

Contains Confidential Information – Do Not Distribute

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

***FINAL***

**CONTAINS CONFIDENTIAL INFORMATION  
NOT FOR PUBLIC DISTRIBUTION**

**TERR 2 – SPECIAL-STATUS PLANTS  
TECHNICAL STUDY REPORT – 2008**



Placer County Water Agency  
P.O. Box 6570  
Auburn, CA 95604

April 2009

## TERR 2 – SPECIAL-STATUS PLANTS TECHNICAL STUDY REPORT – 2008

### *“Where’s the rest of the report?”*

The following pages contain *only* the Confidential information from this report which could not be freely disclosed to the public (pursuant to 18 CFR 385.1112); the non-confidential portions (i.e. “the rest of the report”), can be found in **Volume 3, Book 11**.

### **Non-confidential Information (refer to Volume 3, Book 11)**

- 1.0 Introduction
- 2.0 Study Objectives
- 3.0 Study Implementation
- 4.0 Extent of Study Area
- 5.0 Study Approach
- 6.0 Study Results
- 7.0 Literature Cited

Table TERR 2-1. Existing Project Facilities and Features.

Table TERR 2-2. Project Recreation Facilities.

Table TERR 2-3. Dispersed Concentrated Use Areas.

Table TERR 2-4. Potential Project Betterments.

Table TERR 2-5. Quantitative Geomorphic and Riparian Sampling Sites.

Table TERR 2-6. Location of Special-Status Plant Populations at Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas.

Table TERR 2-7. Location of Special-Status Plant Populations in the Study Area around Hell Hole Reservoir for the Existing Project.

Table TERR 2-8. Location of Special-Status Plant Populations at Potential Project Betterments.

Table TERR 2-9. Location of Special-Status Plant Populations in the Study Area for Hell Hole Reservoir Associated with the Hell Hole Reservoir Seasonal Storage Increase Betterment.

Figure TERR 2-1. TERR 2 – TSP Study Objectives and Related Study Elements.

Figure TERR 2-2. Study Area around Hell Hole Reservoir for the Existing Project.

Figure TERR 2-3. Study Area for Hell Hole Reservoir Associated with the Hell Hole Reservoir Seasonal Storage Increase Betterment.

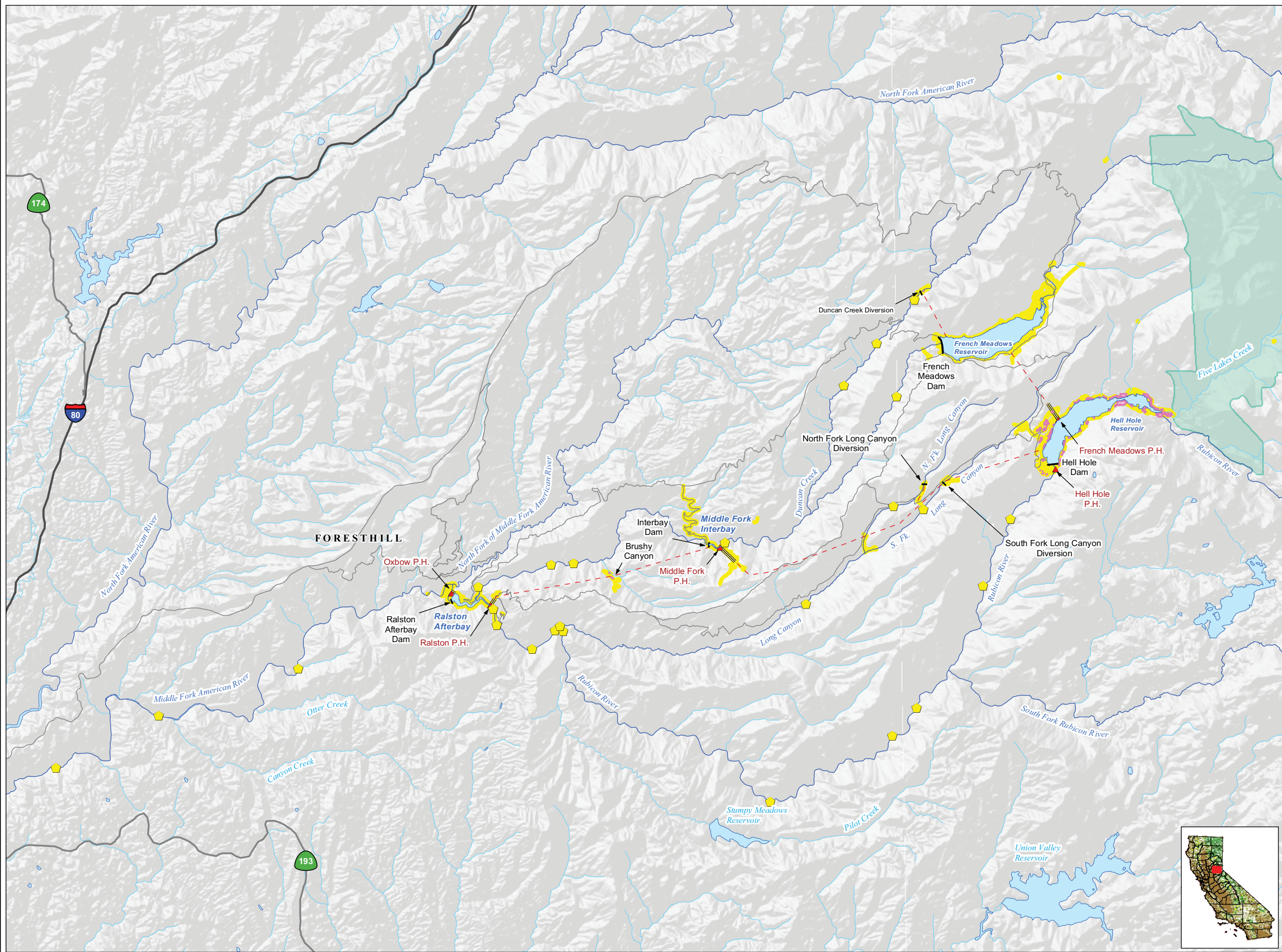
Appendix A. Description of Potential Project Betterments.

**Non-confidential Information (continued)**

- Appendix B. Target Special-Status Plant Species for the TERR 2 Special-Status Plant and Moss Surveys.
- Appendix C. Terrestrial, Aquatic, and Riparian Plants and Mosses Identified in the Study Area.
- Appendix D. Photographs of Stebbins' Phacelia and Typical Habitat in the Study Area.
- Appendix E. California Natural Diversity Database Field Survey Forms.

**Confidential Information (contained herein)**

- Map TERR 2-1. Location of Quantitative Geomorphic and Riparian Sampling Sites.**
- Map TERR 2-2. Location of Special-Status Plant Populations in Relation to Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas (6 sheets).**
- Map TERR 2-3. Location of Special-Status Plant Populations Associated with the Hell Hole Reservoir Seasonal Storage Increase Betterment (6 sheets).**



**Project Facilities**

- ▲ Powerhouse
- Dam
- - - Tunnel
- == Penstock

**Transportation**

- Major Road
- Minor Road

**Hydrography**

- Watercourse
- Water Body

**Designated Boundary**

- Wilderness Area

**TERR 2 Survey Data**

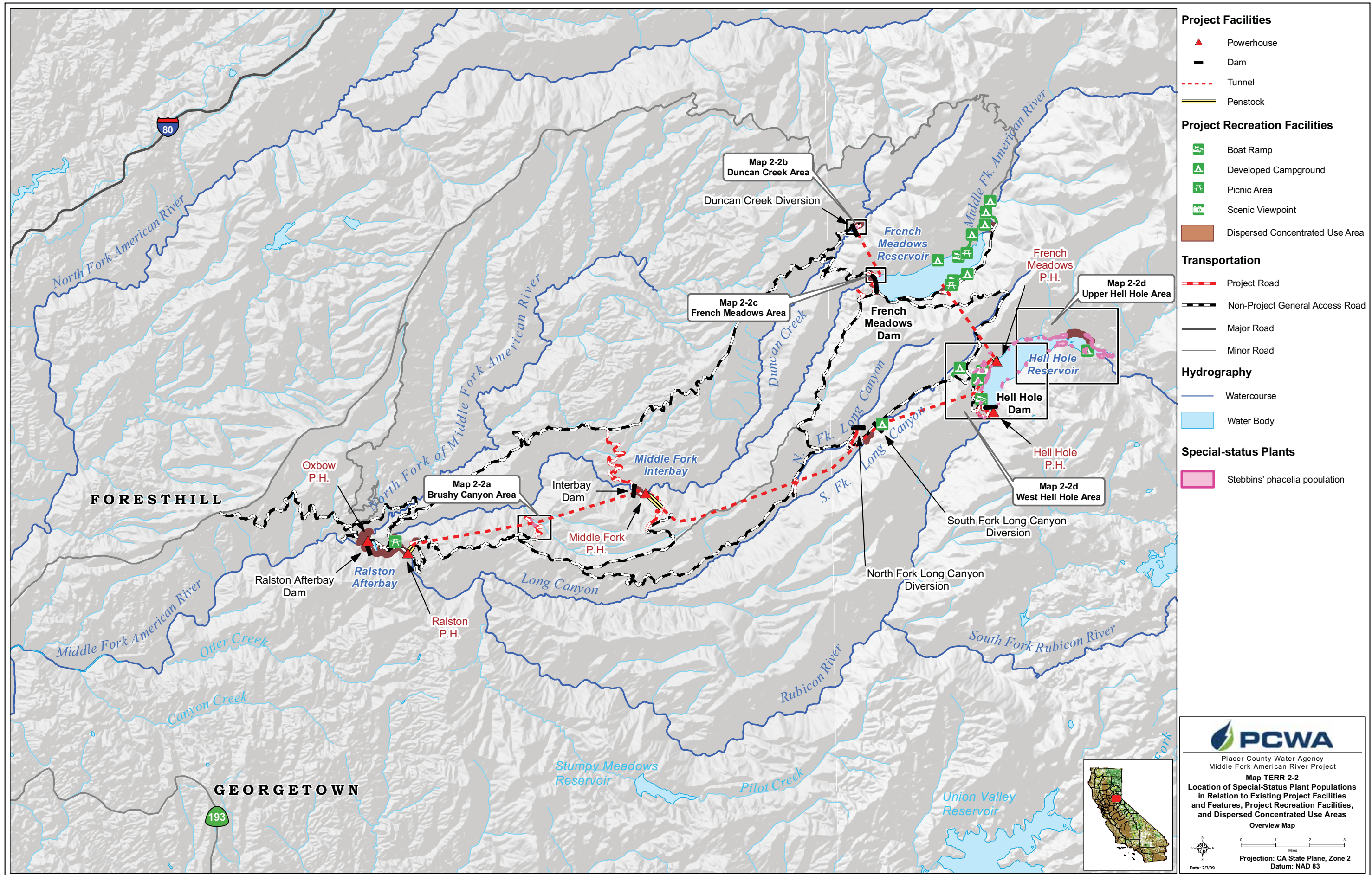
- Quantitative Geomorphic and Riparian Sampling Site
- TERR 2 Study Area
- Stebbins' phacelia populations

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**Map TERR 2-1**  
Location of Quantitative Geomorphic and Riparian Sampling Sites

Date: 2/3/09

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



- Project Facilities**
- Powerhouse
  - Dam
  - Tunnel
  - Penstock
- Project Recreation Facilities**
- Boat Ramp
  - Developed Campground
  - Picnic Area
  - Scenic Viewpoint
  - Dispersed Concentrated Use Area
- Transportation**
- Project Road
  - Non-Project General Access Road
  - Major Road
  - Minor Road
- Hydrography**
- Watercourse
  - Water Body
- Special-status Plants**
- Stebbins' phacelia population

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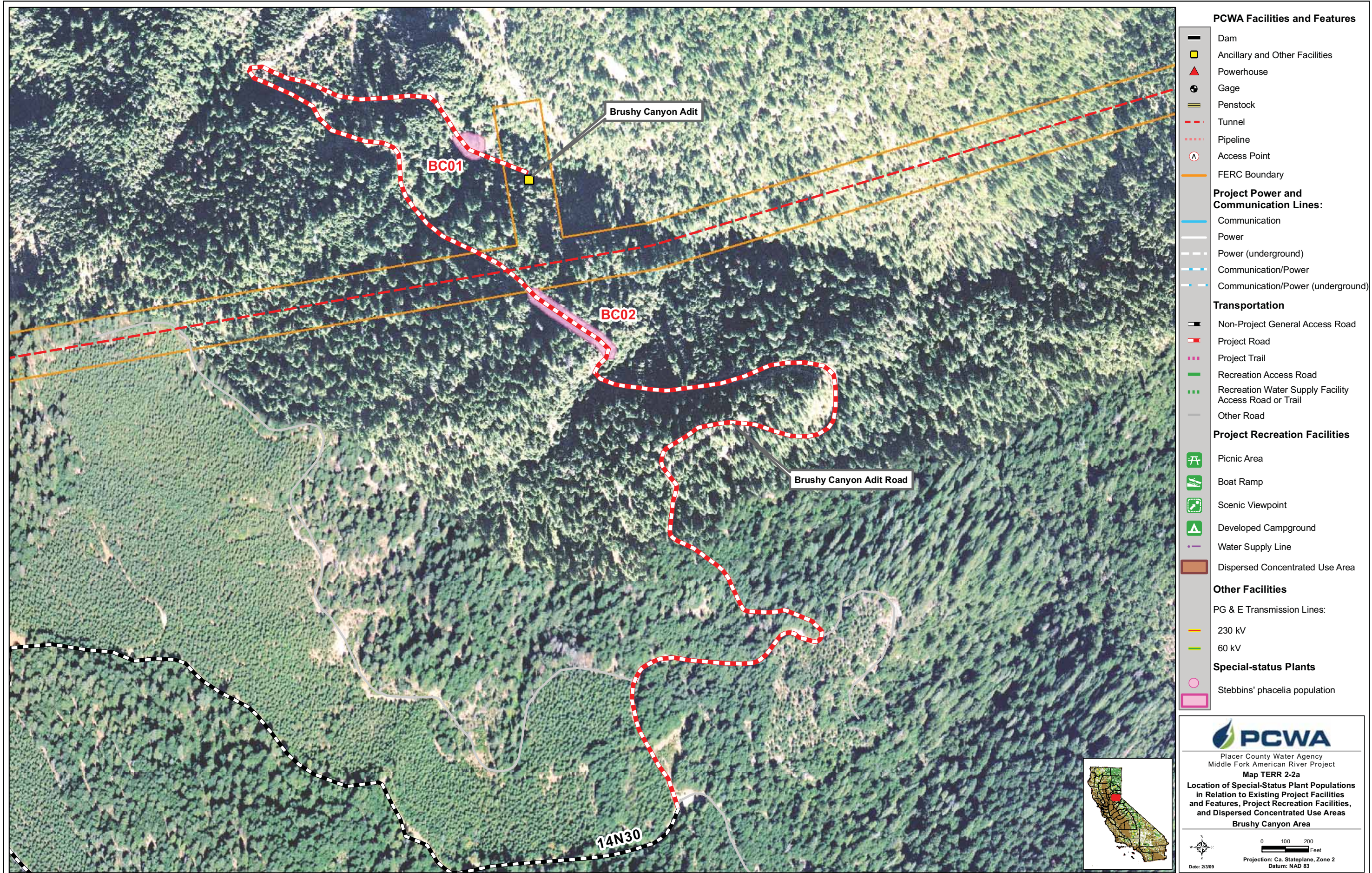
**Map TERR 2-2**  
Location of Special-Status Plant Populations  
in Relation to Existing Project Facilities,  
and Features, Project Recreation Facilities,  
and Dispersed Concentrated Use Areas

Overview Map

0 1 2 3 Miles

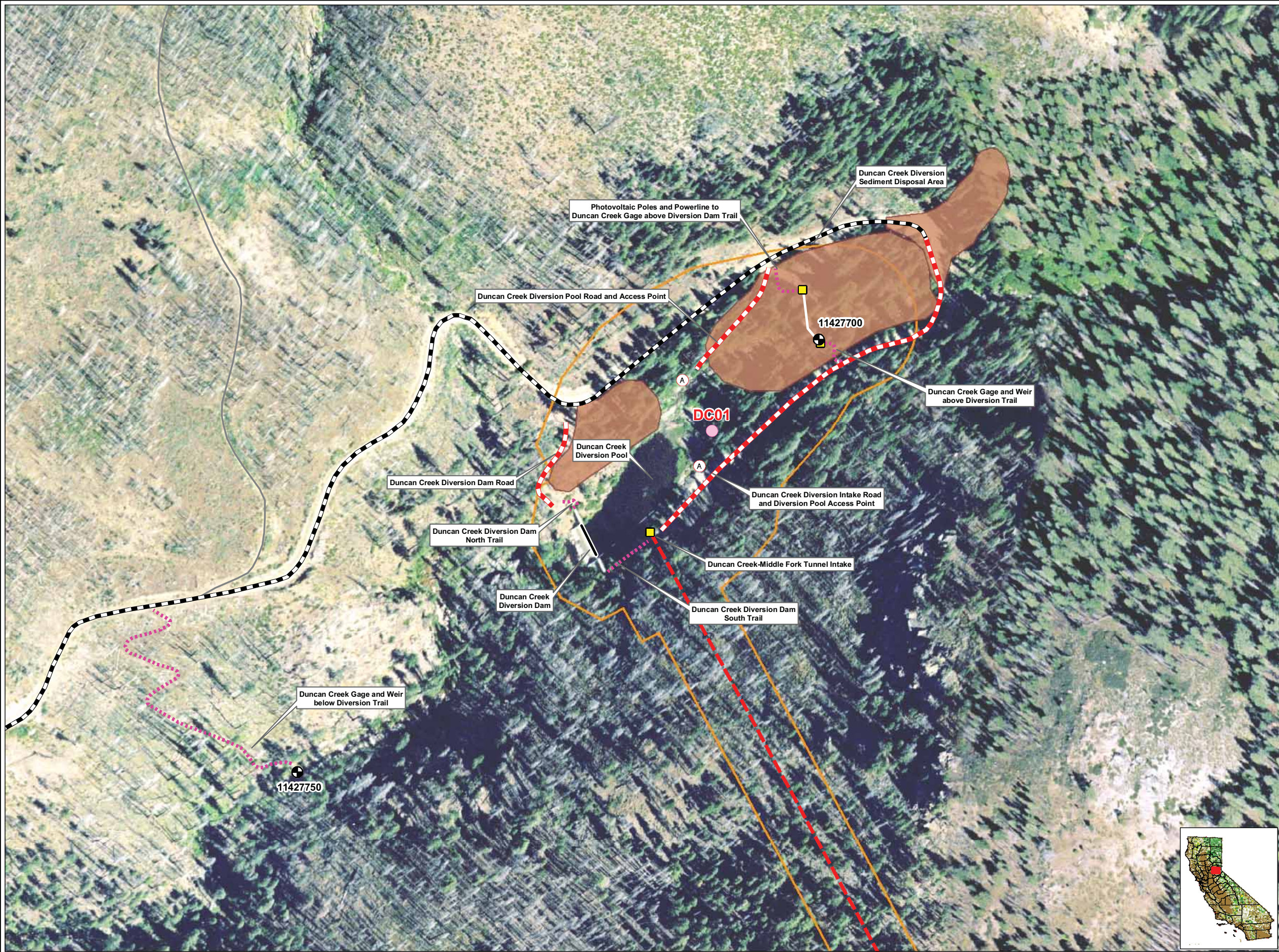
Projection: CA State Plane, Zone 2  
Datum: NAD 83

Date: 2/3/09



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**Map TERR 2-2a**  
**Location of Special-Status Plant Populations in Relation to Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas**  
**Brushy Canyon Area**

0 100 200 Feet  
 Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83  
 Date: 2/3/09



**PCWA Facilities and Features**

- Dam
- Ancillary and Other Facilities
- ▲ Powerhouse
- ⊕ Gage
- ≡ Penstock
- - - Tunnel
- ⋯ Pipeline
- ⓐ Access Point
- FERC Boundary

**Project Power and Communication Lines:**

- Communication
- Power
- - - Power (underground)
- Communication/Power
- - - Communication/Power (underground)

**Transportation**

- Non-Project General Access Road
- Project Road
- Project Trail
- Recreation Access Road
- Recreation Water Supply Facility Access Road or Trail
- Other Road

**Project Recreation Facilities**

- ⓐ Picnic Area
- ⓐ Boat Ramp
- ⓐ Scenic Viewpoint
- ⓐ Developed Campground
- Water Supply Line
- Dispersed Concentrated Use Area

**Other Facilities**

PG & E Transmission Lines:

- 230 kV
- 60 kV

**Special-status Plants**

- Stebbins' phacelia population

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**Map TERR 2-2b**  
**Location of Special-Status Plant Populations in Relation to Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas**  
 Duncan Creek Area

0 125 250 Feet

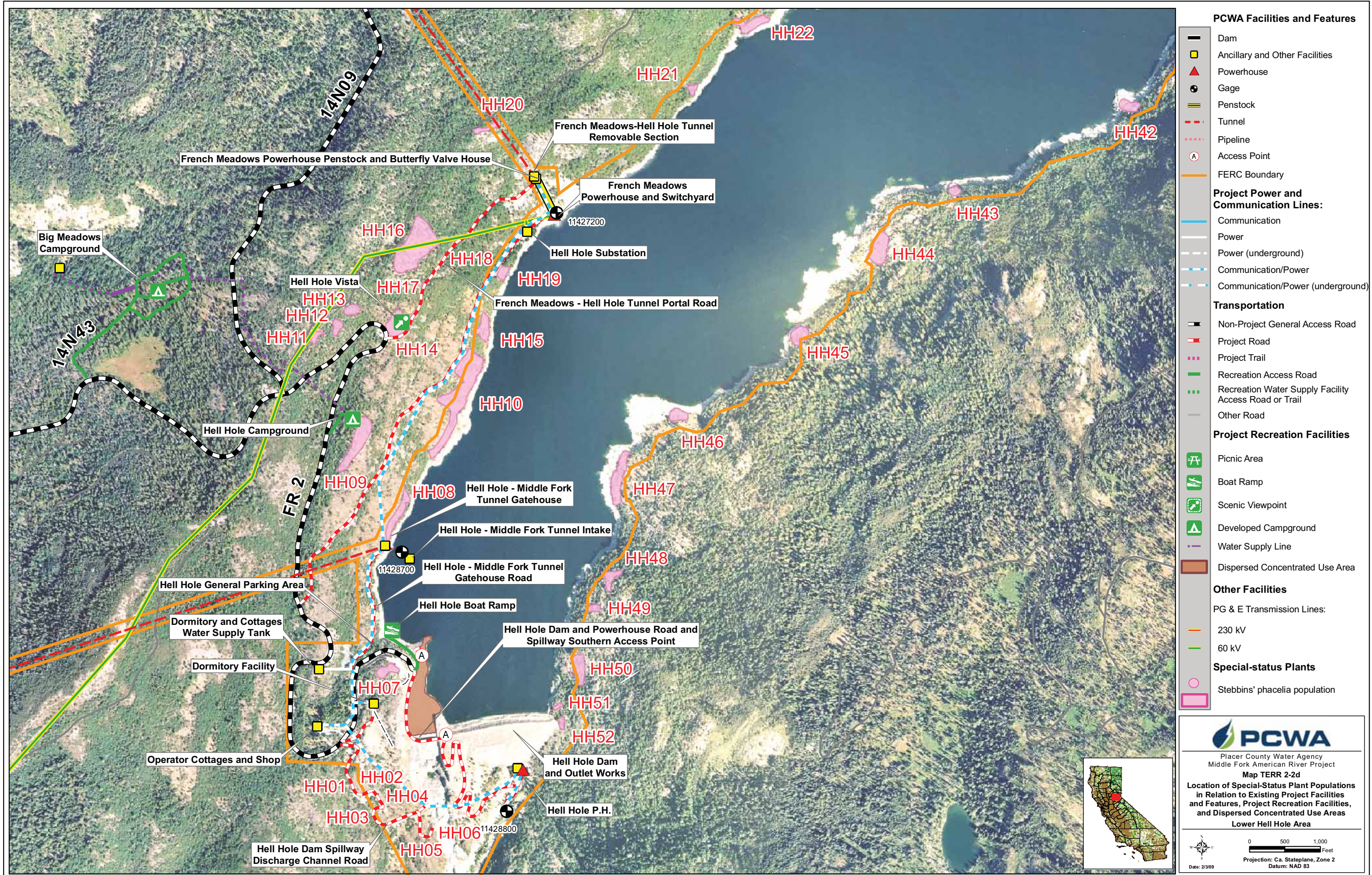
Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83

Date: 2/3/09



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Map TERR 2-2c  
Location of Special-Status Plant Populations in Relation to Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas  
French Meadows Area

0 125 250 Feet  
Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83  
Date: 2/3/09



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - ▲ Powerhouse
  - ⊙ Gage
  - ≡ Penstock
  - - - Tunnel
  - ⋯ Pipeline
  - ⓐ Access Point
  - FERC Boundary
- Project Power and Communication Lines:**
- Communication
  - Power
  - - - Power (underground)
  - Communication/Power
  - - - Communication/Power (underground)
- Transportation**
- Non-Project General Access Road
  - Project Road
  - ⋯ Project Trail
  - Recreation Access Road
  - ⋯ Recreation Water Supply Facility Access Road or Trail
  - Other Road
- Project Recreation Facilities**
- ⓐ Picnic Area
  - ⓐ Boat Ramp
  - ⓐ Scenic Viewpoint
  - ⓐ Developed Campground
  - Water Supply Line
  - Dispersed Concentrated Use Area
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
  - 60 kV
- Special-status Plants**
- Stebbins' phacelia population

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 Map TERR 2-2d  
 Location of Special-Status Plant Populations  
 in Relation to Existing Project Facilities  
 and Features, Project Recreation Facilities,  
 and Dispersed Concentrated Use Areas  
 Lower Hell Hole Area

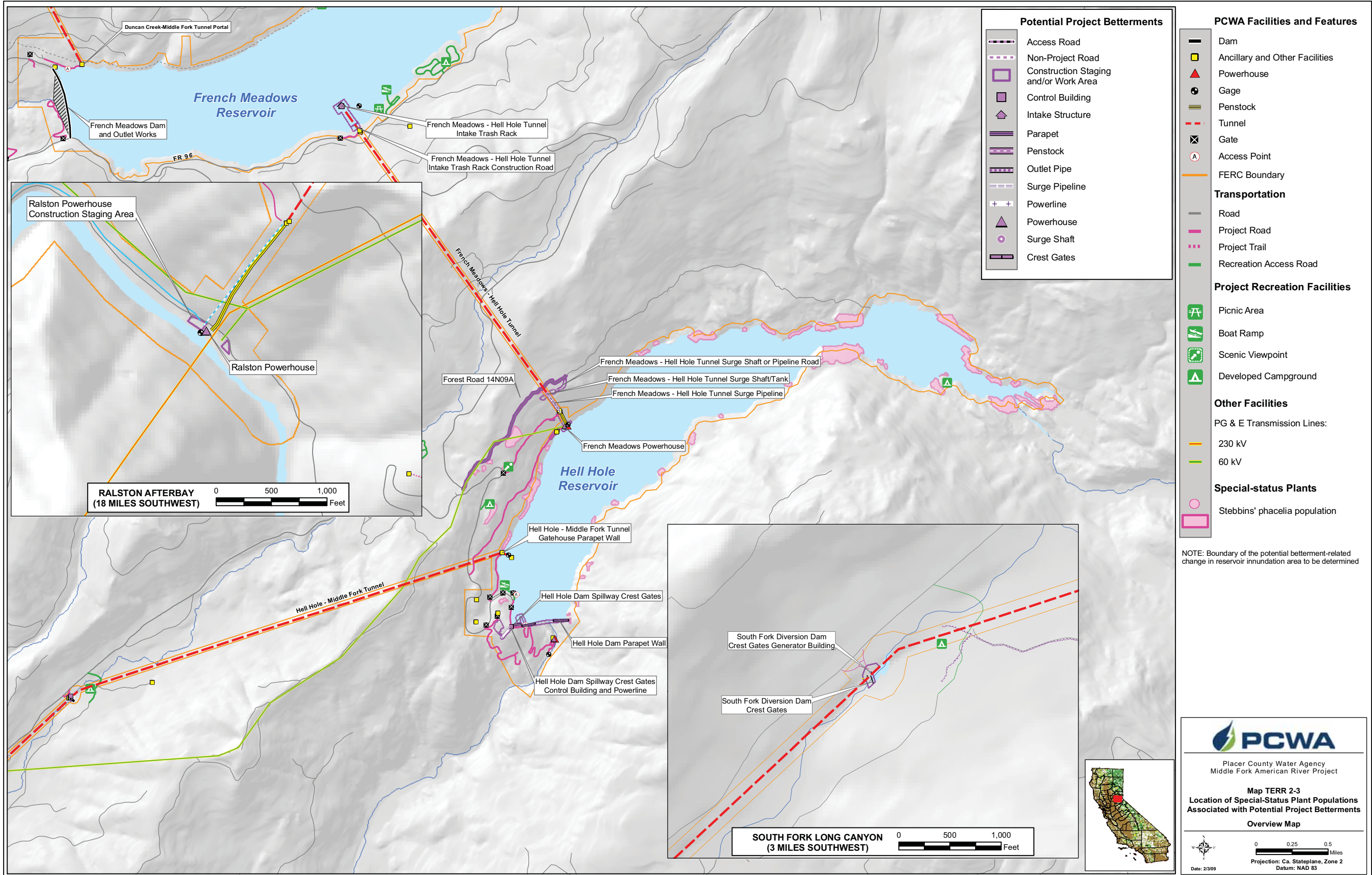
0 500 1,000 Feet  
 Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83  
 Date: 2/3/09



- PCWA Facilities and Features**
- Dam
  - Ancillary and Other Facilities
  - ▲ Powerhouse
  - ⊙ Gage
  - ≡ Penstock
  - - - Tunnel
  - ⋯ Pipeline
  - ⊙ Access Point
  - FERC Boundary
- Project Power and Communication Lines:**
- Communication
  - Power
  - - - Power (underground)
  - · - · - Communication/Power
  - · - · - Communication/Power (underground)
- Transportation**
- Non-Project General Access Road
  - Project Road
  - · · Project Trail
  - Recreation Access Road
  - · · Recreation Water Supply Facility Access Road or Trail
  - Other Road
- Project Recreation Facilities**
- ⊕ Picnic Area
  - ⊕ Boat Ramp
  - ⊕ Scenic Viewpoint
  - ⊕ Developed Campground
  - Water Supply Line
  - Dispersed Concentrated Use Area
- Other Facilities**
- PG & E Transmission Lines:
- 230 kV
  - 60 kV
- Special-status Plants**
- Stebbins' phacelia population

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 Middle Fork American River Project  
**Map TERR 2-2e**  
**Location of Special-Status Plant Populations in Relation to Existing Project Facilities and Features, Project Recreation Facilities, and Dispersed Concentrated Use Areas**  
 Upper Hell Hole Area

0 500 1,000 Feet  
 Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83  
 Date: 2/3/09



**Potential Project Betterments**

- Access Road
- Non-Project Road
- Construction Staging and/or Work Area
- Control Building
- Intake Structure
- Parapet
- Penstock
- Outlet Pipe
- Surge Pipeline
- Powerline
- Powerhouse
- Surge Shaft
- Crest Gates

**PCWA Facilities and Features**

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Penstock
- Tunnel
- Gate
- Access Point
- FERC Boundary

**Transportation**

- Road
- Project Road
- Project Trail
- Recreation Access Road

**Project Recreation Facilities**

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground

**Other Facilities**

PG & E Transmission Lines:

- 230 kV
- 60 kV

**Special-status Plants**

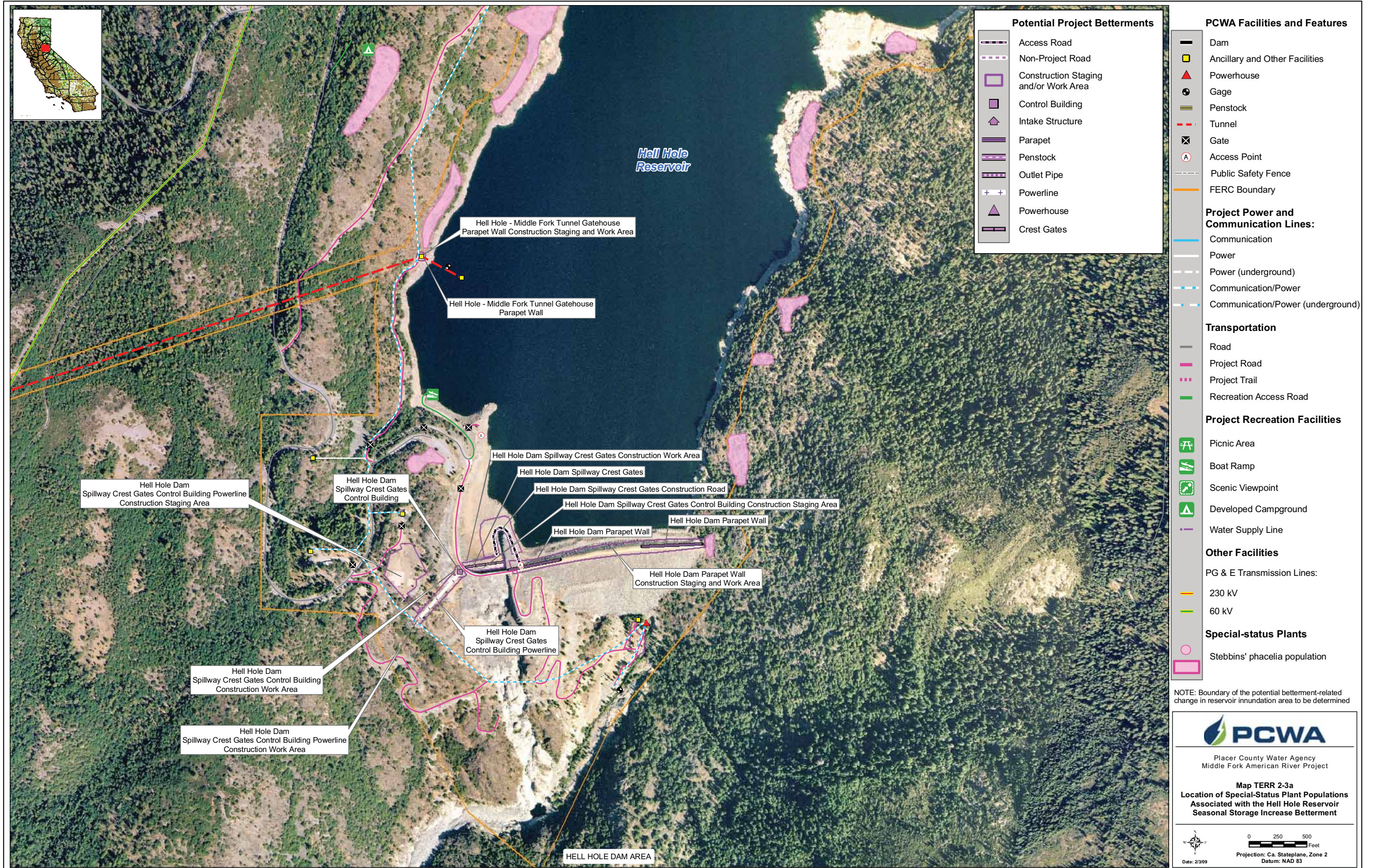
- Stebbins' phacelia population

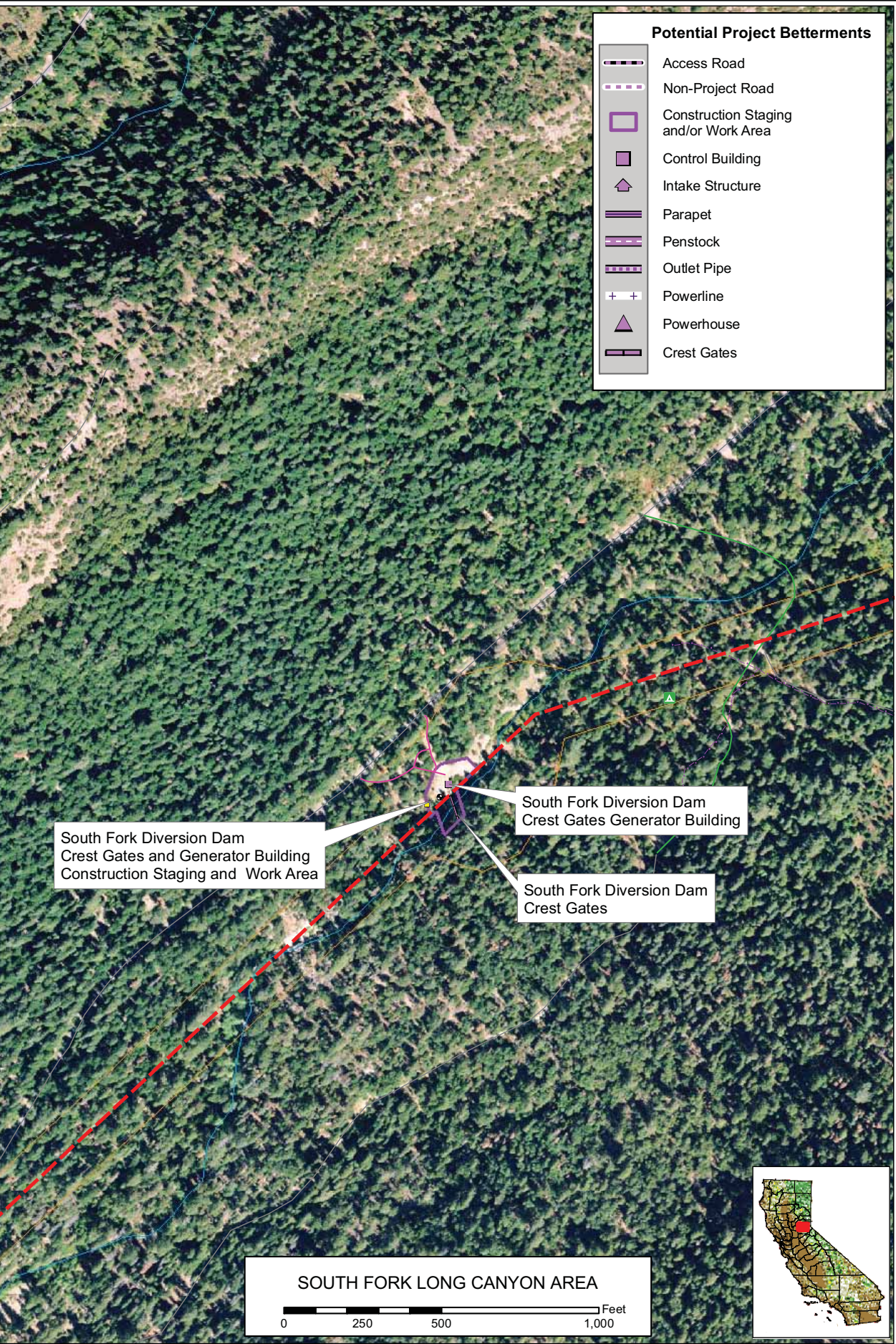
NOTE: Boundary of the potential betterment-related change in reservoir inundation area to be determined

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**Map TERR 2-3**  
Location of Special-Status Plant Populations  
Associated with Potential Project Betterments  
Overview Map

0 0.25 0.5 Miles  
Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83  
Date: 2/3/09



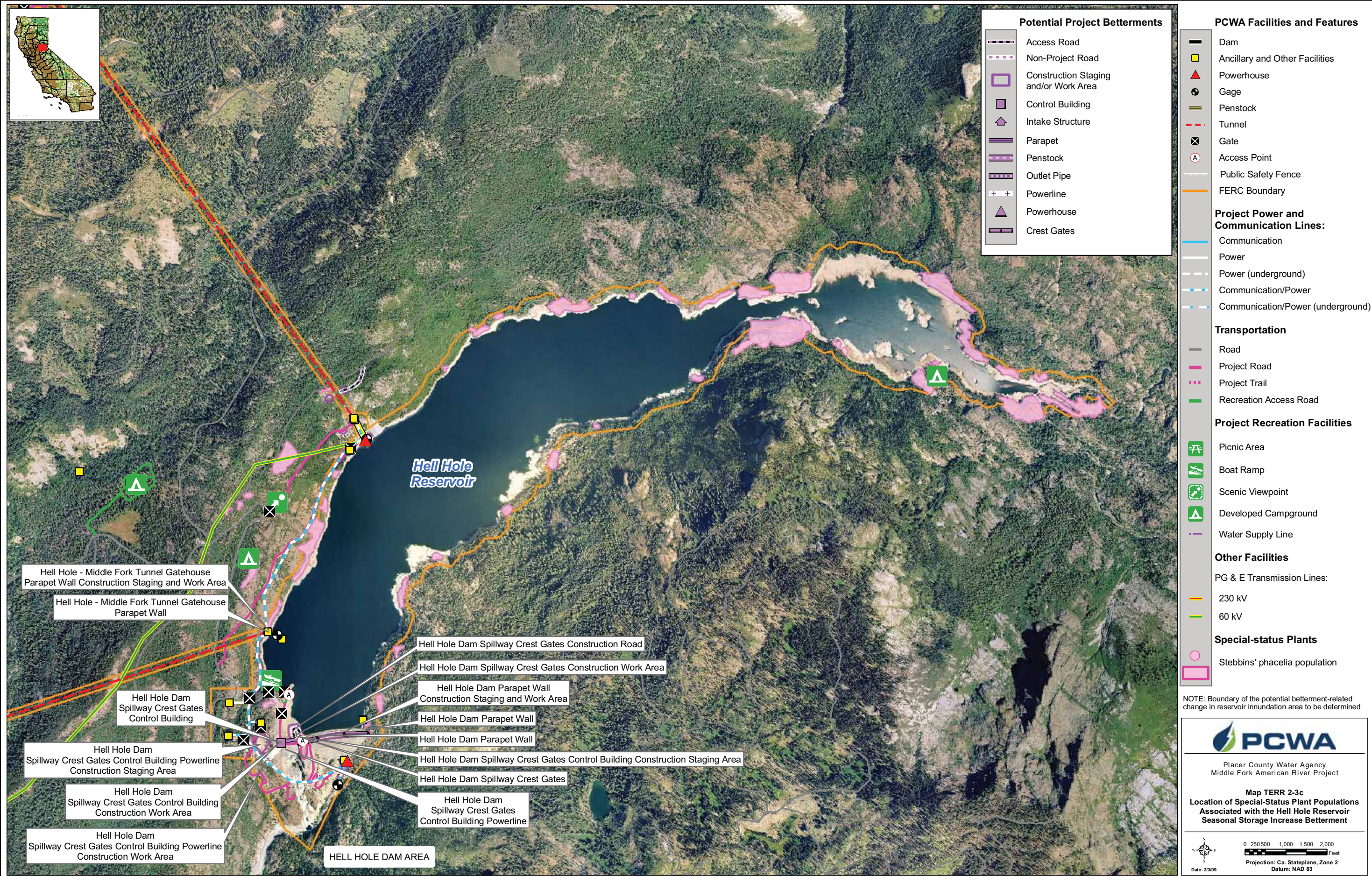


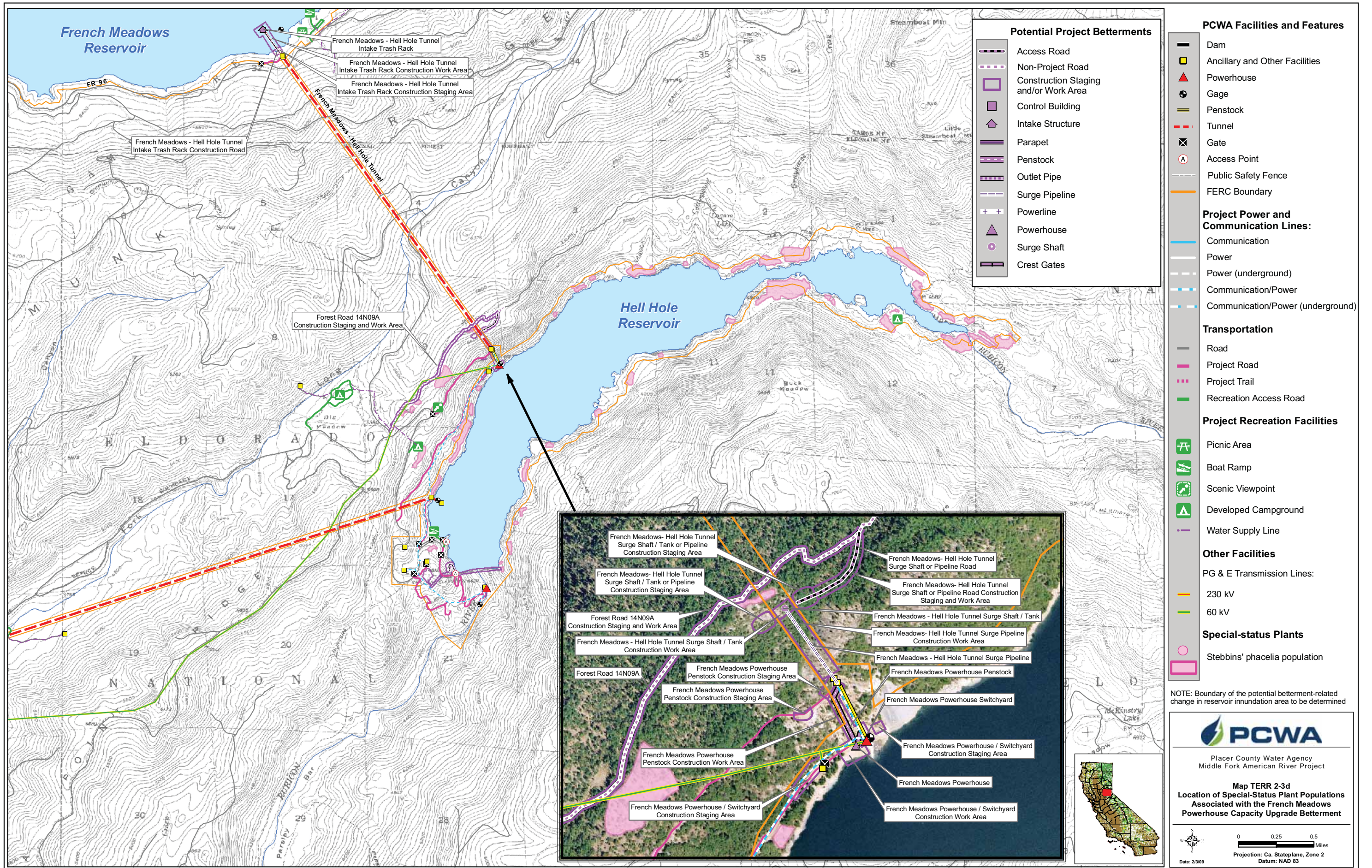
Potential Project Betterments		PCWA Facilities and Features	
	Access Road		Dam
	Non-Project Road		Ancillary and Other Facilities
	Construction Staging and/or Work Area		Powerhouse
	Control Building		Gage
	Intake Structure		Penstock
	Parapet		Tunnel
	Penstock		Gate
	Outlet Pipe		Access Point
	Powerline		Public Safety Fence
	Powerhouse		FERC Boundary
	Crest Gates	<b>Project Power and Communication Lines:</b>	
			Communication
			Power
			Power (underground)
			Communication/Power
			Communication/Power (underground)
		<b>Transportation</b>	
			Road
			Project Road
			Project Trail
			Recreation Access Road
		<b>Project Recreation Facilities</b>	
			Picnic Area
			Boat Ramp
			Scenic Viewpoint
			Developed Campground
			Water Supply Line
		<b>Other Facilities</b>	
		PG & E Transmission Lines:	
			230 kV
			60 kV
		<b>Special-status Plants</b>	
			Stebbins' phacelia population

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**Map TERR 2-3b**  
 Location of Special-Status Plant Populations  
 Associated with the Hell Hole Reservoir  
 Seasonal Storage Increase Betterment

Date: 2/3/09  
 Projection: Ca. Stateplane, Zone 2  
 Datum: NAD 83







**Potential Project Betterments**

- Access Road
- Non-Project Road
- Construction Staging and/or Work Area
- Control Building
- Intake Structure
- Parapet
- Penstock
- Outlet Pipe
- Powerline
- Powerhouse
- Crest Gates

**PCWA Facilities and Features**

- Dam
- Ancillary and Other Facilities
- Powerhouse
- Gage
- Penstock
- Tunnel
- Gate
- Access Point
- Public Safety Fence
- FERC Boundary

**Project Power and Communication Lines:**

- Communication
- Power
- Power (underground)
- Communication/Power
- Communication/Power (underground)

**Transportation**

- Road
- Project Road
- Project Trail
- Recreation Access Road

**Project Recreation Facilities**

- Picnic Area
- Boat Ramp
- Scenic Viewpoint
- Developed Campground
- Water Supply Line

**Other Facilities**

PG & E Transmission Lines:

- 230 kV
- 60 kV

**Special-status Plants**

- Stebbins' phacelia population

Ralston Powerhouse Construction Staging Area

Ralston Powerhouse

NOTE: Boundary of the potential betterment-related change in reservoir inundation area to be determined

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**Map TERR 2-3e**  
Location of Special-Status Plant Populations  
Associated with the the Ralston  
Powerhouse Capacity Upgrade Betterment

Date: 2/3/09  
Projection: Ca. Stateplane, Zone 2  
Datum: NAD 83