Chaparral and cismontane woodland on rocky, gabbroic, serpentine or ultramafic soils. From 650 to 3,400 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Peltigera hydrothyria</i> ( <i>Hydrothyria venosa</i> )	Veined water lichen	FSS	–	–	N/A	Aquatic, in spring-fed streams with clear, cold water. From 1,150 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Penstemon personatus</i>	Close-throated beardtongue	FSS	–	1B.2	June–September	Chaparral and upper and lower montane coniferous forests. From 3,400 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Pyrrocoma lucida</i>	Sticky goldenweed	FSS	–	1B.2	July–October	Great Basin scrub, lower montane coniferous forest, and meadows and seeps. May grow in alkaline clays. From 2,250 to 6,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Rorippa subumbellata</i>	Tahoe yellow cress	FC	SE	1B.1	May–September	Lower montane coniferous forests, meadows and seeps, sandy (granitic) lake margins. From 6,050 to 6,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Scutellaria galericulata</i>	Marsh skullcap	–	–	2.2	June–September	Lower montane coniferous forest, marshes and swamps, meadows and seeps. From 0 to 6,900 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<i>Tauschia howelli</i>	Howell's tauschia	FSS	–	1B.3	June–August	Subalpine /upper montane coniferous forest, granitic, gravelly soils. From 5,500 to 8,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
<b>Special-status Plants Unlikely to Occur Within the MFP during the Term of the New License</b>							
<i>Arabis rigidissima</i> var. <i>demota</i>	Trinity Mountain rockcress	FSS	–	1B.2	August	Broad-leaved upland forest, and upper montane coniferous forest in rocky soils. From 7,500 to 8,500 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
<i>Draba asterophora</i> var. <i>asterophora</i>	Lake Tahoe draba	FSS	–	1B.2	July–August	Subalpine coniferous forest and alpine boulder and rock fields in the high Sierra Nevada. From 8,000 to 11,500 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
<i>Draba asterophora</i> var. <i>macrocarpa</i>	Cup Lake draba	FSS	–	1B.1	July–August	Subalpine coniferous forests and rock crevices. From 8,000 to 9,000 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.

**Table 2. Special-status Plant Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
<b>Special-status Plants Unlikely to Occur Within the MFP during the Term of the New License (continued)</b>							
<i>Lewisia longipetala</i>	Long-petaled lewisia	FSS	–	1B.3	July–August	Alpine boulder and rock fields and subalpine coniferous forests, crevices in granitic rock. From 8,000 to 9,600 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
<i>Lomatium stebbinsii</i>	Stebbins' lomatium	–	–	1B.1	March–May	Chaparral, lower montane coniferous forests, and yellow pine forests. Volcanic or gravelly soils. From 3,750 to 5,850 feet in elevation.	FERC Project boundaries are outside the known geographic range of this species. Known from the Stanislaus National Forest, per S. Durham (ENF botanist).
<i>Sphaeralcea munroana</i>	Munroe's desert mallow	–	–	2.2	May–June	Great Basin scrub, about 6,000 feet in elevation.	No appropriate habitat within FERC Project boundaries. Known only from Squaw Creek in Placer County only, to the north of the watershed.

## LEGEND:

## Federal Status

FT = Federal Threatened  
 FE = Federal Endangered  
 FC = Federal Candidate  
 FSS = Forest Service Sensitive

## State Status

SR = listed by California as Rare  
 ST = California Threatened  
 SE = California Endangered

## CNPS Status (California Native Plant Society)

1B = rare, threatened or endangered in California and elsewhere.  
 2 = rare in California but more common elsewhere.  
 3 = need more information  
 4 = plants of limited distribution; a watch list.  
 \_1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)  
 \_2 = Fairly endangered in California (20-80% occurrences threatened)  
 \_3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)

**Table 3. Noxious Weed Species Known or Potentially Occurring in the Middle Fork American River Watershed.**

<b>Noxious Weed Species Known to Occur the Middle Fork American River Watershed</b>			
<b>Scientific Name</b>	<b>Common Name</b>	<b>Cal-IPC Rating<sup>1</sup></b>	<b>CDFA Rating<sup>2</sup></b>
<i>Aegilops triuncialis</i>	barbed goatgrass	High	B
<i>Agrostis stolonifera</i>	creeping bent grass	Limited	—
<i>Ailanthus altissima</i> <sup>4</sup>	tree-of-heaven	Moderate	C
<i>Bromus diandrus</i>	ripgut brome	Moderate	—
<i>Bromus tectorum</i> <sup>3,4</sup>	cheatgrass	High	—
<i>Centaurea maculosa</i>	spotted knapweed	High	A
<i>Centaurea solstitialis</i>	yellow starthistle	High	C
<i>Chondrilla juncea</i>	rush skeletonweed	Moderate	A
<i>Cirsium vulgare</i>	bull thistle	Moderate	C
<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	Moderate	—
<i>Cynodon dactylon</i>	bermudagrass	Moderate	C
<i>Cytisus scoparius</i>	Scotch broom	High	C
<i>Dactylis glomerata</i>	orchardgrass	Limited	—
<i>Foeniculum vulgare</i>	fennel	High	—
<i>Hirschfeldia incana</i>	Jim Hill mustard	Moderate	—
<i>Hypericum perforatum</i> <sup>3,4</sup>	klamathweed	Moderate	C
<i>Lepidium latifolium</i>	perennial pepperweed (tall whitetop)	High	B
<i>Melilotus officinalis</i>	yellow sweetclover	—	—
<i>Plantago lanceolata</i>	English plantain	Limited	—
<i>Robina pseudiacacia</i>	black locust	Limited	—
<i>Rubus discolor</i>	Himalayan blackberry	High	—
<i>Rumex acetosella</i>	sheep sorrel	Moderate	—
<i>Taeniatherum caput-medusae</i>	medusahead	High	C
<i>Verbascum thapsus</i>	woolly mullein	Limited	—
<i>Vulpia myuros</i>	rat-tail fescue	Moderate	—
<b>Noxious Weed Species Potentially Occurring the Middle Fork American River Watershed</b>			
<b>Scientific Name</b>	<b>Common Name</b>	<b>Cal-IPC Rating<sup>1</sup></b>	<b>CDFA Rating<sup>2</sup></b>
<i>Acroptilon repens (Centaurea repens)</i> <sup>4</sup>	Russian knapweed	Moderate	B
<i>Cardaria chalapense</i> <sup>4</sup>	whitetop	Moderate	—
<i>Cardaria draba</i> <sup>4</sup>	heart podded whitetop	Moderate	B
<i>Cardaria pubescens</i> <sup>3</sup>	hairy whitetop	Limited	B
<i>Carduus nutans</i> <sup>3,4</sup>	musk thistle	Moderate	—
<i>Carduus pycnocephalus</i> <sup>4</sup>	Italian thistle	Moderate	C
<i>Carthamus lanatus</i> <sup>3</sup>	woolly distaff thistle	Moderate	B
<i>Centaurea diffusa</i> <sup>3,4</sup>	diffuse knapweed	Moderate	A
<i>Centaurea melitensis</i> <sup>3,4</sup>	Malta starthistle (tocalote)	Moderate	C
<i>Cirsium arvense</i> <sup>3,4</sup>	Canada thistle	Moderate	B
<i>Conium maculatum</i> <sup>4</sup>	poison hemlock	Moderate	—
<i>Euphorbia oblongata</i> <sup>3,4</sup>	eggleaf (oblong) spurge	Limited	B
<i>Festuca arundinaceae</i>	tall fescue	Moderate	—
<i>Genista monspessulana</i> <sup>3,4</sup>	French broom	High	C
<i>Halogeton gomeratus</i> <sup>3</sup>	Halogeton	Moderate	A
<i>Hydrilla verticillata</i> <sup>3</sup>	hydrilla	High	A
<i>Isatis tinctoria</i> <sup>3</sup>	dryer's woad	Moderate	—
<i>Lathyrus latifolius</i> <sup>4</sup>	perennial sweet pea	—	—
<i>Leucanthemum vulgare</i> <sup>4</sup>	ox-eye daisy	Moderate	—
<i>Linaria genistifolia ssp. dalmatica</i> <sup>3,4</sup>	Dalmatian toadflax	Moderate	A
<i>Lychnis coronaria</i> <sup>4</sup>	rose campion	—	—
<i>Lythrum salicaria</i> <sup>3,4</sup>	purple loosestrife	High	B
<i>Melilotus albus</i> <sup>4</sup>	white sweet clover	—	—
<i>Myriophyllum spicatum</i> <sup>3</sup>	Eurasian water milfoil	High	C
<i>Onopordum acanthium ssp. acanthium</i> <sup>3,4</sup>	Scotch thistle	High	A

**Table 3. Noxious Weed Species Known or Potentially Occurring in the Middle Fork American River Watershed (continued).**

Noxious Weed Species Potentially Occurring the Middle Fork American River Watershed			
Scientific Name	Common Name	Cal-IPC Rating <sup>1</sup>	CDFA Rating <sup>2</sup>
<i>Salsola tragus</i> <sup>4</sup>	Russian thistle	Limited	C
<i>Silybum marianum</i> <sup>4</sup>	milk thistle	Limited	—
<i>Spartium junceum</i> <sup>3, 4</sup>	Spanish broom	High	—
<i>Torilis nodosa</i> <sup>4</sup>	hedge parsley	Moderate	—
<i>Ulex europaeus</i> <sup>3</sup>	gorse	High	B

**Cal-IPC Rating:**

High - These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate - These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited - These species are invasive but their ecological impacts are minor on a statewide level, or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

**CDFA Rating:**

A-rated pests: Weeds of known economic significance, subject to action by CDFA including eradication, quarantine, containment, rejection of shipments, or other holding action at the state-county level. Quarantine interceptions are to be rejected or treated at any point in the state.

B-rated pests: Weeds subject to action by CDFA only when found in a nursery, and otherwise subject to eradication, containment, control, or other holding action at the discretion of the local county agricultural commissioner.

C-rated pests: Not subject to state action except to provide for general pest cleanliness in nurseries; reject by CDFA only when found in a cropseed for planting or at the discretion of the commissioner, action to retard spread outside of nurseries at the discretion of the county agricultural commissioner.

<sup>1</sup>Source: California Invasive Plant Inventory (Cal-IPC 2006).

<sup>2</sup>Source: Noxious Weed Pest Ratings (CDFA 2007).

<sup>3</sup>Source: Tahoe National Forest Weed List (USDA-FS 2006)

<sup>4</sup>Source: Eldorado National Forest Noxious Weed Species List (USDA-FS 2005)

**Table 4. Special-status Wildlife Species in the Vicinity of the MFP.**

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
<b>Special-status Wildlife Known to Occur in the Vicinity of the MFP</b>					
<i>Dendragapus obscurus</i>	sooty (blue) grouse	MIS	¾	Occurs in open, medium to mature-aged stands of fir, Douglas-fir, and other conifer habitats, interspersed with medium to large openings, and available water. Found in the Sierra Nevada up to 11,000 feet in elevation.	Known to occur within the study area. Detected in snag located along the north shore of Hell Hole Reservoir.
<i>Oreortyx pictus</i>	mountain quail	MIS	¾	Typically found in most major montane habitats California from mid- to high-elevations. Found seasonally in open, brushy stands of conifer and deciduous forest and woodland, and chaparral.	Known to occur within the study area. Detected at numerous locations along Hell Hole Reservoir.
<i>Pelecanus erythrorhynchos</i>	American white pelican	¾	CSC	In California, now nests only at large lakes in Klamath Basin, especially Clear Lake National Wildlife Refuge. It is common to abundant on nesting grounds April to August (sometimes March to September). Migrant flocks pass overhead almost any month, but mainly in spring and fall throughout the state, especially in southern California.	Known to occur within the study area. Seven individuals were detected flying over Hell Hole Reservoir.
<i>Accipiter gentilis</i>	northern goshawk	FSS	CSC	Prefers middle to high elevation, mature, dense conifer forests for foraging and nesting. Casual in foothills during winter, northern deserts in pinion-juniper woodland, and low elevation riparian habitats.	Known to occur within the study area. Detected at South Fork Long Canyon Diversion Dam. Northern goshawk nests and associated PACs intersect with FERC Project boundaries at the following locations: French Meadows Reservoir; Duncan Creek Diversion Dam; South Fork Long Canyon Diversion Dam; Brushy Canyon Adit and Access Road; Middle Fork-Ralston Tunnel
<i>Aquila chrysaetos</i>	golden eagle	¾	CFP	Grasslands and early successional stages of forest and shrub habitats for foraging up to 11,500 feet. Secluded cliffs with overhanging ledges or large trees in open areas with unobstructed views for nesting.	Known to occur within the study area. Detected during TERR 5 bald eagle surveys approximately 1 mile downstream of Middle Fork Interbay. Known from the Tahoe National Forest.
<i>Haliaeetus leucocephalus</i>	bald eagle	FD (7/10/08) FSS BCC	SE CFP	Local winter migrant to various California lakes. Most of the breeding population is restricted to more northern counties. Regular winter migrants to the region. Usually not found at high elevations in the Sierra.	Known to occur within the study area. Numerous bald eagle detections were made at Hell Hole Reservoir during TERR 5 bald eagle surveys, including one nest sighting at the upper end of Hell Hole Reservoir. Also detected during TERR 5 surveys along the MFAR, the Rubicon River, and Ralston Afterbay. Records for this species include Hell Hole Reservoir; Ralston Afterbay; MFAR approximately 3 miles downstream of the Ralston Afterbay Dam; Gerle Creek Divide Reservoir; Rubicon River approximately 2 miles downstream of the confluence with the South Fork Rubicon River; Pilot Creek near its confluence with the Rubicon River; and Otter Creek near its confluence with the MFAR. In addition, a bald eagle was observed in the summer of 2006 at Hell Hole Reservoir (Ransom pers. comm., 2007)
<i>Pandion haliaetus</i> <sup>1</sup>	osprey	¾	¾	Breeds in northern California, associated strictly with large fish-bearing waters, primarily in ponderosa pine and mixed conifer habitats.	Known to occur within the study area. Active nests detected during nest surveys along the north shore of upper and lower Hell Hole Reservoir, south shore Hell Hole Reservoir, north shore French Meadows Reservoir, near French Meadows Dam, and 3 miles downstream of French Meadows Reservoir. Individuals detected at Hell Hole Reservoir, French Meadows Reservoir, and Big Meadows Campground.
<i>Strix occidentalis occidentalis</i>	California spotted owl	FSS MIS BCC	CSC	Resides in dense, old growth, multi-layered mixed conifer, redwood, Douglas-fir, and oak woodland habitats, from sea level up to approximately 7,600 feet.	Known to occur within study area. California spotted owl nests and associated PACs intersect with FERC Project boundaries at the following locations: French Meadows Reservoir; North and South Fork Long Canyon Diversion Dams; Middle Fork Interbay; French Meadows- Hell Hole Tunnel; Hell Hole-Middle Fork Tunnel; Interbay Dam Road; Brushy Canyon Adit and Access Road; Middle Fork-Ralston Tunnel.
<i>Chaetura vauxi</i>	Vaux's swift	¾	CSC	Prefers redwood and Douglas-fir habitats with nest sites in large, hollow trees and snags, especially tall, burned-out stubs. Forages over moist terrain and habitats, preferring rivers and lakes.	Known to occur within the study area. A large flock was detected at French Meadows Reservoir.
<i>Picoides villosus</i>	hairy woodpecker	MIS	—	Inhabits mixed conifer and riparian deciduous habitats from sea level to 9,000 feet in elevation.	Known to occur within the study area. Detected at Hell Hole Reservoir, South Fork Long Canyon Diversion Dam, and French Meadows Reservoir.
<i>Contopus cooperi</i>	olive-sided flycatcher	BCC	CSC	Uncommon to common, summer resident in a wide variety of forest and woodland habitats below 9,000 feet throughout California exclusive of the deserts, the Central Valley, and other lowland valleys and basins. Nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine forests.	Known to occur within the study area. Detected at French Meadows Reservoir.

**Table 4. Special-status Wildlife Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
<b>Special-status Wildlife Known to Occur in the Vicinity of the MFP (continued)</b>					
<i>Dendroica petechia brewsteri</i>	yellow warbler	MIS	CSC	Breeds in riparian woodlands from coastal and desert lowlands up to 8,000 feet in the Sierra Nevada. Also breeds in montane chaparral, open ponderosa pine, and mixed conifer habitats with substantial amounts of brush.	Known to occur within study area. Detected at Hell Hole Reservoir and French Meadows Reservoir.
<i>Icteria virens</i>	yellow-breasted chat	¾	CSC	Uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada, up to approximately 4,800 feet in valley foothill riparian habitat. Also occurs east of the Sierra Nevada in desert riparian habitats, along coast of northern California east to Cascades, locally south of Mendocino Co. In southern California, breeds locally on the coast and very locally inland. Nests in dense shrubs along streams or rivers.	Known to occur within study area. Detected at Ralston Picnic Area.
<i>Antrozous pallidus</i>	pallid bat	FSS	CSC	Inhabits grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Typically roosts in caves, crevices, or mines. Requires open habitat for foraging.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, Middle Fork Interbay Dam, North Fork Long Canyon Diversion Dam, and French Meadows Powerhouse and Penstock and Butterfly Valve House. Data from W. Clevenger's 2003 study includes occurrences of this species in the Vicinity of French Meadows Reservoir and on Duncan Creek upstream of the Duncan Creek Diversion (Clevenger 2005).
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	FSS	CSC	Found in all but alpine and subalpine habitats; most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other man-made structures for roosting. This species is extremely sensitive to disturbance and may abandon a roost if disturbed.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, North Fork Long Canyon Diversion Dam, French Meadows Powerhouse and Penstock and Butterfly Valve House, and the upper end of Hell Hole Reservoir.
<i>Lasiurus blossevillii</i>	Western red bat	FSS	CSC	Occurs from British Columbia to South America. In California, occurs from Shasta County to the Mexican border west of the Sierra crest. Roosts solitarily in foliage in forests and woodlands from sea level up through mixed coniferous forest. In California known to roost in cottonwood and willow.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, Middle Fork Interbay Dam, North and South Fork Long Canyon Diversion Dams, French Meadows Powerhouse and Penstock and Butterfly Valve House, and the upper end of Hell Hole Reservoir.
<i>Bassariscus astutus</i>	ringtail	¾	CFP	Found in most forest and shrub habitats in close association with rock and/or riparian areas, usually not more than .6 miles from water. Dens in hollow trees, snags, or other cavities.	Known to occur in the study area from incidental observations of PCWA field personnel.
<i>Odocoileus hemionus</i>	mule deer	MIS	¾	Common to abundant, yearlong resident or elevational migrant with a widespread distribution through most of California, except in deserts and intensively farmed areas without cover. Prefers a mosaic of various-aged vegetation that provides woody cover, meadow and shrubby openings, and free water.	Known to occur within study area. Detected at Hell Hole Reservoir and French Meadows Reservoir.
<b>Special-status Wildlife Potentially Occurring in the Vicinity of the MFP</b>					
<i>Histrionicus histrionicus</i>	harlequin duck	¾	CSC	Historic breeding grounds include west slope of the Sierra Nevada along shores of swift, shallow rivers.	Potential (rare) migrant or resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Falco peregrinus anatum</i>	American peregrine falcon	FD BCC	SE CFP	Very uncommon breeding resident and uncommon as a migrant. Breeds in woodlands, forests, coastal habitats, and riparian areas near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes, or mounds. Active nesting sites are known along the coast, in the Sierra Nevada, and in the mountains of northern California. Migrants occur along the coast and the western Sierra Nevada in spring and fall.	Potential resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Otus flammeolus</i>	flamulated owl	BCC	—	Generally associated with montane forested habitats with brushy understory. Uses woodpecker holes or natural tree cavities for nest sites. Known from northeastern California and the northern Sierra Nevada.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Strix nebulosa</i>	great gray owl	FSS	SE	Nests in old-growth coniferous forests and forages in montane meadows. Distribution includes high elevations of the Sierra Nevada and Cascade Ranges from 4,500 to 7,500 feet.	Potential migrant in appropriate habitat. Great gray owls are not known to breed in the Vicinity of study area boundaries. Breeding populations in California are concentrated in Del Norte, Humboldt, Siskiyou, and Modoc counties, with smaller, isolated breeding populations also occurring in the central Sierra Nevada. The nearest CNDDDB record is 30 miles south near Leoni Meadows in the ENF (CNDDDB 2007).

**Table 4. Special-status Wildlife Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
<b>Special-Status Terrestrial Wildlife Potentially Occurring in the Vicinity of the MFP (continued)</b>					
<i>Cypseloides niger</i>	black swift	BCC	CSC	Nests in moist crevices or caves, or on cliffs near waterfalls in deep canyons. Forages widely over many habitats; seems to avoid arid regions.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur in the watershed. A CNDDDB report for this species includes Grouse Creek, a tributary to the North Fork of the Middle Fork American River (CNDDDB 2007).
<i>Stellula calliope</i>	calliope hummingbird	BCC	—	Summer breeder in mixed brushland, forest edges and openings. Nests are typically built in conifers, near cones or knots.	Potential migrant or summer resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Melanerpes lewis</i>	Lewis' woodpecker	BCC	—	Permanent resident, or migratory resident in the uppermost reaches of its range. Inhabits Ponderosa pine forests at higher elevations, while riparian woodlands dominated by cottonwoods are preferred at lower elevations.	Potential migrant or resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Sphyrapicus thyroideus</i>	Williamson's sapsucker	BCC	—	Found in ponderosa pine forests and open coniferous forests in the Sierra Nevada and Cascades mountain ranges in California.	Potential year-round resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Picoides arcticus</i>	black-backed woodpecker	MIS	—	Found predominantly in fir and lodgepole pine forest habitats from 6,000 to 9,500 feet in elevation. Typically forages in snags, dying or insect-infested trees. Prefers relatively large trees for foraging and nest site.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Empidonax traillii (brewsteri)</i>	willow flycatcher	FSS BCC	SE	Wet meadow and montane riparian habitats from 2,000 to 8,000 feet. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Passerella iliaca</i>	fox sparrow	MIS	—	Breeds commonly in mountains of California, in dense montane chaparral and brushy understory of other wooded, montane habitats. Less common in winter east of Cascade Range and Sierra Nevada than elsewhere in state. Found in winter in dense brush habitats, including understories of open forests, throughout foothills and lowlands, except in southern deserts.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Carpodacus cassinii</i>	Cassin's finch	BCC	—	Resident of higher mountain ranges in California in tall, open coniferous forests, with nearby wet meadows and grassy openings for foraging.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Euderma maculatum</i>	spotted bat	¾	CSC	Habitats range from arid deserts and grasslands through mixed conifer forests up to 10,600 feet. Prefers sites with adequate roosting habitat, such as cliffs. Often limited by the availability of cliff habitat. Feeds over water and along marshes.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur in the watershed. Data from W. Clevenger's 2003 study includes an occurrence of this species in the TNF. No GPS information is available for this record (Clevenger 2005).
<i>Eumops perotis californicus</i>	greater western mastiff bat	¾	CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, chaparral, desert scrub, and urban areas. Typically roosts in caves, crevices, or other rock formations. Requires open areas for foraging. Found mostly below 4,000 feet in elevation in the lower and upper desert scrub near cliffs, preferring rugged canyons with abundant crevices.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Aplodontia rufa californica</i>	Sierra Nevada sewellel (mountain beaver)	¾	CSC	Occurs in dense riparian and open brushy stages of most forest types. Deep, friable soils are required for burrowing along cool, moist microclimates. Live in burrows located in or near deep soils near streams and springs. Typical habitat in the Sierra is montane riparian.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Recorded occurrence east of Duncan Peak.
<i>Glaucomys sabrinus</i>	northern flying squirrel	MIS	—	Found in coniferous habitats from ponderosa pine through lodgepole pine forests and riparian-deciduous forests of the North Coast, Klamath, Cascade, Sierra Nevada Ranges, and the Warner Mountains from 5,000 to 8,000 feet in elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
<i>Gulo gulo luteus</i>	California wolverine	FSS	ST CFP	Mixed conifer, red fir, and lodgepole habitats, and probably sub-alpine conifer, alpine dwarf shrub, wet meadow, and montane riparian habitats. Occurs in the Sierra Nevada from 4,300 to 10,800 feet. Majority of recorded sightings are found above 8,000 feet elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. However, this species is extremely rare in California.
<i>Martes americana (sierrae)</i>	American marten (Sierra marten)	FSS MIS	¾	Optimal habitats are various mixed evergreen forests with more than 40% crown closure and large trees and snags for den sites. Most commonly found in red fir and lodgepole pine forests between 4,000 and 10,600 feet elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur within the watershed. A CNDDDB report (polygon) for this species includes portions of Duncan Creek Diversion Road.

**Table 4. Special-status Wildlife Species in the Vicinity of the MFP (continued).**

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
<b>Special-Status Terrestrial Wildlife Potentially Occurring in the Vicinity of the MFP (continued)</b>					
<i>Martes pennanti (pacifica)</i>	Pacific fisher	FC FSS	SCT CSC	Suitable habitat consists of large areas of mature, dense forest such as red fir, lodgepole pine, ponderosa pine, mixed conifer, and Jeffery pine forests with snags and greater than 50% canopy closure. Known from 4,000 to 8,000 ft elevations in the Sierra National Forest.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Two recorded occurrences in the Vicinity of French Meadows Reservoir, including one occurrence ~ 1 mile east of French Meadows Reservoir, near the Forest Service Station. However, this species is now thought to be absent from the central Sierra Nevada (Zielinski et al. 2005).
<b>Special-Status Terrestrial Wildlife Unlikely to Occur in the Vicinity of the MFP</b>					
<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	FT FPD	¾	Elderberry shrubs throughout the Central Valley and foothills below 3,000 feet elevation.	Unlikely to occur. Elderberry shrubs were not detected in recent surveys conducted below 3,000 feet in elevation
<i>Branta canadensis leucopareia</i>	Aleutian Canada goose	FD	¾	(wintering) Winters on lakes and inland prairies. Forages on natural pasture or that cultivated to grain; loafs on lakes, reservoirs, ponds.	Unlikely to occur. Study area boundaries are outside the known geographic and elevational range of this species.
<i>Centrocercus urophasianus</i>	greater sage-grouse	MIS	CSC	Most commonly occurring in a combination of sagebrush, perennial grassland or wet meadow habitats, and water. Also found in bitterbrush and alkali desert scrub habitats. Found in northeastern California, ranging from the Oregon border along the east side of the Cascade Range and Sierra Nevada to northern Inyo County.	Unlikely to occur. Study area boundaries are outside the known geographic range of this species.
<i>Buteo swainsoni</i>	Swainson's hawk	FSS	ST	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Riparian woodlands, juniper-sage flats, and oak woodlands for nesting. Grasslands and agricultural areas for foraging.	Unlikely to occur. Study area boundaries are outside the known geographic range of this species.
<i>Athene cunicularia hypugaea</i>	western burrowing owl	¾	CSC	Year-long resident of open, dry grassland and desert habitats and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats up to 5,300 feet.	Unlikely to occur. Study area boundaries are outside the known geographic and elevational range of this species.
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	FSS	ST	Occurs throughout the Sierra Nevada at elevations above 7,000 feet in forests interspersed with meadows or alpine forests. Open areas are used for hunting, and forested habitats are used for cover and reproduction. Known from the higher elevations of the Sierra National Forest.	Unlikely to occur. Study area boundaries are outside the known elevational range of this species.

## LEGEND:

Federal Status

FT = Federal Threatened  
 FE = Federal Endangered  
 FC = Federal Candidate  
 FPD = Federal Proposed for Delisting  
 FD = Delisted Species  
 FSS = Forest Service Sensitive  
 MIS = Management Indicator Species

State Status

SR = California Rare  
 ST = California Threatened  
 SE = California Endangered  
 SCT = Candidate for listing as California Threatened  
 SCE = Candidate for listing as California Endangered  
 CFP = California Fully Protected  
 CSC = California Species of Special Concern

<sup>1</sup>At the time the TERR 4 – TSP (PCWA 2011d) was developed in 2007, osprey were considered CSC by the CDFG. When CDFG revised the CSC bird list in 2008, osprey were no longer included. However, because osprey were included as a special-status species in the TERR 4 – TSP in agreement with the Terrestrial Working Group (TWG), they are regarded as such for the purposes of this report.

**Table 5. Locations of Stebbins' Phacelia Populations Observed During 2011 Supplemental Special-Status Plant Surveys.**

Scientific Name	Common Name	Map ID <sup>1</sup>	Area		Number of Individuals	Associated Project Recreation Facility
			Square Feet	Acres <sup>2</sup>		
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH53	78.74	-	50	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH54	265.73	0.01	100	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH55	8.63	-	150	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH56	279.02	0.01	150	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH57	55.90	-	100	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH58	45.14	-	100	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH59	8.00	-	100	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH60	1638.58	0.04	500	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH61	6140.42	0.14	1000	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH62	1878.72	0.04	600	Upper Hell Hole Trail
<i>Phacelia stebbinsii</i>	Stebbins' phacelia	HH63	957.91	0.02	300	Upper Hell Hole Trail
<b>Total</b>		<b>11 populations</b>	11,356.79	0.26	<b>3,050</b>	

<sup>1</sup>Refer to Maps TERR 2a–c for the location of each population within the study area.<sup>2</sup>Acreage is included only for populations at least 0.01 acres.

**Table 6. Noxious Weeds Documented During 2011 Supplemental Noxious Weed Surveys.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Acres</b>
rush skeletonweed	<i>Chondrilla juncea</i>	0.01
shortpod mustard	<i>Hirshfeldia incana</i>	0.02
Medusahead	<i>Taeniatherum caput-medusae</i>	0.05
common plantain	<i>Plantago lanceolata</i>	0.06
Himalayan blackberry	<i>Rubus discolor</i>	0.07
Chinese tree of heaven	<i>Ailanthus altissima</i>	0.08
bull thistle	<i>Cirsium vulgare</i>	0.11
French broom	<i>Genista monspessulana</i>	0.16
Italian thistle	<i>Carduus pycnocephalus</i>	0.17
yellow starthistle	<i>Centaurea solstitialis</i>	0.19
woolly mullein	<i>Verbascum thapsus</i>	0.20
ripgut brome	<i>Bromus diandrus</i>	0.17
hedgehog dogtailgrass	<i>Cynosurus echinatus</i>	0.78
spreading hedgeparsley	<i>Torilis arvensis</i>	0.30
klamathweed	<i>Hypericum perforatum</i>	0.36
rat-tail fescue	<i>Vulpia myuros</i>	0.78
cheatgrass	<i>Bromus tectorum</i>	0.96
red (sheep) sorrel	<i>Rumex acetosella</i>	7.34
	<b>Total</b>	<b>11.82</b>

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/UTM North	Longitude/UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
<b>American River Pump Station Area</b>									
NFAR_AIAL001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Ailanthus altissima</i>	Chinese tree of heaven	38.88538	-121.05984	0.07	3161	high
NFAR_BRDI001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Bromus diandrus</i>	ripgut brome	38.88531	-121.05963	0.17	7610	low
NFAR_BRTE001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Bromus tectorum</i>	cheatgrass	38.88531	-121.05963	0.17	7610	low
NFAR_CAPY001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Carduus pycnocephalus</i>	Italian thistle	38.88531	-121.05963	0.17	7610	high
NFAR_CESO001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Centaurea solstitialis</i>	yellow starthistle	38.88531	-121.05963	0.17	7610	low
NFAR_RUBI001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Rubus discolor</i>	Himalayan blackberry	38.88538	-121.05984	0.07	3161	high
NFAR_TOAR001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Torilis arvensis</i>	spreading hedgeparsley	38.88531	-121.05963	0.17	7610	low
NFAR_VETH001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Verbascum thapsus</i>	woolly mullein	38.88531	-121.05963	0.17	7610	low
NFAR_VUMY001	6/13/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Vulpia myuros</i>	rat-tail fescue	38.88531	-121.05963	0.17	7610	low
NFAR_CESO002	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Centaurea solstitialis</i>	yellow starthistle	38.88531	-121.05984	-	63	moderate
NFAR_AIAL002	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Ailanthus altissima</i>	Chinese tree of heaven	38.88525	-121.05991	-	31	moderate
NFAR_AIAL003	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Ailanthus altissima</i>	Chinese tree of heaven	38.88521	-121.05998	-	122	moderate
NFAR_AIAL004	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Ailanthus altissima</i>	Chinese tree of heaven	38.88522	-121.06010	-	29	moderate
NFAR_AIAL005	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Ailanthus altissima</i>	Chinese tree of heaven	38.88521	-121.06024	0.01	312	moderate
NFAR_HIIN001	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Hirshfeldia incana</i>	shortpod mustard	38.88513	-121.06045	0.02	764	moderate
NFAR_VETH002	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Verbascum thapsus</i>	woolly mullein	38.88513	-121.06045	0.02	764	low
NFAR_CIVU001	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Cirsium vulgare</i>	bull thistle	38.88513	-121.06045	0.02	764	low
NFAR_CHJU001	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Chondrilla juncea</i>	Rush skeletonweed	38.88523	-121.06008	0.01	292	low
NFAR_HYPE001	7/25/2011	North Fork American River Gage, Photovoltaic Pole and Trail above American River Pump Station	<i>Hypericum perforatum</i>	klamathweed	38.88531	-121.05963	0.17	7610	low
<b>Duncan Creek Area</b>									
DC_CIVU004	7/27/2011	Duncan Creek Diversion Intake Road	<i>Cirsium vulgare</i>	bull thistle	39.13311	-120.49043	-	11	low
DC_CIVU003	7/27/2011	Duncan Creek Diversion Intake Road	<i>Cirsium vulgare</i>	bull thistle	39.13295	-120.49021	-	11	low
DC_CIVU002	7/27/2011	Duncan Creek Diversion Intake Road	<i>Cirsium vulgare</i>	bull thistle	39.13549	-120.48192	-	1	low

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/ UTM North	Longitude/ UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
<b>Ellicott Bridge Area</b>									
EB_BRTE001	7/26/2011	Ellicott Bridge Parking Area	<i>Bromus tectorum</i>	cheatgrass	38.95655	-120.48767	-	11	high
EB_CYEC002	7/26/2011	Ellicott Bridge Parking Area	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	38.95680	-120.48750	0.22	9778	low
EB_CYEC001	7/26/2011	Ellicott Bridge Parking Area	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	38.95687	-120.48888	0.19	8234	low
EB_GEMO003	7/26/2011	Ellicott Bridge Parking Area	<i>Genista monspessulana</i>	French broom	38.95741	-120.48729	0.02	717	moderate
EB_GEMO002	7/26/2011	Ellicott Bridge Parking Area	<i>Genista monspessulana</i>	French broom	38.95745	-120.48772	0.14	6234	moderate
EB_GEMO001	7/26/2011	Ellicott Bridge Parking Area	<i>Genista monspessulana</i>	French broom	38.95675	-120.48905	-	9	moderate
<b>French Meadows Area</b>									
FM_BRTE014	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11576	-120.47303	-	120	high
FM_BRTE016	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11629	-120.47408	0.03	1116	high
FM_BRTE017	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11642	-120.47472	0.01	293	moderate
FM_BRTE018	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11607	-120.47477	0.03	1432	moderate
FM_BRTE019	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11605	-120.47465	0.03	1432	moderate
FM_CIVU001	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Cirsium vulgare</i>	bull thistle	39.11630	-120.47406	-	3	low
FM_CIVU003	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Cirsium vulgare</i>	bull thistle	39.11627	-120.47474	0.01	382	moderate
FM_RUAC004	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11612	-120.47475	-	176	moderate
FM_RUAC003	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11611	-120.47463	-	136	moderate
FM_VETH001	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Verbascum thapsus</i>	woolly mullein	39.11641	-120.47458	-	50	moderate
FM_VETH002	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Verbascum thapsus</i>	woolly mullein	39.11627	-120.47475	-	115	moderate
FM_VETH003	7/27/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Verbascum thapsus</i>	woolly mullein	39.11626	-120.47470	-	3	low
FM_RUAC006	7/27/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10837	-120.42601	-	20	moderate
FM_RUAC049	7/26/2011	Black Bear Unit - Coyote Campground	<i>Rumex acetosella</i>	red (sheep) sorrel	39.13465	-120.41320	4.58	199464	moderate
FM_CIVU004	7/27/2011	French Meadows Campground Water Supply	<i>Cirsium vulgare</i>	bull thistle	39.10837	-120.42580	-	136	low
FM_RUAC005	7/27/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10837	-120.42580	-	136	low
FM_CIVU006	7/27/2011	French Meadows RV Dump Station	<i>Cirsium vulgare</i>	bull thistle	39.12750	-120.40784	0.08	3272	low
FM_RUAC048	7/27/2011	French Meadows RV Dump Station	<i>Rumex acetosella</i>	red (sheep) sorrel	39.12811	-120.40793	0.12	5172	moderate
FM_VETH005	7/27/2011	French Meadows RV Dump Station	<i>Verbascum thapsus</i>	woolly mullein	39.12767	-120.40782	-	10	moderate
FM_VETH004	6/22/2011	French Meadows Reservoir Trail	<i>Verbascum thapsus</i>	woolly mullein	39.11060	-120.42936	-	44	moderate
FM_BRTE015	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Bromus tectorum</i>	cheatgrass	39.11640	-120.47405	-	18	moderate
FM_CIVU002	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Cirsium vulgare</i>	bull thistle	39.11638	-120.47459	0.01	252	low
FM_VUMY001	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Vulpia myuros</i>	rat-tail fescue	39.11640	-120.47468	0.01	252	low
FM_RUAC002	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11640	-120.47468	0.01	252	moderate
FM_RUAC001	6/22/2011	Duncan Creek - Middle Fork Tunnel Portal Road	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11638	-120.47459	0.01	252	moderate
FM_RUAC015	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11130	-120.42700	0.01	329	moderate
FM_RUAC023	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10779	-120.43243	-	7	moderate
FM_RUAC022	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10792	-120.43233	-	66	moderate

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/UTM North	Longitude/UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
FM_RUAC021	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10791	-120.43216	-	18	high
FM_RUAC020	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10841	-120.43231	-	66	high
FM_RUAC018	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10874	-120.43115	-	7	moderate
FM_RUAC017	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10963	-120.42933	-	66	low
FM_RUAC031	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10501	-120.44029	-	166	moderate
FM_RUAC027	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10736	-120.43523	-	73	moderate
FM_RUAC032	7/12/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10489	-120.44113	-	11	moderate
FM_RUAC014	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11284	-120.42551	-	20	low
FM_RUAC013	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11317	-120.42494	-	136	low
FM_RUAC016	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11064	-120.42671	-	125	moderate
FM_RUAC039	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10460	-120.45839	0.02	934	moderate
FM_RUAC040	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10361	-120.45932	-	13	moderate
FM_RUAC041	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10330	-120.46107	0.04	1823	moderate
FM_RUAC042	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10334	-120.46258	-	13	moderate
FM_RUAC043	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10380	-120.46381	0.02	833	moderate
FM_RUAC044	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10418	-120.46422	-	47	moderate
FM_RUAC045	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10589	-120.46593	0.01	633	moderate
FM_RUAC046	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10643	-120.46688	0.04	1837	moderate
FM_RUAC047	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10767	-120.46875	0.02	947	moderate
FM_RUAC019	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10803	-120.43062	0.01	229	moderate
FM_RUAC012	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.11245	-120.42351	0.01	453	moderate
FM_RUAC029	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10631	-120.43931	-	15	moderate
FM_RUAC030	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10595	-120.43953	0.01	375	moderate
FM_RUAC033	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10476	-120.44297	0.02	860	moderate
FM_RUAC034	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10456	-120.44518	-	78	moderate
FM_RUAC035	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10432	-120.44723	0.09	3914	moderate
FM_RUAC036	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10464	-120.45013	-	13	moderate
FM_RUAC037	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10507	-120.45149	-	57	moderate
FM_RUAC038	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10537	-120.45287	-	55	moderate
FM_RUAC024	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10721	-120.43131	-	122	moderate
FM_RUAC025	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10679	-120.43206	-	105	moderate
FM_RUAC026	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10699	-120.43332	0.04	1716	moderate
FM_RUAC028	7/28/2011	French Meadows Reservoir Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10699	-120.43801	-	204	moderate
FM_RUAC007	7/12/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10715	-120.42887	0.05	2126	low
FM_RUAC008	7/12/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10695	-120.42930	0.02	734	moderate
FM_RUAC009	7/12/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10684	-120.42971	-	74	low
FM_CIVU005	7/27/2011	French Meadows Reservoir Trail	<i>Cirsium vulgare</i>	bull thistle	39.10736	-120.43523	-	73	low

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/ UTM North	Longitude/ UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
FM_RUAC011	7/12/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10479	-120.43141	-	10	low
FM_RUAC010	7/12/2011	French Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.10501	-120.43148	-	10	low
<b>Hell Hole Area</b>									
HH_RUAC001	7/26/2011	Big Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.07618	-120.43065	-	79	moderate
HH_RUAC002	7/26/2011	Big Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.07533	-120.42931	-	157	moderate
HH_RUAC003	7/26/2011	Big Meadows Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.07437	-120.42817	-	77	moderate
HH_BRTE043	6/24/2011	Spur on South Side of Operator Cottages and Shop	<i>Bromus tectorum</i>	cheatgrass	39.05775	-120.41784	0.35	15122	moderate
HH_CYEC001	6/24/2011	Spur on South Side of Operator Cottages and Shop	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.05788	-120.41798	0.04	1774	moderate
HH_RUAC004	6/24/2011	Spur on South Side of Operator Cottages and Shop	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05763	-120.41771	0.02	795	low
HH_TACA003	7/26/2011	Spur on South Side of Operator Cottages and Shop	<i>Taeniatherum caput- medusae</i>	medusahead	39.05764	-120.41767	0.05	1979	low
HH_BRTE044	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Bromus tectorum</i>	cheatgrass	39.05897	-120.41664	0.02	997	moderate
HH_BRTE045	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Bromus tectorum</i>	cheatgrass	39.05906	-120.41659	0.01	314	moderate
HH_BRTE046	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Bromus tectorum</i>	cheatgrass	39.05921	-120.41672	0.04	1921	low
HH_CYEC002	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.05921	-120.41672	0.04	1921	low
HH_CYEC003	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.05916	-120.41694	0.01	483	moderate
HH_CYEC004	6/24/2011	Spur on North Side of Operator Cottages and Shop	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.05911	-120.41687	0.01	317	moderate
HH_VUMY005	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07693	-120.38985	0.15	6681	moderate
HH_VUMY006	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07601	-120.39001	0.10	4155	high
HH_VUMY007	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.06972	-120.40001	0.01	373	moderate
HH_BRTE047	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06959	-120.40060	0.01	440	moderate
HH_VUMY008	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.06959	-120.40060	0.01	440	moderate
HH_BRTE048	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06888	-120.40172	0.01	618	low
HH_BRTE049	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06858	-120.40220	-	47	high
HH_VUMY009	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.06846	-120.40242	-	85	high
HH_VUMY010	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.06846	-120.40259	-	170	moderate
HH_VUMY011	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.06303	-120.40395	0.01	325	high
HH_BRTE050	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06136	-120.40476	0.01	250	moderate
HH_VUMY001	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07983	-120.35608	0.01	308	moderate
HH_BRTE051	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06091	-120.40519	0.01	480	high
HH_BRTE052	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06063	-120.40520	-	80	moderate
HH_BRTE053	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.06042	-120.40523	0.01	318	high
HH_BRTE054	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.05986	-120.40510	-	173	moderate
HH_BRTE055	6/23/2011	Hell Hole Reservoir Trail	<i>Bromus tectorum</i>	cheatgrass	39.05842	-120.40615	0.02	762	moderate
HH_VUMY002	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07815	-120.38635	0.04	1897	low

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/UTM North	Longitude/UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
HH_VUMY003	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07773	-120.38803	0.01	311	high
HH_VUMY004	6/23/2011	Hell Hole Reservoir Trail	<i>Vulpia myuros</i>	rat-tail fescue	39.07748	-120.38855	0.19	8345	moderate
<b>Long Canyon Area</b>									
LCSF_RUAC001	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05278	-120.46018	0.04	1931	low
LCSF_RUAC002	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05244	-120.46185	0.05	2024	low
LCSF_RUAC003	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05225	-120.46294	0.07	3069	low
LCSF_BRTE004	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Bromus tectorum</i>	cheatgrass	39.05225	-120.46294	0.07	3069	low
LCSF_RUAC004	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05218	-120.46454	1.71	74273	low
LCSF_RUAC005	7/26/2011	Middle Meadows Group Campground Water Supply	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05239	-120.46708	0.19	8198	low
LCNF_RUAC001	7/26/2011	North Fork Long Canyon Creek Gage, Photovoltaic Pole and Trail below Diversion Dam	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05044	-120.48163	-	11	low
LCNF_RUAC002	7/26/2011	North Fork Long Canyon Creek Gage, Photovoltaic Pole and Trail below Diversion Dam	<i>Rumex acetosella</i>	red (sheep) sorrel	39.05043	-120.48167	-	27	moderate
<b>Middle Fork Interbay Area</b>									
INT_BRTE015	7/26/2011	Middle Fork American River Gage, Photovoltaic Pole and Access Trail below Middle Fork Interbay	<i>Bromus tectorum</i>	cheatgrass	39.02735	-120.60406	0.03	1297	low
INT_RUAC001	7/26/2011	Middle Fork American River Gage, Photovoltaic Pole and Access Trail below Middle Fork Interbay	<i>Rumex acetosella</i>	red (sheep) sorrel	39.02735	-120.60406	0.03	1444	low
INT_CYEC001	6/13/2011	Middle Fork American River Gage, Photovoltaic Pole and Access Trail below Middle Fork Interbay	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.02735	-120.60406	0.07	3091	low
INT_HYPE014	6/13/2011	Middle Fork American River Gage, Photovoltaic Pole and Access Trail below Middle Fork Interbay	<i>Hypericum perforatum</i>	klamathweed	39.02735	-120.60406	0.07	3091	low
INT_VUMY001	6/13/2011	Middle Fork American River Gage, Photovoltaic Pole and Access Trail below Middle Fork Interbay	<i>Vulpia myuros</i>	rat-tail fescue	39.02735	-120.60406	0.07	3091	moderate
<b>Ralston Afterbay Area</b>									
RAL_TACA005	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Taeniatherum caput-medusae</i>	medusahead	39.00774	-120.73206	-	78	moderate
RAL_CYEC001	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.00771	-120.73200	0.06	2816	moderate
RAL_HYPE015	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Hypericum perforatum</i>	klamathweed	39.00771	-120.73200	0.06	2816	low
RAL_PLA001	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Plantago lanceolata</i>	English plantain	39.00771	-120.73200	0.06	2816	low
RAL_RUAC001	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Rumex acetosella</i>	red (sheep) sorrel	39.00771	-120.73200	0.06	2816	low
RAL_TOAR001	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Torilis arvensis</i>	spreading hedgeparsley	39.00771	-120.73200	0.06	2816	low
RAL_BRTE014	7/25/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Bromus tectorum</i>	cheatgrass	39.00771	-120.73200	0.06	2816	low
RAL_CESO007	7/25/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Centaurea solstitialis</i>	yellow starthistle	38.99992	-120.72388	0.01	314	low
RAL_CESO006	7/25/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Centaurea solstitialis</i>	yellow starthistle	38.99998	-120.72375	0.01	314	moderate
RAL_CYEC002	6/13/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.00709	-120.73162	0.03	1521	moderate
RAL_CYEC003	6/13/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.00623	-120.73143	0.06	2728	high
RAL_HYPE016	6/13/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Hypericum perforatum</i>	klamathweed	39.00709	-120.73162	0.03	1521	moderate

**Table 7. Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys.**

Map ID <sup>1</sup>	Survey Date	Facility	Scientific Name	Common Name	Latitude/ UTM North	Longitude/ UTM East	Population Size (Acres) <sup>2</sup>	Population Size (Square feet)	Infestation Level
RAL_TOAR002	6/13/2011	Middle Fork American River above Ralston Afterbay Access Trail	<i>Torilis arvensis</i>	spreading hedgearsley	39.00709	-120.73162	0.03	1521	moderate
RAL_BRTE016	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Bromus tectorum</i>	cheatgrass	38.99979	-120.72378	0.01	497	low
RAL_CYEC005	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	38.99979	-120.72378	0.01	497	low
RAL_TOAR003	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Torilis arvensis</i>	spreading hedgearsley	38.99979	-120.72378	0.01	497	low
RAL_HYPE017	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Hypericum perforatum</i>	klamathweed	38.99979	-120.72378	0.01	497	low
RAL_BRTE015	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Bromus tectorum</i>	cheatgrass	39.00001	-120.72374	0.02	690	low
RAL_CYEC004	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Cynosurus echinatus</i>	hedgehog dogtailgrass	39.00001	-120.72374	0.02	690	low
RAL_TOAR002	6/13/2011	Rubicon River Gage above Ralston Powerhouse Trail	<i>Torilis arvensis</i>	spreading hedgearsley	39.00001	-120.72374	0.02	690	high
<b>Total</b>			<b>18 species (161 populations)</b>				<b>11.82</b>	<b>515,040</b>	

<sup>1</sup>Map identification number corresponds to map identification numbers shown on Maps TERR 3-1a through 3-1k.<sup>2</sup>Acres amounts are provided only for populations greater than 200 square feet.

**Table 8. Avian Species Observed During 2011 Supplement Avian Area Search Surveys.**

Avian Species		Status	Survey Area			
Common Name	Scientific Name		North Fork American River	Middle Fork Interbay <sup>1</sup>	North Fork Long Canyon	Ellicott Bridge
Anna's hummingbird	<i>Calypte anna</i>	—	X			
Belted kingfisher	<i>Megaceryle alcyon</i>	—		X		
Black phoebe	<i>Sayornis nigricans</i>	—	X	X		
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	—			X	X
Brown creeper	<i>Certhia americana</i>	—				X
Dark-eyed junco	<i>Junco hyemalis</i>	—		X	X	X
European starling	<i>Sturnus vulgaris</i>	—	X			
Golden-crowned kinglet	<i>Regulus satrapa</i>	—				X
Hermit warbler	<i>Dendroica occidentalis</i>	—				X
House finch	<i>Carpodacus mexicanus</i>	—	X			
House wren	<i>Troglodytes aedon</i>	—	X			
Lazuli bunting	<i>Passerina amoena</i>	—				
Lesser goldfinch	<i>Carduelis psaltria</i>	—	X			
Mountain chickadee	<i>Poecile gambeli</i>	—				X
Northern flicker	<i>Colaptes auratus</i>	—				X
Oak titmouse	<i>Baeolophus inornatus</i>	—	X			
Orange-crowned warbler	<i>Vermivora celata</i>	—				X
Red-tailed hawk	<i>Buteo jamaicensis</i>	—	X			
Rock wren	<i>Salpinctes obsoletus</i>	—	X			
Rough-winged swallow	<i>Stelgidopteryx serripennis</i>	—	X			
Spotted towhee	<i>Pipilo maculatus</i>	—				X
Stellar's jay	<i>Cyanocitta stelleri</i>	—			X	X
Turkey vulture	<i>Cathartes aura</i>	—	X			
Western scrub jay	<i>Aphelocoma californica</i>	—	X	X		X
Western tanager	<i>Piranga ludoviciana</i>	—			X	
Western wood-peewee	<i>Contopus sordidulus</i>	—			X	
White-throated swift	<i>Aeronautes saxatalis</i>	—	X			
Yellow-rumped warbler	<i>Dendroica coronata</i>	—			X	X

<sup>1</sup>Breeding season avian surveys were not conducted at this location because birdsong was drowned out by the sound of water from the dam.

**Table 9. Wildlife Species Observed During 2011 Supplement Terrestrial Visual Encounter Surveys.**

Common Name	Scientific Name	Status		Type of Detection				Survey Area							
		Federal	State	Visual	Scat	Den/ Bedding Area	Tracks/ Feathers	North Fork American River	Ralston	Middle Fork Interbay	North Fork Long Canyon	French Meadows	Duncan Creek	Hell Hole	Ellicott Bridge
<b>Amphibians and Reptiles</b>															
California newt	<i>Taricha torosa</i>	—	—	X									X	X	
western aquatic garter snake	<i>Thamnophis</i> spp.	—	—	X							X				
rattlesnake	<i>Crotalus</i> spp.	—	—	X							X			X	
Sierran alligator lizard	<i>Elgaria coerulea palmeri</i>	—	—	X						X			X		
yellow bellied racer	<i>Coluber mormon</i>	—	—										X		
western fence lizard	<i>Sceloporus occidentalis</i>	—	—	X				X	X	X		X	X	X	X
<b>Raptors (and other large bird species)</b>															
owl species	—	—	—		X		X					X			
mallard	<i>Anas platyrhynchos</i>	—	—	X										X	
golden eagle	<i>Aquila crhytaetos</i>	—	—	X									X		
Canada goose	<i>Branta canadensis</i>	—	—	X				X	X						
red-tailed hawk	<i>Buteo jamaicensis</i>	—	—	X				X					X	X	
turkey vulture	<i>Cathartes aura</i>	—	—	X				X				X	X	X	
sooty grouse	<i>Dendragapus obscurus</i>	MIS	—	X										X	
American kestrel	<i>Falco sparverius</i>	—	—	X									X		
bald eagle	<i>Haliaeetus leucocephalus</i>	FD FSS BCC	SE CFP	X								X	X	X	
common merganser	<i>Mergus merganser</i>	—	—	X								X			
osprey	<i>Pandion haliaetus</i>	—	—	X								X			
<b>Mammals</b>															
vole species	<i>Microtus</i> spp.	—	—	X							X				
chipmunk species	<i>Neotamias</i> spp.	—	—	X							X	X		X	
mule deer	<i>Odocoileus hemionus</i>	MIS	—	X	X		X	X				X	X	X	
western gray squirrel	<i>Sciurus griseus</i>	—	—	X								X			
California ground squirrel	<i>Spermophilus beecheyi</i>	—	—	X							X	X	X	X	
coyote	<i>Canis latrans</i>	—	—		X						X				
black bear	<i>Ursus americanus</i>	—	—		X									X	

**LEGEND:**Federal Status

BCC = USFWS Bird of Conservation Concern (Region 15, Sierra Nevada)

FD = Delisted Species

FSS = Forest Service Sensitive, Eldorado and Tahoe National Forests

MIS = Management Indicator Species (Forest Service)

State Status

SE = California Endangered

CFP = California Fully Protected

Table 10. Incidental Wildlife Observations Documented During 2011 Supplemental Surveys.

Common Name	Scientific Name	Status		Type of Detection					Survey Area						
		Federal	State	Visual	Audible	Scat	Den/ Bedding Area	Tracks/ Feathers	North Fork American River	Ralston	Middle Fork Interbay	North Fork Long Canyon	French Meadows	Duncan Creek	Hell Hole
Acorn woodpecker	<i>Melanerpes formicivorus</i>	-	-		X								X		
American dipper	<i>Cinclus mexicanus</i>	-	-	X							X				
American gold finch	<i>Carduelis tristis</i>	-	-	X	X						X		X		X
American robin	<i>Turdus migratorius</i>	-	-	X						X	X	X	X		X
Anna's hummingbird	<i>Calypte anna</i>	-	-	X				X			X		X		
Black phoebe	<i>Sayornis nigricans</i>	-	-		X				X						
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	-	-	X	X					X	X	X	X	X	X
Black-throated gray warbler	<i>Dendroica nigrescens</i>	-	-		X					X					
Brown creeper	<i>Certhia americana</i>	-	-	X								X		X	X
Bushtit	<i>Psaltriparus minimus</i>	-	-	X								X	X		X
California towhee	<i>Melospiza crissalis</i>	-	-	X									X		
California quail	<i>Callipepla californica</i>	-	-		X							X			
Cassin's finch	<i>Carpodacus cassinii</i>	BCC	-	X								X			
Cassin's vireo	<i>Vireo cassinii</i>	-	-		X				X						
Canyon wren	<i>Catherpes mexicanus</i>	-	-	X	X					X					
Common merganser	<i>Mergus merganser</i>	-	-	X									X		
Common raven	<i>Corvus corax</i>	-	-	X								X			
Dark-eyed junco	<i>Junco hyemalis</i>	-	-	X	X						X	X	X	X	
Downy woodpecker	<i>Picoides pubescens</i>	-	-		X					X				X	
Fox sparrow	<i>Passerella iliaca</i>	MIS	-	X								X	X		
Hairy woodpecker	<i>Picoides villosus</i>	MIS	-	X											X
Hammond's flycatcher	<i>Empidonax hammondii</i>	-	-	X											X
Hermit thrush	<i>Catharus guttatus</i>	-	-		X				X			X			
Hermit warbler	<i>Dendroica occidentalis</i>	-	-		X							X			
House finch	<i>Carpodacus mexicanus</i>	-	-	X				X					X		
House wren	<i>Troglodytes aedon</i>	-	-		X							X			
Hutton's vireo	<i>Vireo huttoni</i>	-	-	X	X						X	X	X		
Killdeer	<i>Charadrius vociferus</i>	-	-	X	X							X			
Lesser goldfinch	<i>Carduelis psaltria</i>	-	-		X							X			
Lesser nighthawk	<i>Chordeiles acutipennis</i>	-	-	X	X									X	
MacGillivray's warbler	<i>Oporornis tolmiei</i>	-	-	X											X
Mountain chickadee	<i>Poecile gambeli</i>	-	-	X									X		
Mountain quail	<i>Oreortyx pictus</i>	MIS	-		X							X		X	
Northern flicker	<i>Colaptes auratus</i>	-	-	X									X		X
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	-	-	X									X		
Olive-sided flycatcher	<i>Contopus cooperi</i>	BCC	CSC	X	X							X	X		
Orange-crowned warbler	<i>Vermivora celata</i>	-	-		X									X	
Pacific-slope flycatcher	<i>Empidonax difficilis</i>	-	-	X											X
Pileated woodpecker	<i>Dryocopus pileatus</i>	-	-	X	X							X	X		
Red-breasted nuthatch	<i>Sitta canadensis</i>	-	-		X							X			
Song sparrow	<i>Melospiza melodia</i>	-	-	X	X				X			X		X	
Spotted towhee	<i>Pipilo maculatus</i>	-	-		X				X				X		
Stellar's jay	<i>Cyanocitta stelleri</i>	-	-	X	X						X	X	X	X	X
Summer tanager	<i>Piranga rubra</i>	-	CSC	X								X			
Turkey vulture	<i>Cathartes aura</i>	-	-	X									X		
Owl sp.	<i>Strigidae</i>	-	-		X										
Violet green swallow	<i>Tachycineta thalassina</i>	-	-	X									X		

**Table 10. Incidental Wildlife Observations Documented During 2011 Supplemental Surveys (continued).**

Common Name	Scientific Name	Status		Type of Detection					Survey Area						
		Federal	State	Visual	Audible	Scat	Den/ Bedding Area	Tracks/ Feathers	North Fork American River	Ralston	Middle Fork Interbay	North Fork Long Canyon	French Meadows	Duncan Creek	Hell Hole
Warbling vireo	<i>Vireo gilvus</i>	–	–		X									X	
Western scrub jay	<i>Aphelocoma californica</i>	–	–		X				X		X		X		
Western tanager	<i>Piranga ludoviciana</i>	–	–	X	X						X		X	X	X
Western wood pewee	<i>Contopus sordidulus</i>	–	–		X								X	X	X
White-breasted nuthatch	<i>Sitta carolinensis</i>	–	–	X	X								X		X
White-throated swift	<i>Aeronautes saxatalis</i>	–	–	X	X						X				X
Yellow warbler	<i>Dendroica petechia</i>	MIS	CSC		X									X	X
Yellow-rumped warbler	<i>Dendroica coronata</i>	–	–	X									X		X

**LEGEND:**Federal Status

BCC = USFWS Bird of Conservation Concern (Region 15, Sierra Nevada)

MIS = Forest Service Management Indicator Species

State Status

CSC = CDFG Species of Special Concern

**Table 11. Riparian Vegetation Documented During 2011 Supplemental Riparian Vegetation Surveys.**

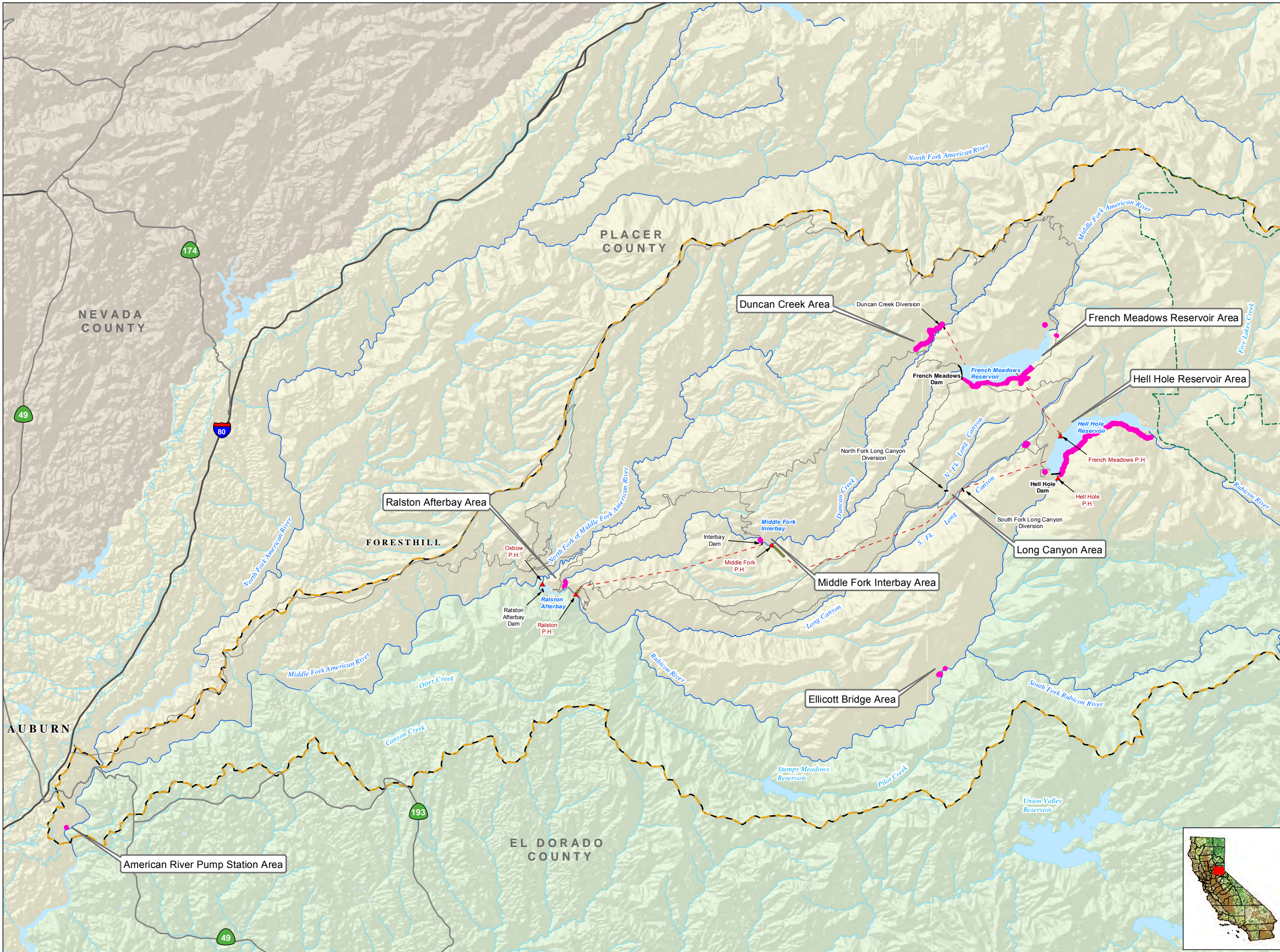
Project Facility or Feature	Age Class <sup>1</sup>	Scientific Name	Common Name	Form (tree/shrub)	Number of Individuals	Area		Description
						Square Feet	Acres <sup>2</sup>	
<ul style="list-style-type: none"> <li>• North Fork American River above American River Pump Station (NFARPS) (new)</li> <li>• Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new)</li> <li>• North Fork American River Gage above American River Pump Station Trail (new)</li> </ul>	young/seedlings	<i>Salix</i> sp.	willow	shrub	1	70.18	-	Single willow shrub
	medium-aged	<i>Salix</i> sp.	willow	tree	3	685.02	0.01	Group of three similarly-sized willow trees
Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP)	young/seedlings	<i>Alnus</i> sp.	alder	tree	1	857.91	0.02	Two areas of dense riparian vegetation on either side of Ralston Powerhouse Trail
		<i>Salix</i> sp.	willow	tree/shrub	3			
	medium-aged	<i>Alnus</i> sp.	alder	tree/shrub	4			
		<i>Populus balsamifera</i>	black cottonwood	tree	1			
		<i>Salix</i> sp.	willow	tree/shrub	2			
Middle Fork American River above Ralston Afterbay Trail (existing, added to MFP)	young/seedlings	<i>Alnus</i> sp.	alder	tree/shrub	9	720.57	0.02	Single line of sparse riparian vegetation lining river
		<i>Salix</i> sp.	willow	tree/shrub	5			
	medium-aged	<i>Alnus</i> sp.	alder	tree	1			
<b>Total</b>					30	2333.68	0.05	

<sup>1</sup>Age class definitions:

- Young/Seedlings: Shrubs with less than 10 stems per individual, or trees with diameters (diameter at breast height (DBH) less than 3 inches). The canopy diameter is less than 0.75 meters.
- Medium-Aged: Shrubs with between 10 and 60 stems per individual, trees with DBHs between 3 and 9 inches, and the canopy diameter is between 0.75 and 2 meters.
- Mature/Old: Shrubs with more than 60 stems per individual, trees with DBH's greater than 9 inches, and the canopy diameter is greater than 2.5 meters.


<sup>2</sup>Acreage is included only for areas at least 0.01 acres.

**MAPS**



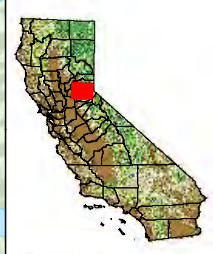
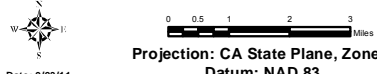
- Project Facilities**
- ▲ Powerhouse
  - Dam
  - Tunnel
- Transportation**
- Major Road
  - Minor Road
- Hydrography**
- Watercourse
  - Water Body
  - Middle Fork American River Watershed\*
- Designated Boundary**
- Wilderness Area
- 2011 Terrestrial Survey Areas**
- 

\*Modified from Calwater Ver. 2.2 to represent drainage above high-water mark of Folsom Lake



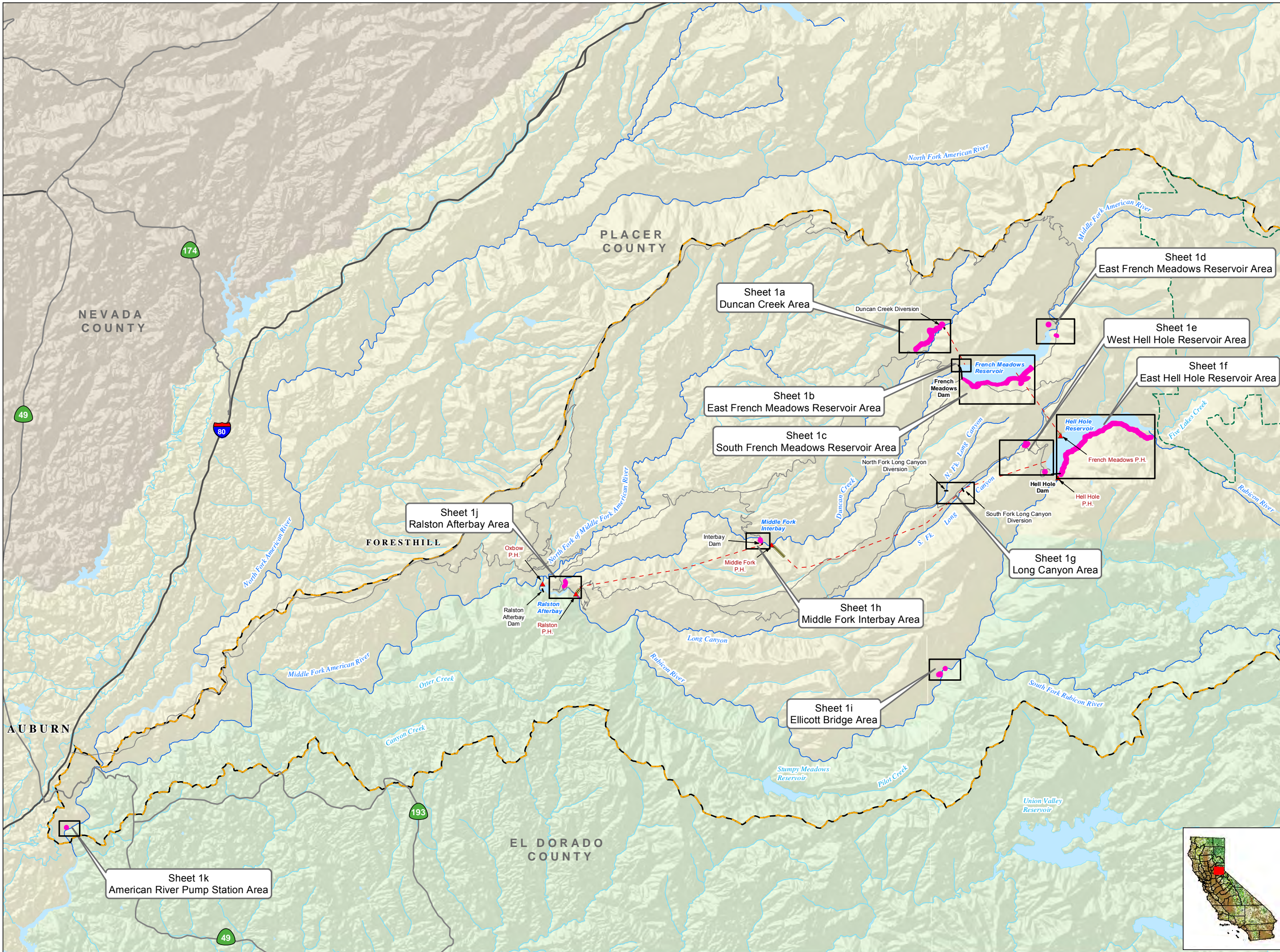
Placer County Water Agency  
Middle Fork American River Project

**Map 1**  
**Survey Area Overview**

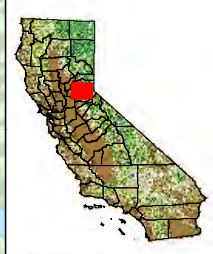
Projection: CA State Plane, Zone 2  
Datum: NAD 83

Date: 9/23/11



- Project Facilities**
- Powerhouse
  - Dam
  - Tunnel
- Transportation**
- Major Road
  - Minor Road
- Hydrography**
- Watercourse
  - Water Body
  - Middle Fork American River Watershed\*
- Designated Boundary**
- Wilderness Area
- 2011 Noxious Weed Survey Areas**
- 

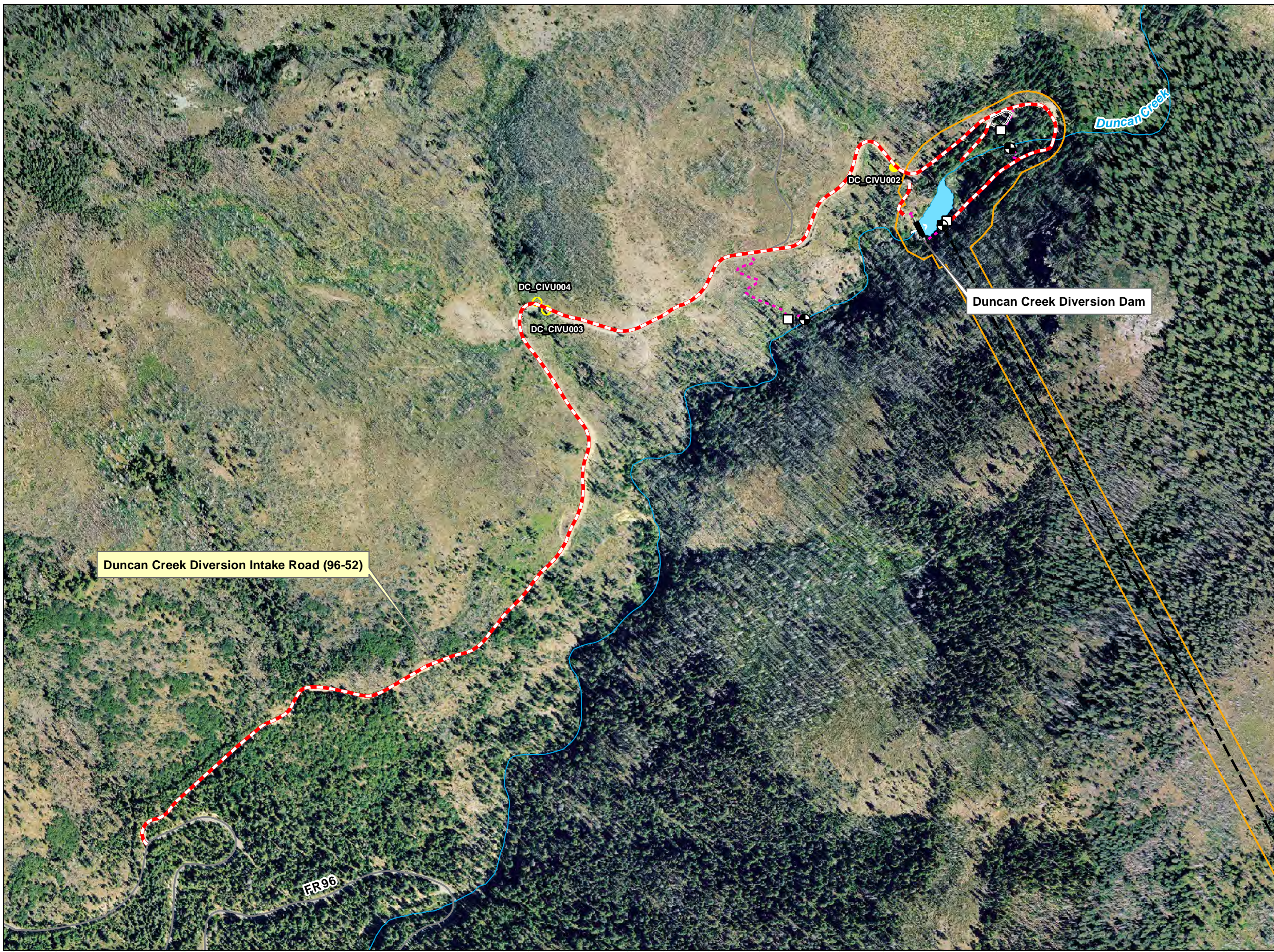
\*Modified from Calwater Ver. 2.2 to represent drainage above high-water mark of Folsom Lake



**PCWA**  
Placer County Water Agency  
Middle Fork American River Project

Map 3-1  
2011 Supplemental Noxious Weed Surveys Locations  
Sheet Index Map

0 0.5 1 2 3 Miles  
Projection: CA State Plane, Zone 2  
Datum: NAD 83  
Date: 9/29/11



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

Placer County Water Agency  
Middle Fork American River Project

Map 3-1a  
**Locations of Noxious Weed Populations  
Documented During 2011 Supplemental Surveys  
Duncan Creek Area**

Date: 9/30/11

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

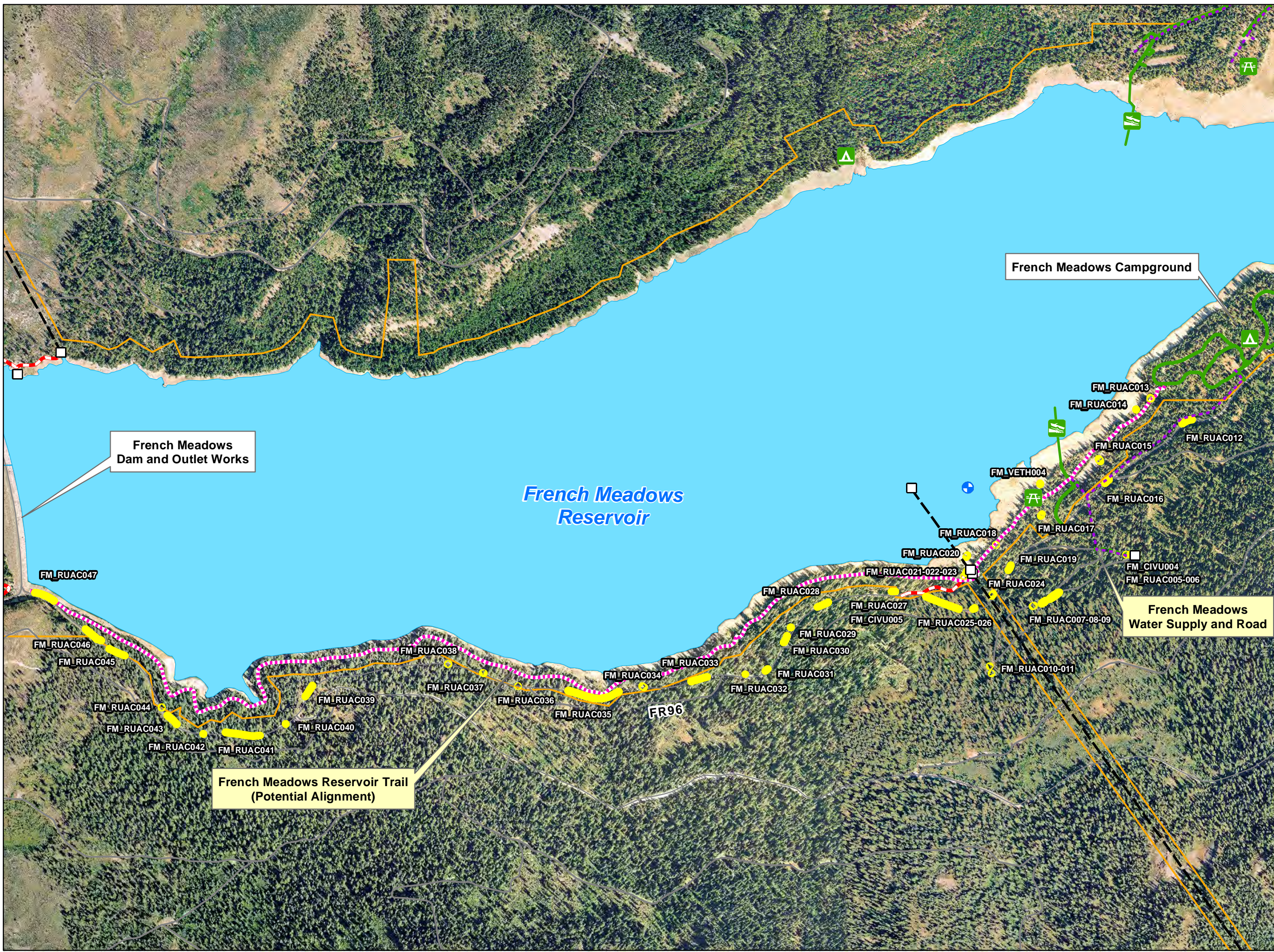
Placer County Water Agency  
Middle Fork American River Project

**Map 3-1b**  
**Locations of Noxious Weed Populations**  
**Documented During 2011 Supplemental Surveys**  
**West French Meadows Reservoir Area**

Date: 9/30/11

0 50 100 Feet

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

**French Meadows Dam and Outlet Works**

**French Meadows Campground**

*French Meadows Reservoir*

**French Meadows Water Supply and Road**

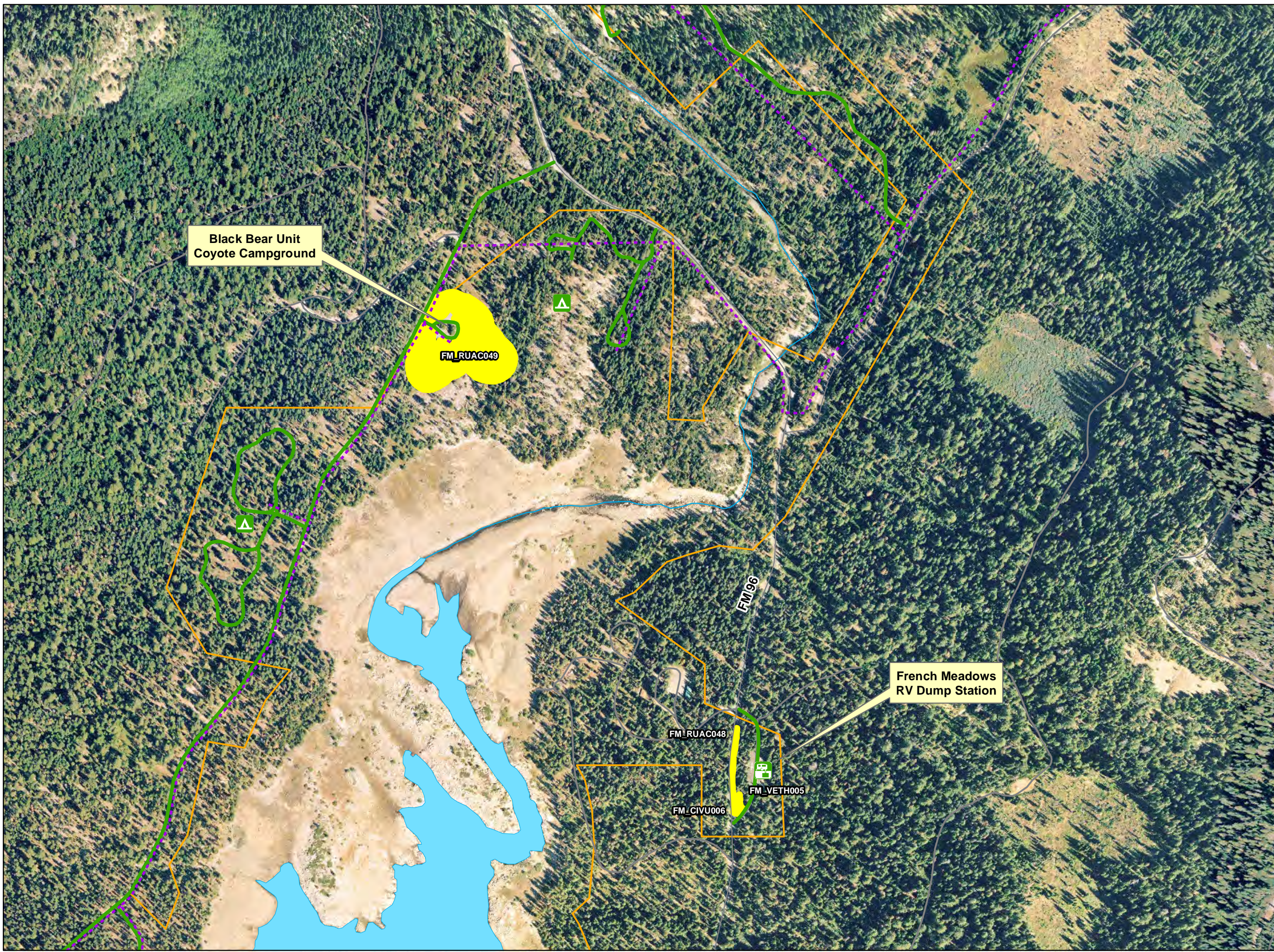
**French Meadows Reservoir Trail (Potential Alignment)**

Placer County Water Agency  
Middle Fork American River Project

**Map 3-1c**  
**Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys South French Meadows Reservoir Area**

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83

Date: 9/30/11



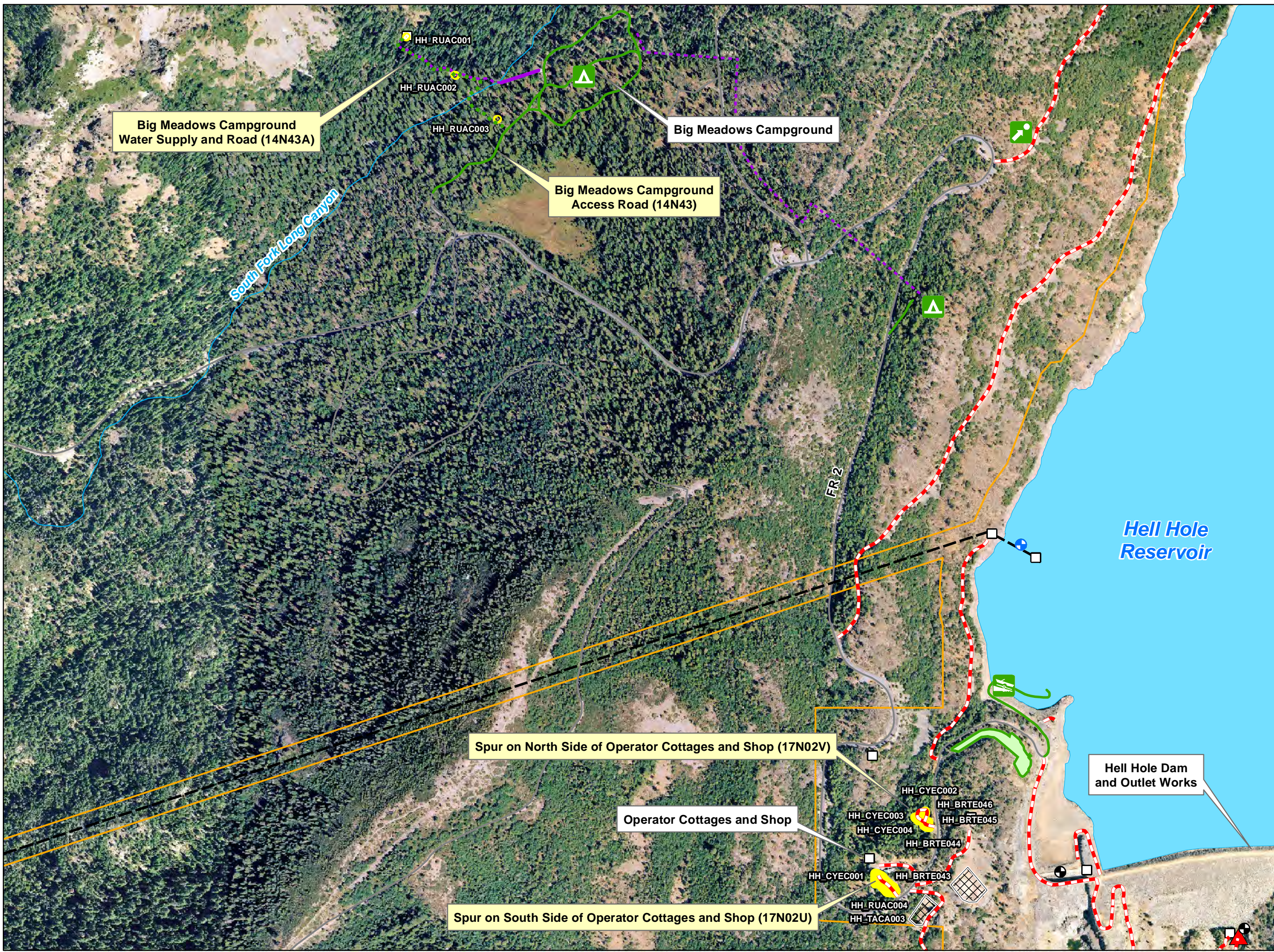
- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

Placer County Water Agency  
Middle Fork American River Project

**Map 3-1d**  
**Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys**  
**East French Meadows Reservoir Area**

Date: 9/30/11

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



Big Meadows Campground  
Water Supply and Road (14N43A)

Big Meadows Campground

Big Meadows Campground  
Access Road (14N43)

Spur on North Side of Operator Cottages and Shop (17N02V)

Operator Cottages and Shop

Spur on South Side of Operator Cottages and Shop (17N02U)

Hell Hole Dam  
and Outlet Works

Hell Hole  
Reservoir

South Fork Long Canyon

FR 2

HH\_RUAC001  
HH\_RUAC002  
HH\_RUAC003

HH\_CYEC002  
HH\_BRTE046  
HH\_CYEC003  
HH\_BRTE045  
HH\_CYEC004  
HH\_BRTE044  
HH\_BRTE043  
HH\_CYEC001  
HH\_RUAC004  
HH\_TACA003

**PCWA Facilities and Features**

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Reservoir Gage
- Penstock
- Tunnel
- Existing FERC Boundary

**Transportation**

- Road
- Trail
- Project Road
- Project Trail / Proposed Project Trail
- Recreation Access Road
- Recreation Facility Water Supply Access Road or Trail

**Project Recreation Facilities**

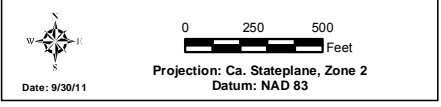
- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Trailer Sanitary Station
- Water Supply Line (Above ground)
- Water Supply Line (Buried)

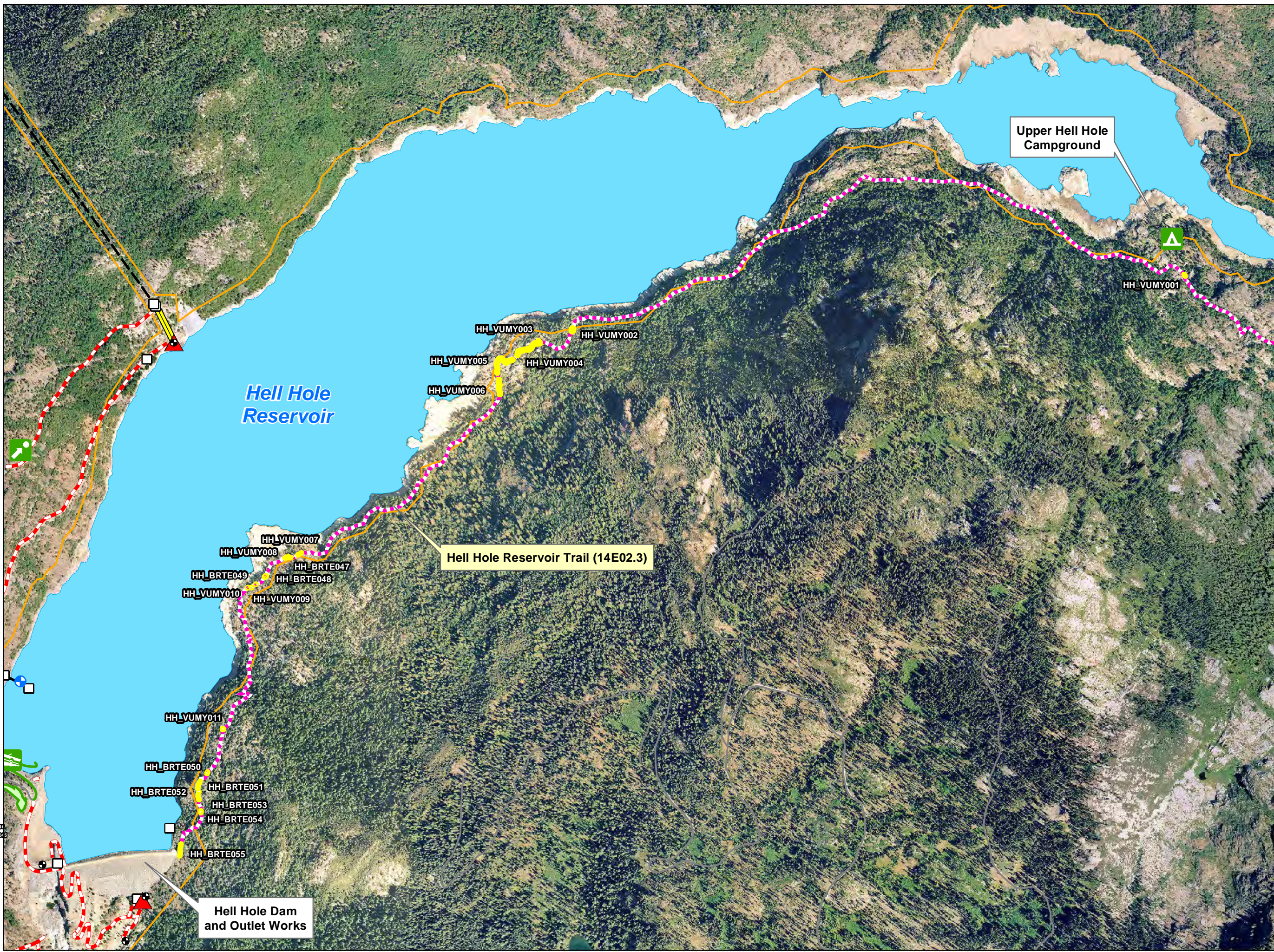
**Noxious Weeds**

- Noxious Weeds Populations Identified in 2011



Placer County Water Agency  
Middle Fork American River Project  
Map 3-1e  
Locations of Noxious Weed Populations  
Documented During 2011 Supplemental Surveys  
West Hell Hole Reservoir Area





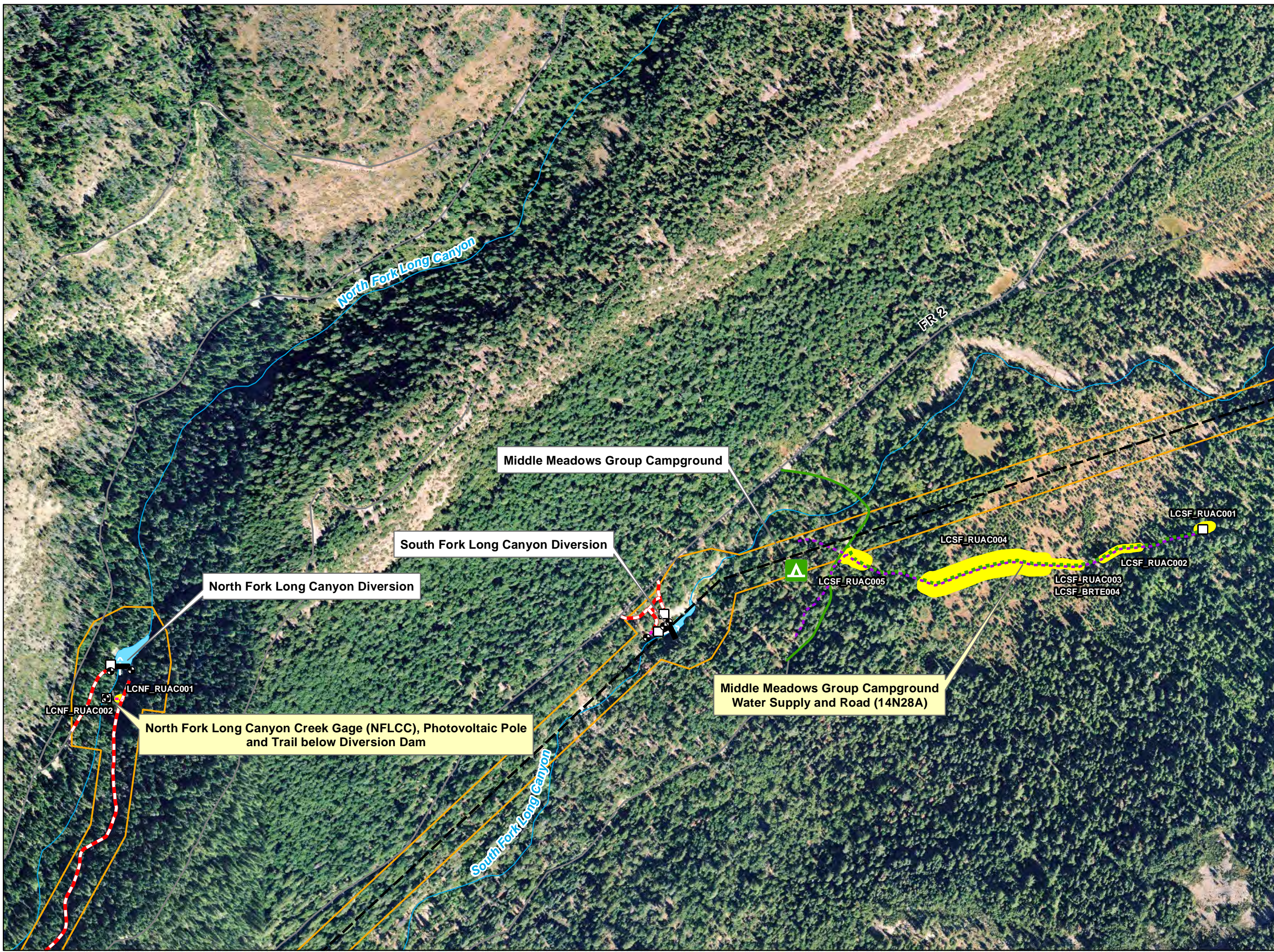
- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

Placer County Water Agency  
Middle Fork American River Project

Map 3-1f  
**Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys**  
East Hell Hole Reservoir Area

Date: 9/30/11


Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011


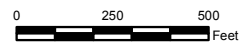
North Fork Long Canyon Creek Gage (NFLCC), Photovoltaic Pole and Trail below Diversion Dam

Middle Meadows Group Campground Water Supply and Road (14N28A)



Placer County Water Agency  
Middle Fork American River Project

Map 3-1g  
Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys  
Long Canyon Area












Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83







Date: 9/30/11










**PCWA Facilities and Features**

-  Dam
-  Ancillary and Other Facilities
-  Powerhouse
-  Gage
-  Reservoir Gage
-  Penstock
-  Tunnel
-  Existing FERC Boundary

**Transportation**

-  Road
-  Trail
-  Project Road
-  Project Trail / Proposed Project Trail
-  Recreation Access Road
-  Recreation Facility Water Supply Access Road or Trail

**Project Recreation Facilities**



-  Picnic Area
-  Boat Ramp
-  Scenic Viewpoint
-  Developed Campground
-  Trailer Sanitary Station
-  Water Supply Line (Above ground)
-  Water Supply Line (Buried)

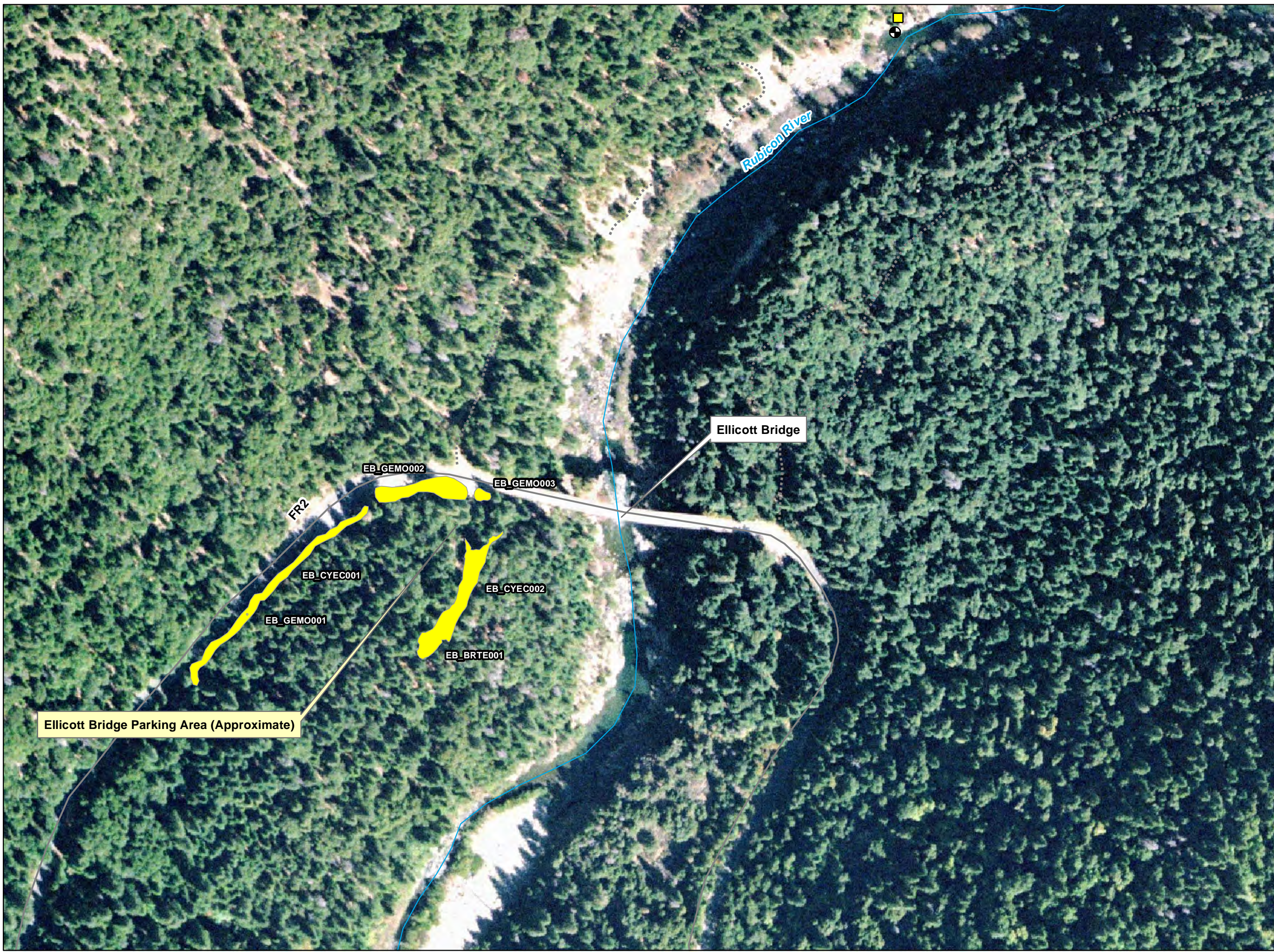
**Noxious Weeds**

-  Noxious Weeds Populations Identified in 2011



Placer County Water Agency  
 Middle Fork American River Project  
**Map 3-1h**  
**Locations of Noxious Weed Populations**  
**Documented During 2011 Supplemental Surveys**  
 Middle Fork Interbay Area



  
 Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83  
 Date: 9/30/11



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

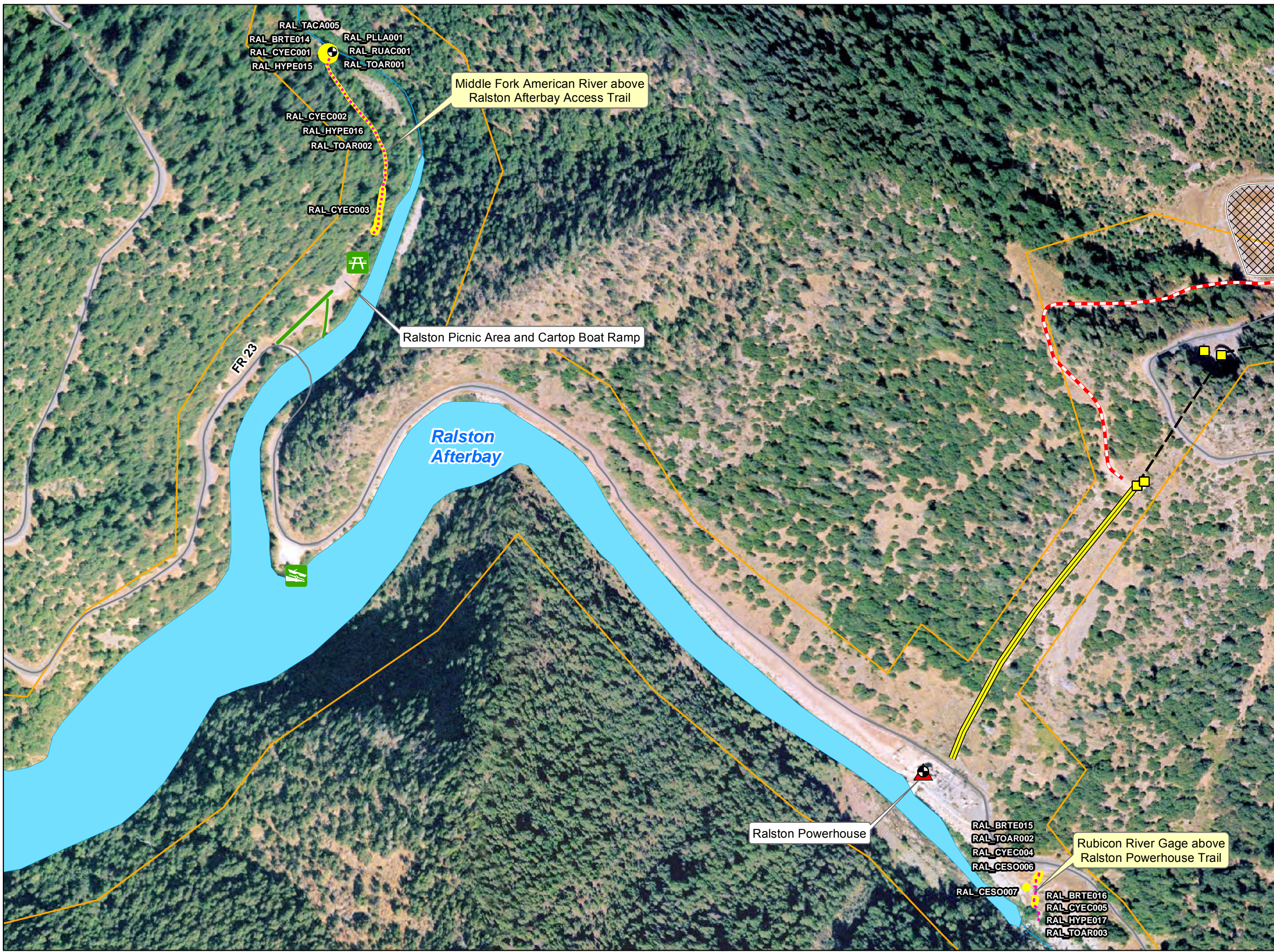
Placer County Water Agency  
Middle Fork American River Project

**Map 3-1i**  
**Locations of Noxious Weed Populations**  
**Documented During 2011 Supplemental Surveys**  
**Ellicott Bridge Area**

Date: 9/30/11

0 125 250 Feet

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - Powerhouse
  - Gage
  - Reservoir Gage
  - Penstock
  - Tunnel
  - Existing FERC Boundary
- Transportation**
- Road
  - Trail
  - Project Road
  - Project Trail / Proposed Project Trail
  - Recreation Access Road
  - Recreation Facility Water Supply Access Road or Trail
- Project Recreation Facilities**
- Picnic Area
  - Boat Ramp
  - Scenic Viewpoint
  - Developed Campground
  - Trailer Sanitary Station
  - Water Supply Line (Above ground)
  - Water Supply Line (Buried)
- Noxious Weeds**
- Noxious Weeds Populations Identified in 2011

Placer County Water Agency  
Middle Fork American River Project

Map 3-1j  
**Locations of Noxious Weed Populations Documented During 2011 Supplemental Surveys**  
Ralston Afterbay Area

Date: 9/30/11

Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83



**Goshawk Survey**

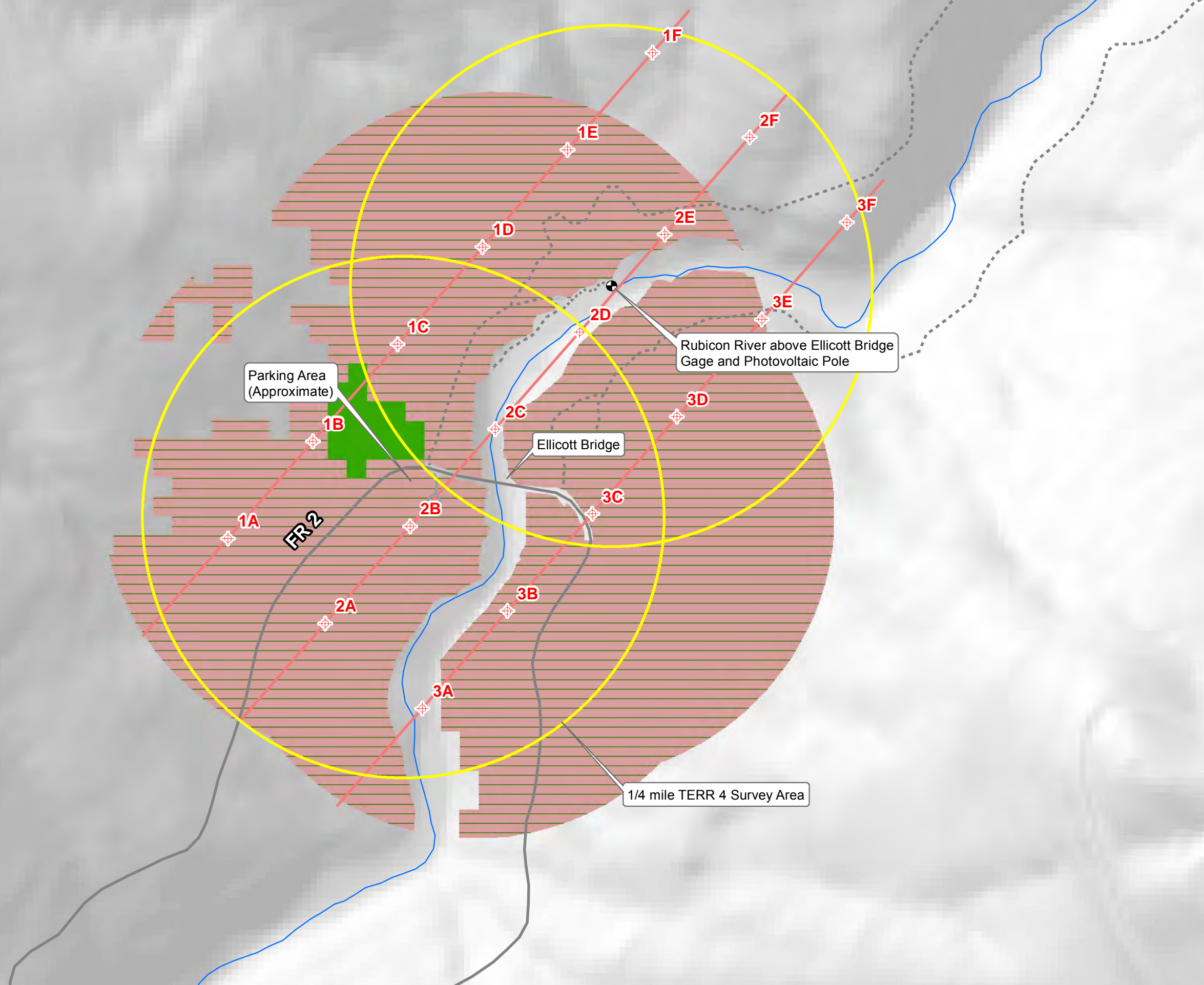
- Transect Pts (200m)
- Transect Lines (200m)

**Goshawk Habitat\***

Dense or Extremely Dense Areas of the Following Vegetation Community Types:

- Douglas-Fir - Pine (DP)
- Ponderosa Pine (PP)

\*CalVeg Data (2000) with updates from 2007 PCWA field surveys and aerial photo interpretation



Parking Area (Approximate)

Rubicon River above Ellicott Bridge Gage and Photovoltaic Pole

Ellicott Bridge

1/4 mile TERR 4 Survey Area

FR 2



Placer County Water Agency  
Middle Fork American River Project

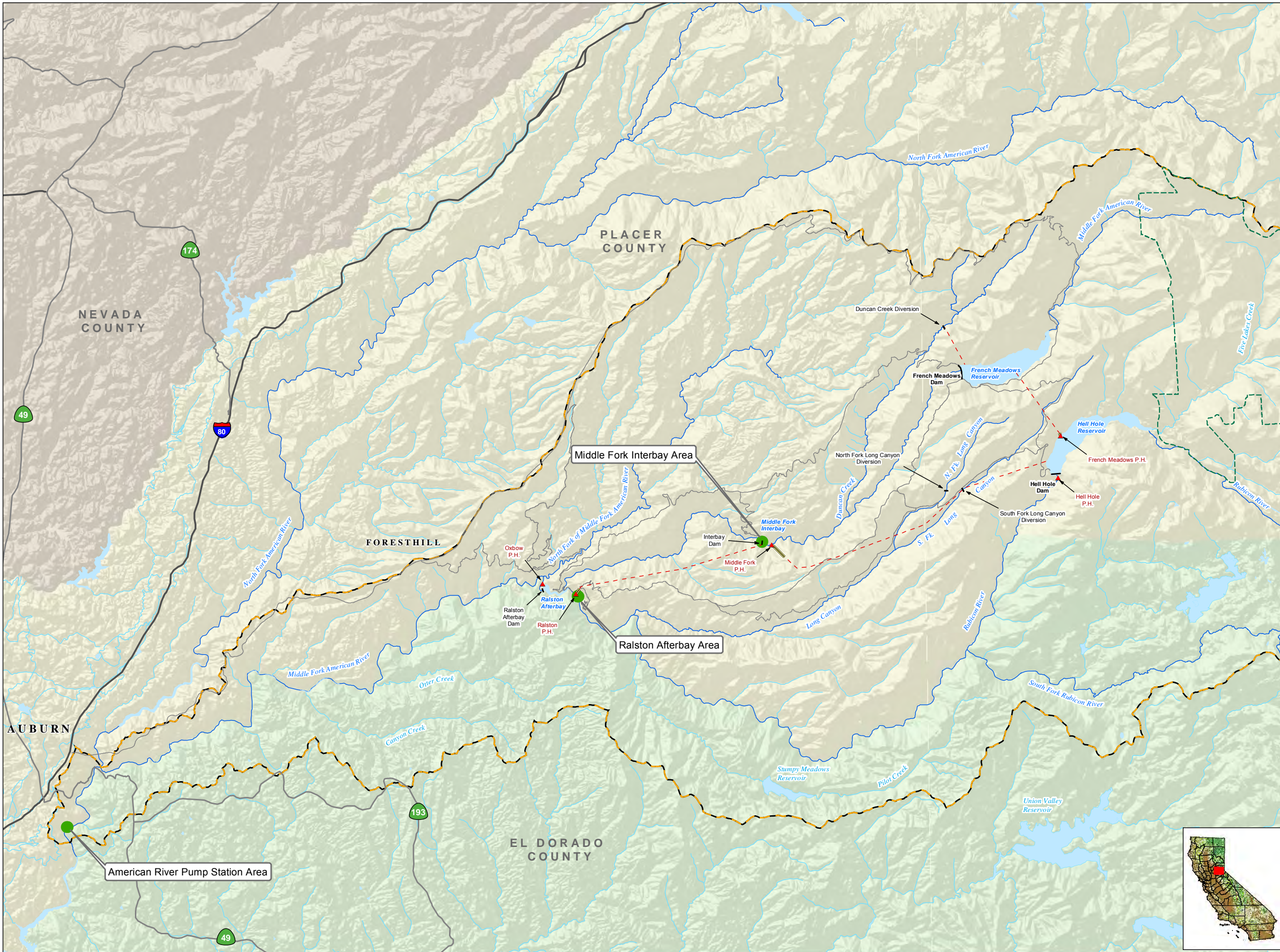
Map 4  
Final Northern Goshawk Survey  
Ellicott Bridge



0 250 500 Feet


Projection: CA State Plane, Zone 2  
Datum: NAD 83

Date: 9/29/11



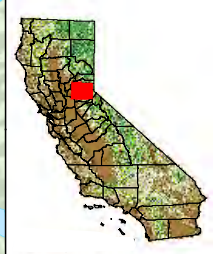
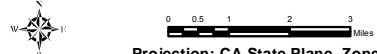
- Project Facilities**
- Powerhouse
  - Dam
  - Tunnel
- Transportation**
- Major Road
  - Minor Road
- Hydrography**
- Watercourse
  - Water Body
  - Middle Fork American River Watershed\*
- Designated Boundary**
- Wilderness Area
- Locations with Identified Riparian Populations**
- 

\*Modified from Calwater Ver. 2.2 to represent drainage above high-water mark of Folsom Lake



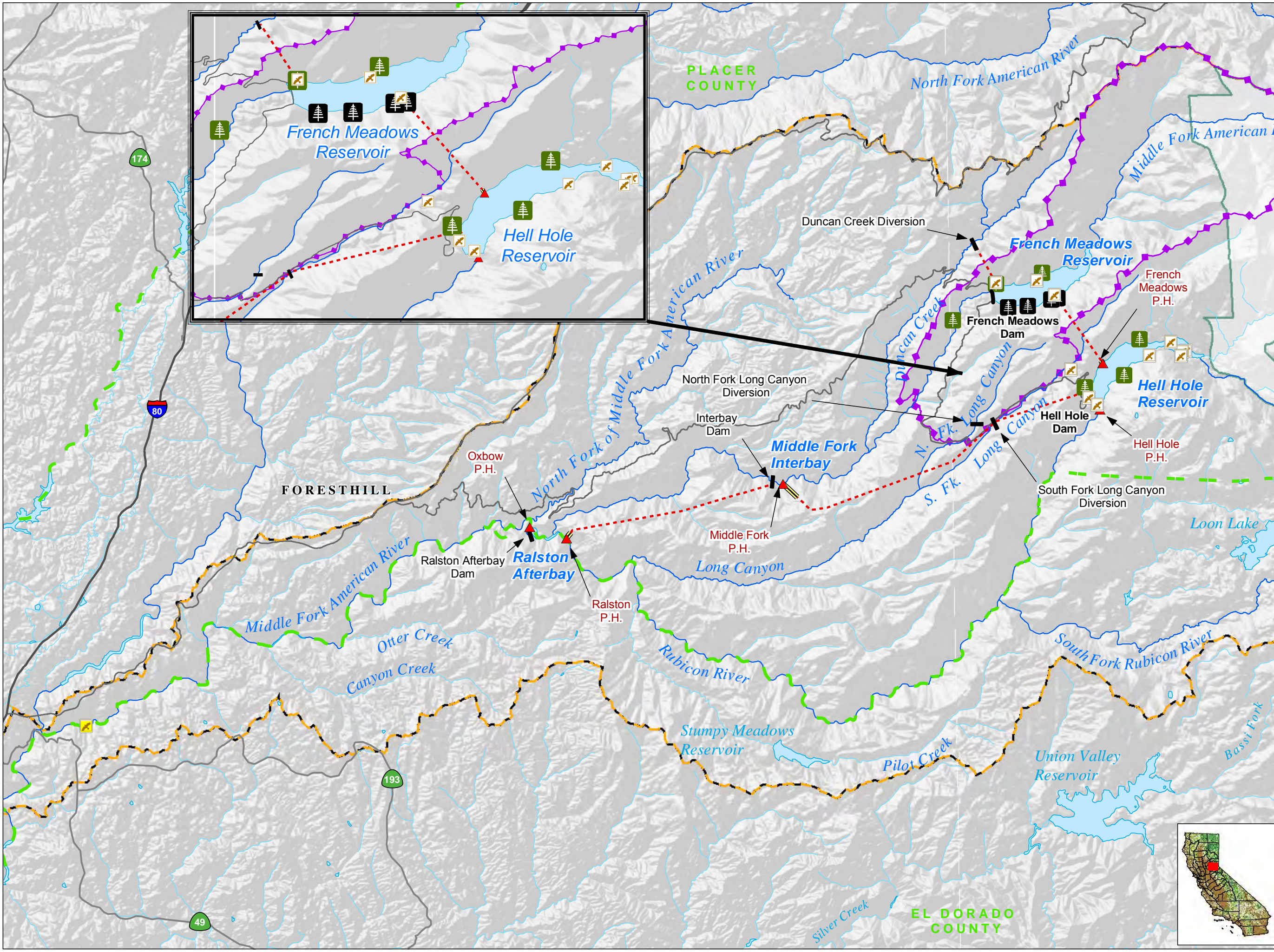
Placer County Water Agency  
Middle Fork American River Project

Map 5  
Location of Riparian Vegetation Documented  
During 2011 Supplemental Surveys  
Overview Map


Projection: CA State Plane, Zone 2  
Datum: NAD 83

Date: 9/29/11



- Powerhouse
- Dam
- Tunnel
- Penstock
- Transportation**
- Major Road
- Minor Road
- Hydrography**
- Watercourse
- Water Body
- Middle Fork American River Watershed\*
- Designated Boundary**
- County Boundary
- Wilderness Area
- State Game Refuge
- Osprey Data**
- PCWA Osprey Surveys (2007-2008)
- Sighting
- Nest
- Other Documented Occurences
- Sighting
- Nest


\*Modified from Calwater Ver. 2.2 to represent drainage above high-water mark of Folsom Lake




Placer County Water Agency  
Middle Fork American River Project

**Map 6**

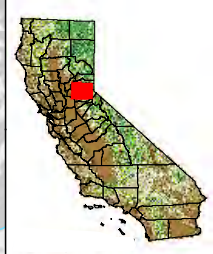
**Location of Osprey  
in the Vicinity of the MFP**



Date: 10/20/11



Projection: CA State Plane, Zone 2  
Datum: NAD 83



**CONFIDENTIAL**

**MAPS**

Maps 2a-2c (Locations of Special-Status Plant Populations Documented During 2011 Supplemental Surveys) have been removed from this document because they contain the location(s) of special-status biological resources and are considered “confidential” information.

**CONFIDENTIAL**

**APPENDIX A**

Appendix A (California Natural Diversity Database Field Survey Forms) have been removed from this document because they contain the location(s) of special-status biological resources and are considered “confidential” information.