

**SANTA FELICIA PROJECT
FERC LICENSE NO. 2153-012**

Vegetation and Noxious Weed Management Plan

SEPTEMBER 2010

**UNITED WATER CONSERVATION DISTRICT
106 N. 8TH STREET
SANTA PAULA, CALIFORNIA 93060**

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SECTION 1

Introduction

This Vegetation and Noxious Weed Management Plan (Plan) has been prepared for the Santa Felicia Project (FERC Project No. 2153-012; herein referred to as the Project) to comply with Article 405 of the *Order Issuing the New License* dated September 12, 2008 (FERC 2008). Article 405 was developed based on United States Department of Agriculture Forest Service (USDA-FS) Section 4(e) Condition No. 18(b) as specified in Appendix A of the *Order Issuing the New License* dated September 12, 2008 (FERC 2008). The specific requirements of Section 4(e) Condition No. 18(b) are provided in Appendix A of this Plan. The Project is located in eastern Ventura County approximately 5 miles north of Piru, California and is owned and operated by the United Water Conservation District (United or Licensee).

This plan has been prepared in consultation with the USDA-FS, the California Department of Food and Agriculture (CDFA), and the Ventura County Agricultural Commissioner. The overall objectives of the Plan are to describe the measures that will be implemented to identify, characterize, monitor, and control noxious weeds within the Project area and the approach to managing and restoring vegetation within the Project area. The following provides an overview of the FERC Project area, a description of the Vegetation and Noxious Weed Management Plan areas, the target noxious weed species included in the Plan, and an outline of the Plan organization.

1.1 FERC PROJECT AREA

The Project area consists of all lands within the FERC Project boundary which generally follows the 1078.3-foot mean sea level (msl) contour line around the Lake Piru. However, the Project boundary varies from this contour line in some areas to include certain project facilities such as the Lower Oak and Oak Lane Campgrounds and the whitewater takeout. In addition, it also varies from the 1078.3-foot contour line to exclude private lands. The existing FERC Project boundary encompasses approximately 1,552 acres of land of which 201 acres is situated within the Los Padres National Forest and is owned by the USDA-FS. Of the USDA-FS land, approximately 121 acres are inundated by Lake Piru at the maximum water surface elevation of 1,055 feet msl. The Project area and associated Project facilities are shown in Figure 1.

1.2 VEGETATION AND NOXIOUS WEED MANAGEMENT PLAN AREA AND TARGET NOXIOUS WEED SPECIES

The Vegetation and Noxious Weed Management Plan Area (Plan Area) consists of lands within the Project area that are reasonably accessible. These lands include the area adjacent to Santa Felicia Dam, the area along the western shore of Lake Piru, and the accessible portion of the eastern shore at the north end of Lake Piru as shown in Figure 1. The majority of the eastern shore of Lake Piru from Santa Felicia Dam to Canton Canyon is steep and rocky and is only accessible by boat. In addition, annual water level fluctuations in Lake Piru typically result in the mortality of annual vegetation in this area. Accordingly, the eastern shore of Lake Piru, except for the specified area in the northern portion of the lake, is excluded from the Plan Area. Within the Plan Area, a baseline inventory will be conducted in the first spring-summer following approval of this Plan. Following the baseline inventory, additional follow-up inventories will be conducted every 5-years to update the baseline data and identify new infestations, if applicable.

The target noxious weed species addressed in this Plan consist of those weeds that are both listed as A, B, or Q species by the CDFA and identified as weed species of concern by the Los Padres National Forest

(LPNF) as indicated by the LPNF Botanist (USDA-FS 2010). The specific target species covered in the Plan are discussed in Section 3.0 and presented in Table 3-1.

Per Section 4(e), Condition No. 2 in Appendix A of the *Order Issuing the New License* (FERC 2008); United is required to annually consult with USDA-FS personnel. As part of this annual consultation, United will prepare an *Annual Vegetation and Noxious Weed Monitoring Report* that summarizes the noxious weed and vegetation management activities conducted during the prior year and the proposed activities for the following year.

1.3 PLAN ORGANIZATION

The remainder of this document is organized as follows:

- Section 2.0 provides a description of existing conditions based on previous surveys;
- Section 3.0 presents the Noxious Weed Management Plan;
- Section 4.0 provides the Vegetation Management Plan;
- Section 5.0 discusses annual reporting;
- Section 6.0 discusses the annual consultation with USDA-FS; and,
- Section 7.0 provides the references used in the preparation of this document.

SECTION 2

Existing Noxious Weed and Vegetation Information

This section provides the existing information on noxious weeds and vegetation within the Project area based on surveys performed in 2003 and 2004 as part of the FERC hydroelectric relicensing process for Santa Felicia Dam.

2.1 EXISTING NOXIOUS WEED INFORMATION

Surveys for noxious weeds were conducted in April and July of 2004 in support of the FERC hydroelectric relicensing process for Santa Felicia Dam (United 2004). The surveys were focused on those weeds which were listed as A, B, or Q species by the CDFA for Ventura County and weeds identified as species of concern by the LPNF. The survey area for these studies consisted of LPNF lands within the FERC boundary including exposed areas of Lake Piru. A map of the noxious weed populations observed in the 2004 study area is provided in Figure 2 and a table with detailed information on the percent cover by species for each noxious weed polygon indicated in the figure is provided in Appendix B.

Of the fourteen 2004 target noxious weed species, twelve were observed within the FERC Project Boundary on LPNF lands. These species consist of wild oat (*Avena fatua* and *A. barbata*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), cheatgrass (*Bromus tectorum*), tocalote (*Centaurea melitensis*), yellow star thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola tragus*), and tamarisk (*Tamarix* spp.). The two target species not observed in the study area for the 2004 survey, wild fennel (*Foeniculum vulgare*) and castor bean (*Ricinus communis*), were observed infrequently elsewhere in the Project vicinity.

The findings of the survey indicated that grassland habitat within the FERC Project boundary is dominated by exotic Mediterranean grass species that are nearly ubiquitous in lower-elevation California. Summer mustard, tree tobacco, and several Mediterranean grasses occurred at the greatest number of sites in the survey area (United 2004).

2.2 EXISTING VEGETATION INFORMATION

Vegetation community mapping was conducted in the summer and fall of 2003 in support of the FERC hydroelectric relicensing process for Santa Felicia Dam. The survey area consisted of the following: 1) approximately 500 feet on either side of the thalweg of Lower Piru Creek from Santa Felicia Dam downstream to the confluence with the Santa Clara River; 2) the land adjacent to Lake Piru up to ¼-mile (~1,320 feet) from the Ordinary High Water Mark (Federal Register 2004a) or the “bathtub ring” of the lake; and, 3) approximately 500 feet on either side of the thalweg of Piru Creek upstream of Lake Piru to the Blue Point campground. Vegetation community descriptions were based on the *Preliminary Descriptions of the Terrestrial Natural Communities of California* prepared by the California Department of Fish and Game (Holland 1986). Additional descriptions were derived from *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and *California Vegetation* (Holland and Kiel 1990).

Vegetation communities identified during the 2003 surveys are shown in Figure 3 and included the following:

- Venturan Coastal Sage Scrub;

- Northern Mixed Chaparral;
- Chamise Chaparral;
- Non-native Grassland;
- Southern Alluvial Fan Scrub;
- Southern Willow-Mulefat Scrub;
- Southern Cottonwood-Willow Riparian Forest;
- Southern Sycamore-Alder Riparian Woodland;
- Coast Live Oak Woodland;
- California walnut Woodland; and,
- Permanently and Intermittently Flooded Lacustrine Habitat.

SECTION 3

Noxious Weed Management Plan

The Noxious Weed Management Plan has been prepared to outline requirements for the inventory, mapping, monitoring, treatment, and control of noxious weeds. This section describes the goals and objectives of the Plan, the target noxious weed species covered in the Plan, the noxious weed inventory procedures, measures to control and eradicate noxious weeds, and annual noxious weed monitoring.

3.1 GOALS AND OBJECTIVES

The goals and objectives of the Noxious Weed Plan are as follows:

- Eradicate specific noxious weeds within the specified Noxious Weed Plan area;
- Prevent spread of specific noxious weed populations in the specified Noxious Weed Plan area;
- Eradicate new infestations of specific noxious weeds; and,
- Revegetate areas where noxious weeds have been removed to eliminate potential reintroduction of noxious weeds.

3.2 TARGETED NOXIOUS WEED SPECIES

The target noxious weed species addressed in this Plan consist of those weeds that are both listed as A, B, or Q species by the CDFA and identified as weed species of concern by the LPNF as indicated by the LPNF Botanist (USDA-FS 2010). A list of species of concern provided by the LPNF (USDA-FS 2010) is presented in Appendix C. Based on the noxious weed surveys conducted in 2004 and the list provided by LPNF, the noxious weed species currently identified as target species for this Plan are summarized in Table 3-1. United will not control or eradicate species that are considered naturalized, including Mediterranean grasses and mustards, because they are ubiquitous within the Project area and throughout California. In addition, United does not propose any additional measures to control or eradicate noxious aquatic weeds beyond the existing practice of boat inspections. As part of the required annual consultation, United and USDA-FS will review this list of species and, if appropriate, revise the list to include new invasive species.

Table 3-1. Summary of Target Noxious Weed Species for the Project		
Scientific and Common Name	CDFA Rating	Observed in 2004 Survey
<i>Arundo donax</i> (giant reed)	B	No
<i>Cardaria pubescens</i> (hairy white top)	B	No
<i>Centaurea maculosa</i> (spotted knapweed)	A	No
<i>Cortaderia jubata/selloana</i> (pampas grass)	B	No
<i>Onopordum acanthium</i> ssp. <i>acanthium</i> (scotch thistle)	A	No
<i>Tamarix ramosissima</i> (tamarix)	B	Yes

3.3 NOXIOUS WEED INVENTORY

United will conduct a baseline inventory of targeted noxious weeds listed in table 3-1 within the Plan Area as shown in Figure 1 in the first spring-summer following approval of this Plan. Following the baseline inventory, United will conduct follow-up inventories within the Plan Area every 5-years to update the baseline data and identify new infestations, if applicable. United, in consultation with USDA-FS, will use the inventories to evaluate infestation levels and develop site-specific control measures to eradicate identified populations. All target noxious weed populations will be inventoried according to a USDA-FS approved protocol that adequately establishes the species, location, and percent cover by species. Following the surveys, United will integrate the inventory data into a Noxious Weed Database which will also include a GIS data layer providing spatial data gathered during the inventory surveys.

If the USDA-FS or another entity locates a new invasive weed occurrence (for a species subject to control) within the FERC Project boundary, the site information should be presented to United. United or its contractors will make a site visit to evaluate the occurrence. If a new invasive weed occurrence is confirmed by the site visit, it will be added to the Noxious Weed Database and scheduled for control/monitoring actions.

3.4 CONTROL AND ERADICATION OF NOXIOUS WEEDS

This section describes the measures to control and eradicate identified noxious weed populations within the Noxious Weed Management Plan area. United will commence controlling target noxious weeds within the first full year after FERC approval and/or before ground-disturbing activities are scheduled to occur. United will finalize, in consultation with USDA-FS, the priority infestations and treatment method(s) based on updated information from the baseline inventory survey. If new target noxious weed species infestations are identified following the baseline inventory, United will initiate control of these new infestations within 12-months of detection or as soon as is practical and feasible. In addition, if Project-related construction activities are scheduled and implemented, then these work sites will be subject to best management practices (BMPs) for prevention of invasive weeds. The BMPs will include practices to reduce ground disturbance and erosion as well as measures to reduce the introduction and spread of weed seed including the following:

- Use of clean (i.e., sterile and weed free) straw and hay bales;
- Minimize soil disturbance to the extent feasible;
- Use of erosion control structures as needed, such as silt fencing, hay bales, etc.; and,
- All heavy equipment brought into the area from outside locations will be washed to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain seeds of invasive weeds.

3.4.1 Mechanical Controls

United will use mechanical controls such as hand pulling, hoeing, mowing, or grubbing to control noxious weed populations where feasible. When utilizing this approach, United will minimize soil disturbance. To the extent feasible, mechanical controls will be implemented prior to seed set which is generally in the late winter or spring, depending on the target species. If implemented during this growth stage, plant material can sometimes be left on site where it becomes mulch. Highly invasive species such as giant reed (*Arundo donax*) will be removed from the site and disposed of at an approved location. Any species with mature fruit or seeds will be bagged and disposed of properly to prevent the spread of seed.

3.4.2 Chemical Controls.

As needed, United will use herbicides to control invasive species that cannot reasonably be controlled solely by mechanical methods. The type of chemical control will be specifically tailored to the target species and the surrounding conditions. Prior to each site-specific treatment, United will consider the following factors in evaluating the appropriateness and type of chemical control to be used:

- Site accessibility;
- Physical size and characteristics of the area to be treated, including soils, general terrain, and slopes;
- Current site conditions including weather (temperature, wind, and precipitation), soil moisture and terrain;
- Proximity to surface waterbodies and potential for run-off;
- Extent of native vegetation to be avoided during treatment and desired plant communities;
- Potential effects on special-status plants and animals and how adverse effects will be avoided or minimized;
- Proximity to special use areas including recreational areas and cultural sites;
- Phenology (i.e., current life stage) of target weed species; and,
- Reproductive strategy (i.e., seed, rhizomes, layering).

Per Article 4(e), Condition No. 11 – *Pesticide Use Restriction on NFSL* in Appendix A of the *Order Issuing the New License* dated September 12, 2008; United shall not use pesticides (i.e., herbicides) on NFS lands or in areas affecting NFS lands to control undesirable woody and herbaceous vegetation, aquatic plants, etc., without the prior written approval of the USDA-FS. Condition No. 11 requires United to submit annual plans to the USDA-FS specifying the intended use of pesticides for their approval. United will provide this information in the *Annual Vegetation and Noxious Weed Monitoring Report* that is discussed in Section 3.5.

The schedule for implementation for various chemical controls will depend on the species and the type of chemical used. United will use the following general guidelines when establishing a treatment schedule:

- Pre-emergence will be applied in dry soil conditions in the fall or early winter, prior to the onset of winter precipitation;
- Foliar sprays will be applied when leaves are present (winter, spring), but prior to seed set; and,
- Aerial spraying will be avoided during windy conditions.

Any pesticides (including herbicides) used on the Project will be applied by licensed and certified pesticide applicators. Herbicides will be those registered with the Environmental Protection Agency (EPA), the California Department of Pesticide Regulations, and the Ventura County Agricultural Commissioner.

3.5 ANNUAL MONITORING

United will conduct annual monitoring of known populations of target species within the operation and maintenance area shown in Figure 4. In addition, United will conduct annual monitoring of known populations in areas tied to Project actions such as new construction sites or areas of ground disturbance. United will monitor Project-induced ground disturbing activities annually for the first 3 years after disturbance to detect and document new populations of noxious weeds. As applicable, the monitoring will be supplemented by opportunistic incidental observations by United operators and contractors.

United will conduct the annual monitoring in accordance with a USDA-FS approved protocol that adequately establishes the species, location, and percent cover by species.

3.6 ADAPTIVE MANAGEMENT

United will use an adaptive management approach and, as needed, will modify the Noxious Weed Management Plan in consultation with the USDA-FS based on the findings of the annual eradication and monitoring activities.

SECTION 4

Vegetation Management Plan

This section presents the Vegetation Management Plan that has been developed to provide guidance and outline responsibilities regarding the maintenance and re-establishment of vegetation for the Project. The following describes the goals and objectives of the plan, current vegetation management activities for the Project, revegetation implementation, and habitat improvement.

4.1 GOALS AND OBJECTIVES

The goals and objective of the Vegetation Management Plan are as follows:

- Implement appropriate vegetation management activities in and around project facilities;
- Revegetate disturbed areas, as appropriate;
- Establish culturally important plant species on USDA-FS lands, as appropriate (i.e., considering native species habitat present in the surrounding area);
- Improve habitat through vegetation management; and,
- Eliminate hazards associated with vegetation, as appropriate.

4.2 CURRENT VEGETATION MANAGEMENT ACTIVITIES

United currently performs vegetation management at Project facilities, roads, and adjacent recreation areas within the Project area. These management activities include clearing vegetation around Project infrastructure on a quarterly basis to reduce fire hazards as summarized in Table 4-1. In addition, pruning and removal of hazard trees are conducted, as needed, in areas of human activity such as Project facilities, roads, campgrounds, boat launch areas, parking areas and day use areas. The vegetation removal activities are performed using herbicides and hand tools such as mowers, chain saws, and weed whackers.

Table 4-1 Fuels Reduction and Clearance Distances around Project Facilities		
Project Facility	Clearance Distance	Frequency*
Recreation Buildings	100 feet	Quarterly
Facility Buildings	100 feet	Quarterly
Roads	10 feet – on each side of the traveled section 13 feet 6 inches– overhanging branches	Quarterly
Campgrounds	30 feet from outer edge of campground	Quarterly
Overflow parking areas	30 feet from outer edge of parking area	Quarterly
Dam	entire dam face	Quarterly

*Frequency may vary depending on the growth rates of surrounding vegetation.

4.3 IMPLEMENTATION OF REVEGETATION ACTIVITIES

The goal of this condition is to restore native plant populations disturbed by Project operations with native vegetation and to ensure that revegetated areas remain weed and erosion free. Revegetation efforts will be focused on areas currently dominated by native plant communities that have been disturbed by

Project operations or activities including areas of ground disturbance from new construction and noxious weed treatment areas greater than 0.10 acre in size. Some areas such as the Santa Felicia Dam face and road margins must remain free of vegetation, and, therefore, will not undergo revegetation after weed treatments. Similarly, public use areas and other developed areas with existing ornamental landscaping will not be revegetated with native plants. If these areas are disturbed for some reason, United will revegetate with natives when feasible and appropriate. When ornamentals are used, United will ensure that only non-invasive plants are selected.

Revegetation activities involving native plants will aim to mimic adjacent native plant communities. If United conducts disturbance activities on NFSL, it will revegetate those areas with culturally important plant populations as specified in the FERC license. Revegetation activities will include the following elements:

- Implementation of soil protection and erosion control measures, including use of certified weed free straw;
- Establishment of and/or revegetation with culturally important native plant populations on LPNF lands;
- Use of clean, weed free, locally collected seed; and,
- Areas that have been revegetated will be clearly marked to help minimize trampling of new plants and ensure that they are not inadvertently treated with chemical or mechanical weed controls.

To the extent feasible, revegetation activities will be conducted in the winter or early spring to take advantage of natural precipitation. Revegetation may include, but not limited to, the following:

- Container stock for trees and shrubs (i.e., native trees or large shrub such as oak or walnut or elderberry);
- Reseeding by broadcast seed or hydroseed (i.e., grassland, scrub or chaparral communities); and,
- Pole cuttings or stakes (i.e., willow, cottonwood, mulefat and other riparian trees and shrubs).

United will consult with USDA-FS annually on revegetation efforts to ensure that appropriate species and methods are used.

4.4 HABITAT IMPROVEMENT

To the extent feasible, United will implement vegetation management and revegetation activities to enhance native habitat. As site-specific Project activities are being developed and implemented, United will attempt to minimize impacts to existing native habitat and include measures to restore and improve habitat where impacts cannot be avoided.

SECTION 5

Annual Reporting

United will produce a technical report (*Annual Vegetation and Noxious Weed Monitoring Report*) on an annual basis. The first report will focus on the results of the initial inventory including the Noxious Weed GIS Data Layer and Noxious Weed Database. Subsequent reports will focus on the results of annual monitoring and control efforts. Every 5-years, the report will include the results of the updated inventory. United will provide this report to the USDA-FS as part of the annual consultation. The annual report will contain the following information:

- Summary of target noxious weed populations including existing and new populations in areas tied-to Project actions or effects;
- Project area map depicting point and polygon data for target noxious weed populations as recorded for the Noxious Weed GIS Data Layer;
- Description of control areas and treatments used over the past year;
- Brief evaluation of priority treatment areas;
- Recommended control measures for each population/treatment area including proposed chemical controls;
- Description of revegetation efforts conducted during the reporting period;
- Evaluation of revegetation efforts conducted prior to (within 3-years) and within the reporting period; and,
- Summary of proposed revegetation areas.

SECTION 6

Annual Consultation

As required by Section 4(e), Condition No. 2 in Appendix A of the *Order Issuing the New License* (FERC 2008); United personnel will annually consult with USDA-FS personnel.

The *Annual Vegetation and Noxious Weed Monitoring Report* will be presented as part of this annual consultation. The annual consultation will occur between January 10 and March 15 of each year and will include:

- A status report regarding implementation of the Vegetation and Noxious Weed Management Plan including:
 - A discussion of all eradication and revegetation activities that occurred throughout the reporting year;
 - Results of monitoring activities and an assessment of the effectiveness of eradication and revegetation efforts; and,
 - Review of any non-routine maintenance.
- Discussion of any necessary revisions or modifications to approved plans;
- Discussion of the needed protection measures for species newly listed as threatened, endangered, or sensitive or, changes to existing management plans that may no longer be warranted due to delisting of species or, to incorporate new knowledge about a species requiring protection; and,
- Discussion of elements of current year (future) maintenance plans.

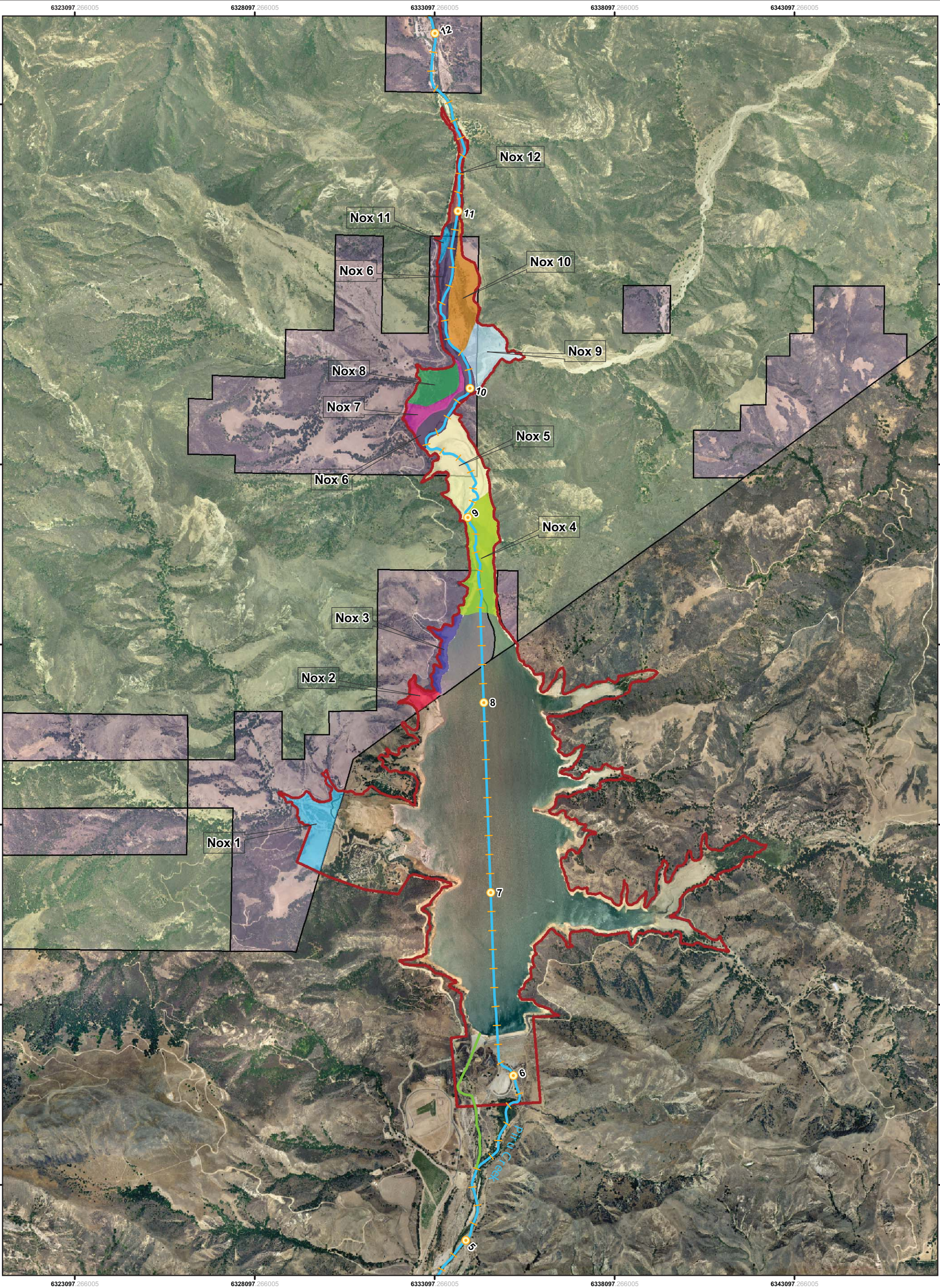
United will maintain a record of the consultation including any recommendations from the USDA-FS for the protection of resources on USDA-FS lands. United will file the consultation record with FERC no later than 60 days following the consultation.

SECTION 7

References

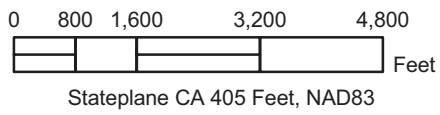
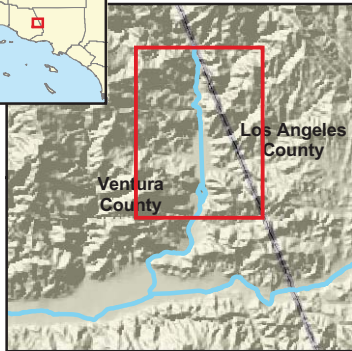
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Figures



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| National Forest Land | Nox 4 |
| Non-National Forest Land | Nox 5 |
| Mile Post | Nox 6 |
| Piru Creek | Nox 7 |
| Spillway Channel | Nox 8 |
| Noxious Weed Populations* | |
| Nox 1 | Nox 2 |
| Nox 3 | Nox 10 |
| Nox 9 | Nox 11 |
| Nox 12 | |

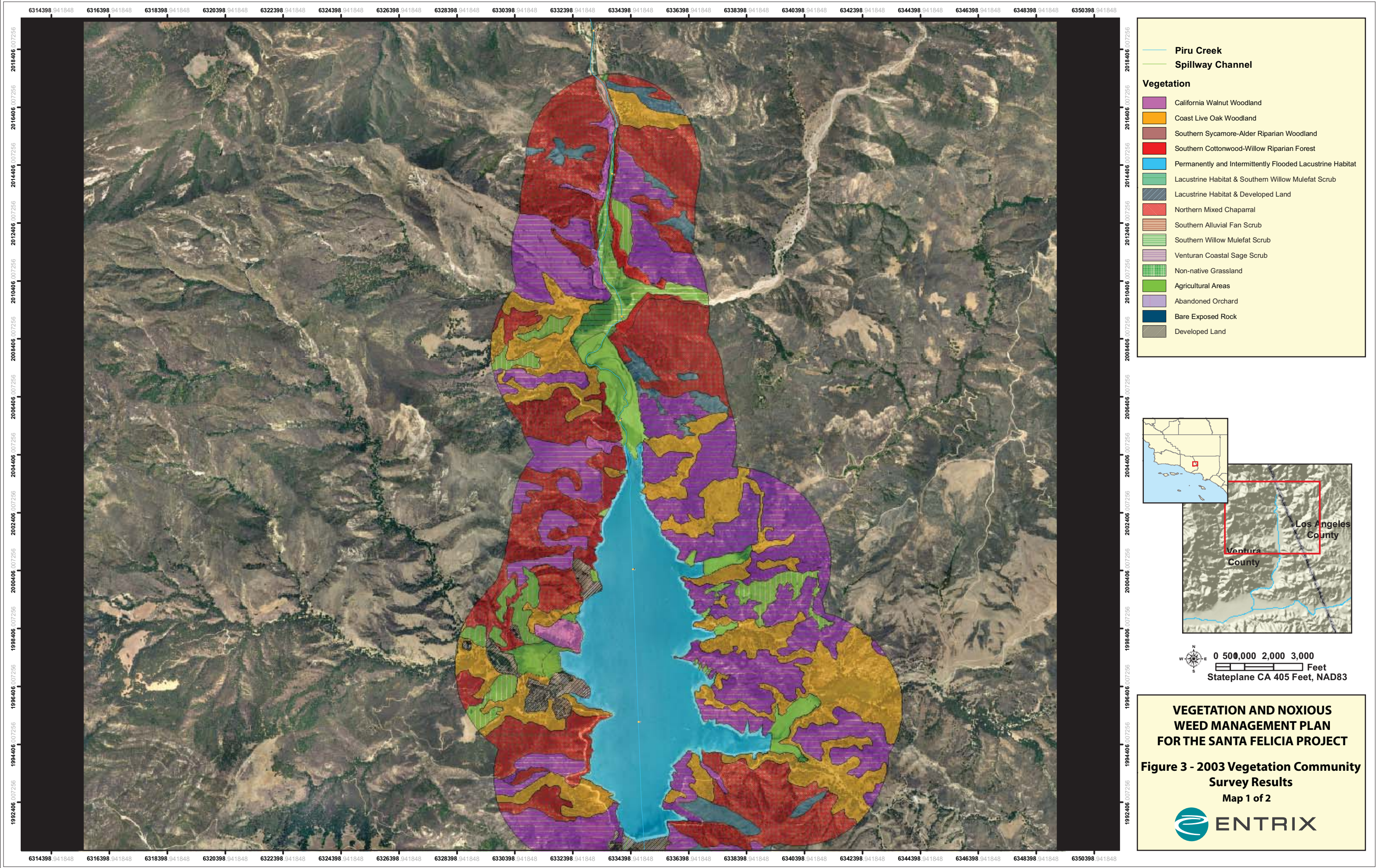
*Refer to Appendix B, Noxious Weed Survey Summary

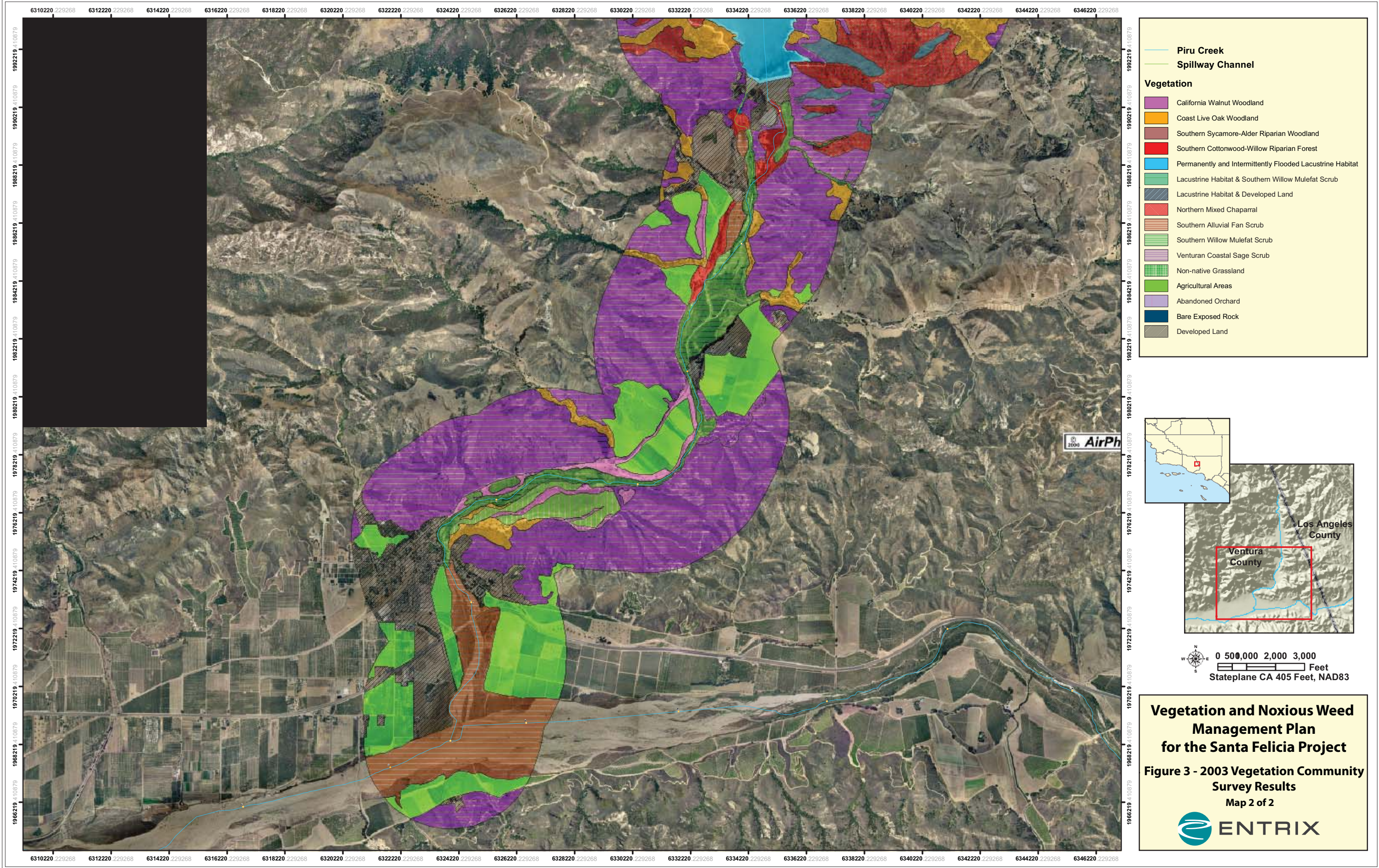


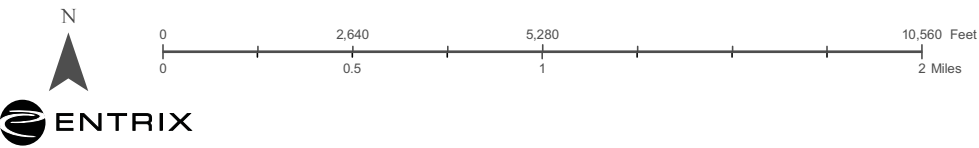
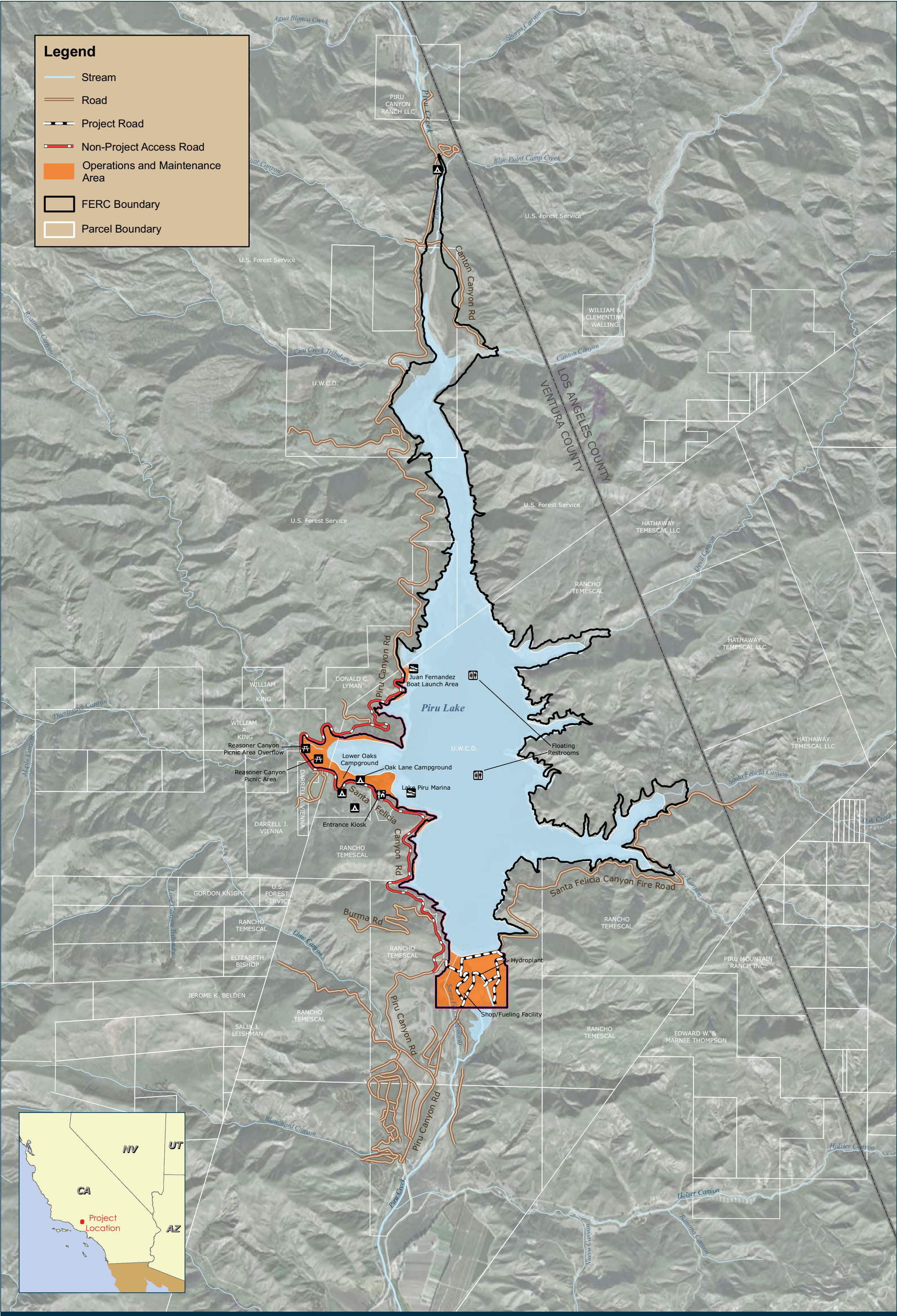
VEGETATION AND NOXIOUS WEED MANAGEMENT PLAN FOR THE SANTA FELICIA PROJECT

Figure 2 - 2004 Noxious Weed Survey Results









VEGETATION AND NOXIOUS WEED MANAGEMENT PLAN
FOR THE SANTA FELICIA PROJECT

Figure 4 - Project Facilities, FERC Boundary,
and Operations and Maintenance Area

United States Department of Agriculture
Forest Service Section 4(e) Condition
No. 18(b) as specified in the *Order*
Issuing the New License dated
September 12, 2008

United States Department of Agriculture Forest Service Section 4(e) Condition No. 18(b) as specified in the *Order Issuing the New License* dated September 12, 2008

Vegetation & Noxious Weed Management Plan

Within two years of license issuance, the Licensee shall file with the Commission vegetation and noxious weed management plan developed in consultation with the Forest Service, Ventura County Agricultural Commissioner and California Department of Food and Agriculture. At a minimum, the plan should include two components: a Noxious Weed Plan and a Vegetation Management Plan. Noxious weeds will be those weeds defined in the California Food and Agriculture code, and other species identified by the Forest Service.

1) The Noxious Weed Plan will include and address the following elements:

- Noxious weed treatment (aquatic and terrestrial) within the project boundary and adjacent to project features including recreation facilities, roads, and distribution and transmission lines.
- Inventory and mapping of new populations of noxious weeds using a Forest Service compatible database and GIS software. The Noxious weed GIS data layer will be updated periodically and shared with resource agencies.
- Action and/or strategies to prevent and control spread of known populations or introductions of new populations, such as vehicle/equipment wash stations.
- Develop a schedule for eradication of all A, B, and Q and selected other rated invasive weed species, designated by resource agencies.
- New infestations of A& B rated weeds shall be eradicated within 12 months of detection. (A, B, C, & Q ratings refer to the California Department of Food & Agriculture Action Oriented Pest Rating System).
- At specific sites where other objectives need to be met (e.g. recreational use) all classes of noxious weeds may be required to be treated.
- On-going annual monitoring of known populations of noxious weeds for the life of the license in locations tied to Project actions or effects, such as road maintenance, at project facilities, O&M activities, recreational areas, new construction sites, etc. to evaluate the effectiveness of re-vegetation and noxious weed control measures.
- Monitoring will be done in conjunction with other project maintenance and resource surveys, so as not to require separate travel and personnel. Monitoring information, in database and GIS formats, will be provided to the Forest Service as part of the annual consultation on affected National Forest resources (Condition No. 2). To assist with this monitoring requirement, training in invasive plant identification will be provided to Project employees and contractors by the Forest Service.
- Licensee shall restore/revegetate areas where treatment has eliminated noxious weeds in an effort to eliminate the reintroduction of noxious weed species.

- Project-induced ground disturbing activities shall be monitored annually for the first 3 years after disturbance to detect and map new populations of noxious weeds.
- The plan will include an adaptive management element to implement methods for prevention of aquatic noxious weeds, as necessary. These actions may include, but may not be limited to: 1) public education and signing of public boat access, 2) preparation of an Aquatic Plant Management Plan approved by the Forest Service, and in consultation with other agencies, and 3) boat cleaning stations at boat ramps for the removal of aquatic noxious weeds.

2) The Vegetation Management plan shall include and/or address the following elements:

- Hazard tree removal and trimming;
- Powerline/transmission line clearing;
- Vegetation management for habitat improvement;
- Revegetation of disturbed sites;
- Soil protection and erosion control, including use of certified weed free straw;
- Establishment of and/or revegetation with culturally important plant populations; and
- Use clean, weed free seed with a preference for locally collected seed.

Upon Commission approval, the Licensee shall implement the plan.

Noxious Weed Species Observed during 2004 Surveys

MAP UNIT	DESCRIPTION	wild oat	black mustard	ripgut brome	soft chess	red brome	cheatgrass	tocalote	yellow star thistle	bull thistle	wild fennel	summer mustard	foxtail, barley	tree tobacco	castor bean	russian thistle, tumbleweed	Spanish broom	tamarisk, salt cedar	Comment	
NOX 1	Dominguez Canyon/ Reasoner Canyon	DS	DS	DS	DS	DS	DS	DS	DS		not observed	concentrated on lake margins, otherwise DS	P	P	not observed	P, one individual observed		5+ individuals near main outlet channel for Dominguez Channel	Complex area with a high level of disturbance associated with development. Observed species are scattered throughout the area at a very low density.	
NOX 2	Swim Area			P								~5% cover in herb layer	P	P					Majority of the study area has been newly graded from recent construction.	
NOX 3	Lake Shore above Swim Area					P						concentrated on lake margins, up to 80% cover		P				P	Noxious weed population is present along disturbed lakeshore "bathtub ring".	
NOX 4	Upper Lake Delta					P						concentrated on lake margins		scattered				rare	Weed colonization on disturbed areas such as newly deposited sandbars, delta area and lakeshore.	
NOX 5	Upper Lake Delta			P	P	P				P		DS		P				P	Upper floodplain areas were colonized with 1-5 year old growth of willow and mulefat, Mediterranean grasses colonized the understory, tree tobacco was scattered throughout. Species relatively absent from active stream channel.	
NOX 6	Main Stream Channel of Upper Lake Delta			P		P				concentrated along water's edge. Over 500 individuals recorded.		P	P	P		one individual observed		scattered at a very low density through unit. One concentrated population ~5,000 sq. ft. near MP 10.5	All species diffusely scattered at less than 1% cover. Only bull thistle and tamarisk. were present in any significant amount.	
NOX 7	EDGE OF FLOOD PLAIN	P		mixed Mediterranean grasses composed ~50% of herb layer								understory of tree tobacco, 10% of herb layer	P	dominant species, up to 60% cover of entire polygon					Disturbed area, dominated by tree tobacco.	
NOX 8	Upper Flood Plain			DS	DS	DS	DS	DS				DS	DS	DS					Observed species were diffusely scattered in understory of mulefat scrub. Tree tobacco is more concentrated on margins of scrub	
NOX 9	Canton Canyon		P	mixed Mediterranean grasses and tocalote dominate openings. Up to 75% cover of herbaceous layer								scattered throughout polygon, up to 5% cover in herbaceous layer	in mixed Mediterranean grass	P			~15 individuals in the upper reaches of the tributary	concentrated in two ~1/2 acre areas	Weed populations were concentrated on upper floodplains.	
NOX 10	Flood Plain of Upper Lake	P	P	mixed brome grasses composed up to 10% cover in herb layer					P				dominant in herb layer, up to 25% cover	P		one individual observed			one individual observed	Study site is a relic floodplain which is converting to a grassland.
NOX 11	Road to USGS Weir/Gauge	P	P	mixed Mediterranean grasses and tocalote dominate openings. Up to 75% cover of herbaceous layer. Soft chess & red brome are dominant									up to 10% cover in herbaceous layer	in mixed Mediterranean grass		P				Grasses and other weeds associated with the access road leading to the gauge site.
NOX 12	Upper Piru Creek	P	P	P	P	P				P		P	P	P		P			scattered at a very low density	All species diffusely scattered at less than 1% cover.

¹ *Avena* spp. includes species *A. barbata* (slender wild oat) and *A. fatua* (wild oat)
P - Denotes a species that occurs within the study area but at a very low density, not warranting quantification.
DS - Denotes a very low density distribution through the study area, less than 1% of the total herbaceous cover.

USDA-FS LPNF Target Noxious Weed Species

Appendix C. USDA-FS LPNF Target Noxious Weed Species

Scientific Name	Common Name	Cal-IPC Pest	CDFA Pest Rating
<i>Agaretina adenophora</i>	sticky eupatory	Moderate	--
<i>Ailanthus altissima</i>	tree of heaven	Moderate	C
<i>Arundo donax</i>	giant reed	High	B
<i>Brassica nigra</i>	black mustard	Moderate	--
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	High	--
<i>Bromus tectorum</i>	cheat grass	High	--
<i>Cardaria pubescens</i>	hairy white top	Limited	B
<i>Carduus pycnocephalus</i>	Italian thistle	Moderate	C
<i>Centaurea maculosa</i>	spotted knapweed	High	A
<i>Centaurea melitensis</i>	tocalote	Moderate	C
<i>Centaurea solstitialis</i>	yellow starthistle	High	C
<i>Cirsium vulgare</i>	bull thistle	Moderate	C
<i>Conium maculatum</i>	poison hemlock	Moderate	--
<i>Cortaderia jubata/selloana</i>	pampas grass	High	B
<i>Cynodon dactylum</i>	Bermuda grass	Moderate	C
<i>Delairea odorata</i> (= <i>Senecio mikanioides</i>)	cape ivy	High	--
<i>Foeniculum vulgare</i>	fennel	High	--
<i>Genista monspessulana</i>	French broom	High	--
<i>Marrubium vulgare</i>	horehound	Limited	--
<i>Onopordum acanthium</i> ssp. <i>acanthium</i>	scotch thistle	High	A
<i>Pennisetum clandestinum</i>	kikuyu grass	Limited	C
<i>Pennisetum setaceum</i>	fountain grass	Moderate	--
<i>Phalaris aquatica</i>	harding grass	Moderate	--
<i>Piptatherum miliaceum</i>	smilo grass	Limited	--
<i>Ricinus communis</i>	castor bean	Limited	--

Scientific Name	Common Name	Cal-IPC Pest	CDFA Pest Rating
<i>Robinia psuedoacacia</i>	black locust	Limited	--
<i>Salsola tragus</i> (= <i>S. kali</i>)	common Russian thistle	Limited	C
<i>Schinus molle</i>	Peruvian pepper tree	Limited	--
<i>Spartium junceum</i>	Spanish broom	High	--
<i>Taeniatherum caput-medusa</i>	medusahead grass	High	C
<i>Tamarix ramosissima</i>	tamarix	High	B
<i>Tribulus terrestris</i>	puncture vine	--	C
<i>Verbascum thapsis</i>	mullein	Limited	--
<i>Vinca major</i>	periwinkle	Moderate	--

Cal-IPC Rating System:

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.