

Delineation of Waters of the United States

±40-Acre Eagle Lake Sewage Pond Site
Lassen County, California

Prepared for: U.S. Army Corps of Engineers

Contracted by: Eagle Lake Ranger District,
Lassen National Forest

January 15, 2009

Submitted by:

 **FOOTHILL ASSOCIATES**

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Table of Contents

1.0 Introduction	1
2.0 Regulatory Background.....	2
2.1 Waters of the United States	3
2.2 The Solid Waste Agency of Northern Cook County (SWANCC) Decision	3
2.3 The Rapanos Decision.....	4
3.0 Methodology	6
3.1 Site-Specific References.....	6
3.2 Research and Field Methodology	6
3.3 Survey Data Integration.....	7
4.0 Results	8
4.1 Study Area Description, Land Use.....	8
4.1.1 Study Area Location.....	8
4.1.2 Land Use.....	8
4.2 Physical Features.....	8
4.2.1 Soils.....	8
4.2.2 Topography.....	9
4.2.3 Regional Hydrology.....	9
4.2.4 Site-Specific Hydrology.....	9
4.3 Vegetation	9
4.3.1 Mixed Conifer Forest.....	9
4.3.2 Emergent Wetlands	9
4.3.3 Annual Grassland	9
4.3.4 Developed Land.....	10
4.4 Classification of Waters of the United States	10
4.4.1 Depressional Seasonal Wetlands	10
5.0 Conclusion.....	11
6.0 References	12

List of Tables

Table 1 — Waters of the U.S: Acreage According to Feature	11
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List of Figures

Figure 1 — Site and Vicinity	14
Figure 2 — Soils	15
Figure 3 — Delineation Map	16
Figure 4 — Delineation Map and Aerial Photograph.....	17

List of Appendices

Appendix A — Contact Information	
Appendix B — Routine Wetland Determination Data Form	

1.0 INTRODUCTION

The purpose of this document is to present the results of a formal delineation of jurisdictional waters of the United States, including wetlands, on the ± 40-acre Eagle Lake sewer pond site located in Lassen County, California (**Figure 1**). This report presents the results of Foothill Associates' review of available literature, aerial photographs, soil surveys, and fieldwork on the site. These results are summarized to depict jurisdictional waters of the United States following the technical guidelines provided in the 1987 U.S. Army Corps of Engineers (Corps) Wetlands Delineation Manual for identifying wetlands and distinguishing them from aquatic habitats and other nonwetlands, the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, and the *Rapanos* guidelines issued by the Environmental Protection Agency (EPA) and the Corps.

The delineation methodology is described in this report, followed by the results of the delineation. Details regarding soils (**Figure 2**), topography, hydrology, and vegetation are summarized and routine wetland determination data forms are provided in **Appendix B**. A detailed delineation map illustrates waters of the U.S. on the site (**Figure 3**).

2.0 REGULATORY BACKGROUND

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). “Discharges of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)].

Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material into the waters of the United States. Typical activities requiring Section 404 permits are:

- Depositing of fill or dredged material in waters of the U.S. or adjacent wetlands.
- Site development fill for residential, commercial, or recreational developments.
- Construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs.
- Placement of riprap and road fills.

Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over navigable waters of the United States, or which affects the course, location, condition or capacity of such waters. Typical activities requiring Section 10 permits are:

- Construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats intake structures, and cable or pipeline crossings.
- Dredging and excavation.

Any person, firm, or agency (including federal, state, and local government agencies) planning to work in navigable waters of the United States, or dump or place dredged or fill material in waters of the United States, must first obtain a permit from the Corps of Engineers. Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes.

2.1 Waters of the United States

Waters of the United States includes essentially all surface waters such as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use as a means to transport interstate or foreign commerce up to the head of navigation. Section 10 and/or Section 404 permits are required for construction activities in these waters. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of water is present. Methods for delineating wetlands and non-tidal waters are described below.

Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit positive indicators of three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.

The lateral regulatory extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

2.2 The Solid Waste Agency of Northern Cook County (SWANCC) Decision

The Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers, 531 U.S. 159 (2001), is more commonly referred to as the SWANCC decision. SWANCC involved a challenge to CWA jurisdiction over certain isolated, intrastate, non-navigable ponds in Illinois that formerly had been gravel mine pits, but which, over time, provided habitat for migratory birds. Although these ponds served as migratory bird habitat, they were non-navigable and isolated from the tributary system of other waters regulated under the CWA. In SWANCC, the Supreme Court held that the Army Corps of Engineers had exceeded its authority in asserting CWA jurisdiction pursuant to § 404(a) over the waters at issue based on their use as habitat for migratory birds, pursuant to preamble language, commonly referred to as the Migratory Bird Rule (51 Fed. Reg. 41217 (1986)).

SWANCC squarely eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable, where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross state lines in their migrations. CWA jurisdiction extends to waters, including wetlands, which are adjacent to navigable waters pursuant to the Supreme Court holding in *Riverside Bayview Homes*, which was endorsed in SWANCC as controlling law. Corps of Engineers and EPA regulations currently define the term adjacent as "bordering, contiguous, or neighboring"

33 C.F.R. § 328.3(b). The case law on the precise scope of federal CWA jurisdiction since SWANCC is still developing.

2.3 The Rapanos Decision

The consolidated cases *Rapanos v. United States* and *Carabell v. United States*, 126 S. Ct. 2208 (2006) are referred to as *Rapanos*. The Supreme Court’s decision in these consolidated cases addressed where the federal government can apply the CWA, specifically by determining whether a wetland or tributary is a “water of the United States.” The justices issued five separate opinions in *Rapanos*, with no single opinion commanding a plurality of the Court.

The plurality of the Court concluded that the agencies’ regulatory authority should extend only to “relatively permanent, standing or continuously flowing bodies of water” connected to traditional navigable waters (TNWs), and to “wetlands with a continuous surface connection to” such relatively permanent waters (U.S. Army Corps and U.S. EPA, 2007). Justice Kennedy concluded that wetlands are “waters of the United States” “if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as *navigable*. When, in contrast, wetlands’ effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term *navigable waters*” (U.S. Army Corps and U.S. EPA, 2007).

When there is no majority opinion in a Supreme Court case, controlling legal principles may be derived from those principles espoused by five or more justices. Thus, regulatory jurisdiction under the CWA exists over a “water” if either the plurality or Justice Kennedy’s standard is satisfied (U.S. Army Corps and U.S. EPA, 2007).

As a result of the *Rapanos* decision, the agencies will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The agencies will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The agencies generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The agencies will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

3.0 METHODOLOGY

3.1 Site-Specific References

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this delineation are listed in **Section 6.0**. Pertinent site-specific reports and general references utilized concurrent with the delineation include the following:

- Cowardin, *et al.* 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Washington D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- GretagMacbeth. 2000. *Munsell Soil Color Charts*. New Windsor, NY.
- Hickman, James C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley, CA.
- Natural Resource Conservation Service (NRCS). 1995. *List of Hydric Soils of California*. U.S. Department of Agriculture.
- Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: California (Region 0)*; U.S. Fish & Wildlife Service.
- Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society (CNPS), Sacramento, CA.
- Kliwer, George F. 1994. *Soil Survey of Lassen National Forest Area, California*. USDA Forest Service Pacific Southwest Region.
- USDA, NRCS. 2003. *Field Indicators of Hydric Soils in the United States*, Version 5.01. G.W. Hurt, P.M. Whited, and R.F. Pringle (eds). USDA, NRCS in cooperation with the National Committee for Hydric Soils. Fort Worth, TX.
- U.S. Geological Survey. 1995. *Pikes Point, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

3.2 Research and Field Methodology

This delineation utilized the Corps 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate jurisdictional waters of the U.S., focusing specifically on jurisdictional wetlands. This methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of

wetlands. Additional methods to identify and delineate other waters of the U.S. (e.g. streams, drainages, lakes, etc.) were used as applicable. The Corps has recently issued a regional supplement to the 1987 manual, the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. This supplement provides technical guidance that was used to conduct this delineation.

A review of historic and current aerial photographs, topographic maps and soils survey data was conducted before delineating the site on November 12, 2008. A wetland biologist visually inspected the entire site and collected data on vegetation and hydrology. Because of the timing of the delineation, not all plant species could be identified. Soils were also examined and correlations were developed between the three parameters to make wetland determinations. Specifically, data points were evaluated to determine the composition and identification of dominant plant species. The indicator status of all dominant plant species (as determined by the U.S. Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: 1988 California [Region 0]) was applied and evaluated as part of the vegetation assessment portion of the wetland determination process. Additionally, immediate sub surface soils conditions were examined for hydric attributes or a lack thereof. Observations were made and recorded for both primary and secondary wetland hydrology indicators, if present. The location of each data point is depicted in **Figure 3** and corresponding routine wetland determination data forms are provided in **Appendix B**.

To conduct this jurisdictional determination, these waters were classified on the basis of the agency guidance developed in response to the *Rapanos* decision. These classes of features are either automatically jurisdictional (i.e., non-navigable tributaries that are relatively permanent), generally not jurisdictional (i.e., ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water), or features of unknown jurisdictional status. For this latter group of features, the agencies will decide their jurisdictional status based on a fact-specific analysis regarding whether they have a significant nexus with a traditional navigable water.

3.3 Survey Data Integration

Boundaries of wetlands and other waters of the U.S. within the site were surveyed and mapped with a Trimble GeoXT Global Positioning System (GPS) hand-held unit. This is a mapping-grade GPS unit capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded from the unit and differentially corrected utilizing Trimble Pathfinder Office software and appropriate base station data, and then converted to ESRI® shape file format. Data are typically exported to the Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units as “survey feet.” Within the GIS, data are edited and linear features are built into polygons using recorded width information. All wetland shape files are merged to create a single wetland file with calculated acreages. These results are presented in **Figure 3**.

4.0 RESULTS

4.1 Study Area Description, Land Use

4.1.1 Study Area Location

The site is located in Lassen County, California, approximately 15 miles northwest of Susanville and 2 miles southwest of Eagle Lake. The site occupies the northeast quarter of the northeast quarter of section 21, Township 31 North, Range 10 East of the U.S.G.S. Pikes Point, CA 7.5' quadrangle map (**Figure 1**).

4.1.2 Land Use

Land uses surrounding the site include forestry, recreation, and unpaved gravel roads. The site is the location of several wastewater treatment lagoons, or ponds. Vegetation includes emergent wetlands and mixed conifer forest.

4.2 Physical Features

4.2.1 Soils

The Natural Resources Conservation Service (NRCS) has mapped two soil units on the site (**Figure 2**). The soil units that occur onsite include the following: **Inville-Patio-Trojan families complex, 0 to 35 percent slopes**; and **Wintoner family-Aquolls-Patio families association, 0 to 15 percent slopes**. Both of these soil units have hydric inclusions. General characteristics associated with these soils types are described below.

- **Inville-Patio-Trojan families complex, 0 to 35 percent slopes:** These gravelly sandy loam and loam soils occur on mountain sideslopes, ridges, and flats from 5,200 to 7,000 feet in elevation. The soils have moderate permeability and slow runoff and erosion hazard is low to moderate. Typical vegetation consists of mixed conifer forest and chaparral. The **Inville** soils are hydric according to the national hydric soils list, and may have a frequently occurring water table at less than 18 inches from the surface for a significant period.
- **Wintoner family-Aquolls-Patio families association, 0 to 15 percent slopes:** These gravelly sandy loam and silt loam soils occur on mountain sideslopes, ridges, meadows and valleys from 5,200 to 7,000 feet in elevation. The soils have moderate to moderately slow permeability, slow to very slow runoff, and erosion hazard is low to moderate. Typical vegetation consists of mixed conifer forest, annual and perennial grasses, and alder, aspen, and willow. The **Wintoner** and **Aquolls** soils are hydric according to the national hydric soils list, and may have a frequently occurring water table at less than 18 inches from the surface for a significant period.

4.2.2 Topography

The topography onsite slopes to the southeast towards Merrill Creek. Elevations of the site range from approximately 5,450 to 5,500 feet above mean sea level.

4.2.3 Regional Hydrology

The site is located in the Merrill Creek basin approximately one-half mile north of Merrill Creek. This creek flows northeast approximately 2.5 miles into Eagle Lake. Because of the size of the basin and amount of snowfall, it is likely that Merrill Creek flows seasonally for at least 90 days and is therefore considered a Relative Permanent Water (RPW).

4.2.4 Site-Specific Hydrology

The southern portion of the site exhibits indications of seasonal inundation and saturation. The majority of the surface water runoff flows across the site in a dispersed manner to wetlands to the south that are abutting Merrill Creek. The wastewater lagoons on the site are hydrologically isolated and have zero discharge.

4.3 Vegetation

The vegetation assemblages and habitat types occurring on the site include the following: mixed conifer forest, emergent wetlands, annual grassland, and developed land. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. Each of the biological communities including associated common plant and wildlife species observed, or that are expected to occur within these communities are described below.

4.3.1 Mixed Conifer Forest

The mixed conifer forest is dominated by Jeffrey pine (*Pinus jeffreyi*). Bitterbrush (*Purshia tridentata*), serviceberry (*Amelanchier pallida*) and other shrubs are also found in the mixed conifer forest.

4.3.2 Emergent Wetlands

The emergent wetlands on the site are dominated by rushes (*Eleocharis* sp. and *Juncus mexicanus*), and other forbs. In the Cowardin system, these wetlands would be classified as palustrine emergent wetlands (Cowardin, 1979).

4.3.3 Annual Grassland

This habitat type is either sparsely vegetated or it is covered with grasses and forbs. These include Mexican rush (*Juncus mexicanus*), ripgut brome (*Bromus diandrus*), and thistle (*Cirsium* sp.).

4.3.4 Developed Land

Developed land covers a portion of the study area. This consists of unpaved gravel roads, disturbed ground, buildings, and the wastewater lagoons.

4.4 Classification of Waters of the United States

As discussed previously in **Section 2.0**, jurisdictional waters of the U.S. are classified into multiple types based on topography, edaphics (soils), vegetation and hydrologic regime. Primarily, the Army Corps of Engineers establishes two distinctions: wetland and non-wetland waters of the U.S. Non-wetland waters are commonly referred to as other waters. The potential jurisdictional wetland type mapped within the site is depressional seasonal wetlands. A description of all of the features delineated within the site is provided in the following sections.

4.4.1 Depressional Seasonal Wetlands

A total of **0.89 acres** of depressional seasonal wetlands have been delineated within the site. These wetlands are located in the southern portion of the site (**Figures 3 and 4**).

These wetlands exhibit a hydrologic regime dominated by saturation and is closely associated with seasonal runoff. This hydrologic regime supports hydrophytic plant species and hydric soils. Plant species found within these wetlands include rushes and other forbs.

Given the soils and topography of the area, it appears that these wetlands abut Merrill Creek and are tributary to Eagle Lake, a Traditional Navigable Water (TNW). These wetlands, “in combination with other similarly situated lands in the region,” have the potential to significantly affect the integrity of the water quality of Eagle Lake, the nearest TNW. This conclusion is based on the proximity to Eagle Lake and the sensitivity of the lake to pollutant loading, particularly sediments and nutrients. Because the wetlands abut a RPW and because of this “significant nexus” with Eagle Lake, the wetlands will likely be considered jurisdictional by the Corps.

5.0 CONCLUSION

Application of routine wetland delineation techniques and *Rapanos* guidelines revealed the presence of features that appear to conform to the definition of waters of the U.S pursuant to Section 404 of the Federal Clean Water Act. Potential jurisdictional wetlands mapped within the site are depressional seasonal wetlands. No non-jurisdictional waters were mapped within the site.

The final determination of the extent of Corps' jurisdiction on the property pursuant to Section 404 of the Federal Clean Water Act will depend on the results of field verification by the Corps. Areas deemed jurisdictional will then be subject to the regulatory requirements of the Federal Clean Water Act including permitting and mitigation, as required.

Table 1 below provides acreage per class and summarizes the total acreage of wetlands and waters on the site.

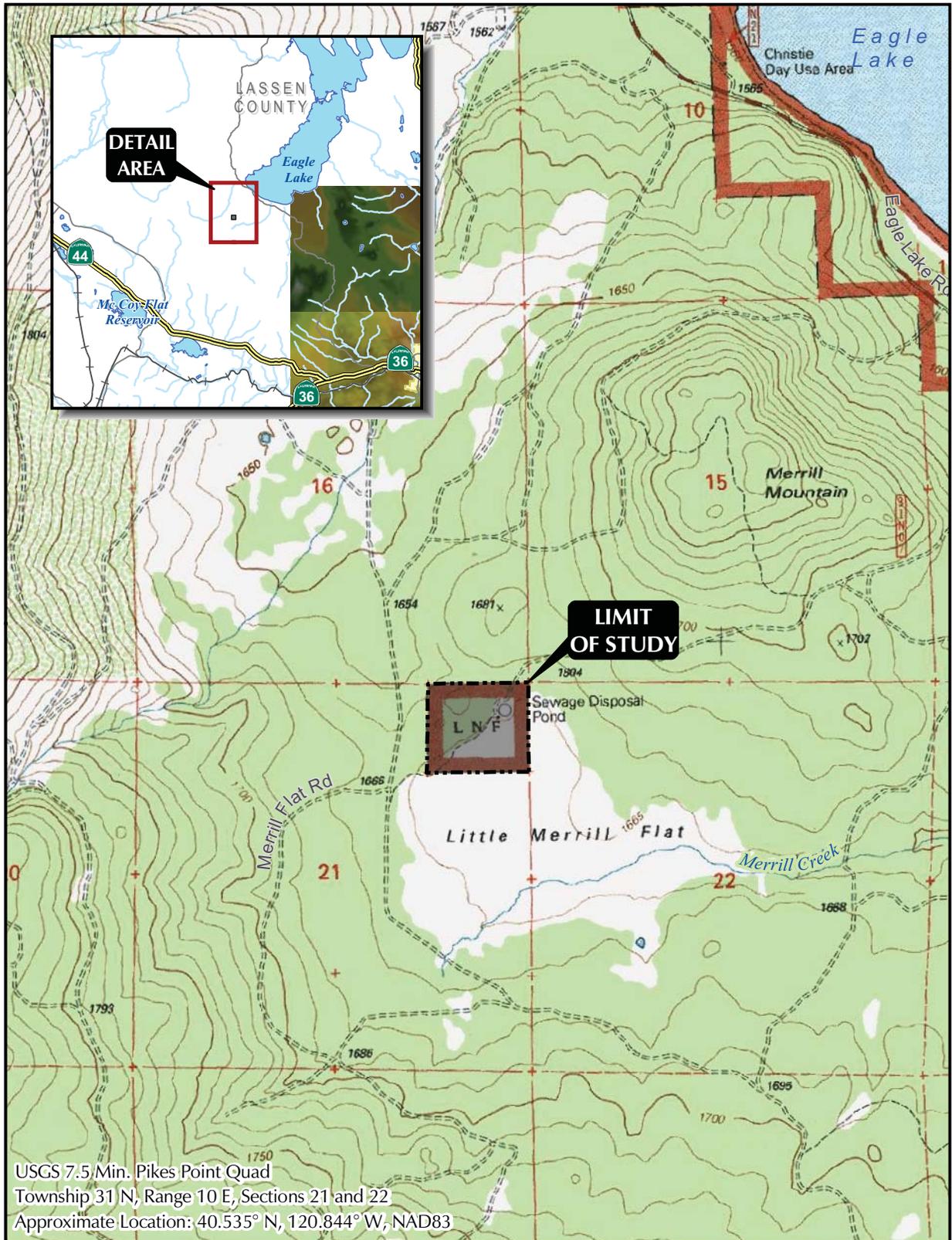
Table 1 — Waters of the U.S: Acreage According to Feature

CLASS	TOTAL ACREAGE	JURISDICTIONAL	NON- JURISDICTIONAL
Depressional Seasonal Wetland	0.89	0.89	0.0
TOTAL	0.89	0.89	0.0

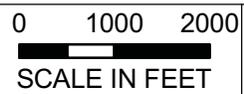
6.0 REFERENCES

- Cowardin, *et al.* 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Washington D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- GretagMacbeth. 2000. *Munsell Soil Color Charts*. New Windsor, NY.
- Hickman, James C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley, CA.
- Hitchcock, Leo C. and Arthur Cronquist. 1996. *Flora of the Pacific Northwest*. University of Washington Press, Seattle, WA.
- Kliwer, George F. 1994. Soil Survey of Lassen National Forest Area, California. USDA Forest Service Pacific Southwest Region.
- Mason, Herbert L. 1957. *A Flora of the Marshes of California*. University of California Press, Berkeley, California.
- Munz, Phillip A. 1968. *A California Flora and Supplement*. University of California Press, Berkeley, CA.
- Natural Resource Conservation Service (NRCS). 1995. *List of Hydric Soils of California*. U.S. Department of Agriculture.
- Reed, P.B., Jr. 1988. *National List of Plant Species That Occur in Wetlands: California (Region 0)*; U.S. Fish & Wildlife Service.
- Sawyer, John O. and Todd Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society (CNPS), Sacramento, CA.
- U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- U.S. Army Corps of Engineers. 2007. *Jurisdictional Determination Form Instructional Guidebook*.
- U.S. Army Corps of Engineers, U.S. Environmental Protection Agency. 2007. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States*.
- U.S. Army Corps of Engineers. 2009. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast*

- Region*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-13. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture (USDA), NRCS. 2002. *Soil Survey Tahoe National Forest Area, California*.
- USDA, NRCS. 2003. *Field Indicators of Hydric Soils in the United States*, Version 5.01. G.W. Hurt, P.M. Whited, and R.F. Pringle (eds). USDA, NRCS in cooperation with the National Committee for Hydric Soils. Fort Worth, TX.
- USDA, NRCS. January 2008. *National Hydric Soils List by State*.
<http://soils.usda.gov/use/hydric/lists/state.html>.
- U.S. Geological Survey. 1995. *Pikes Point, California*. 7.5 -minute series topographic quadrangle. U.S. Department of the Interior.

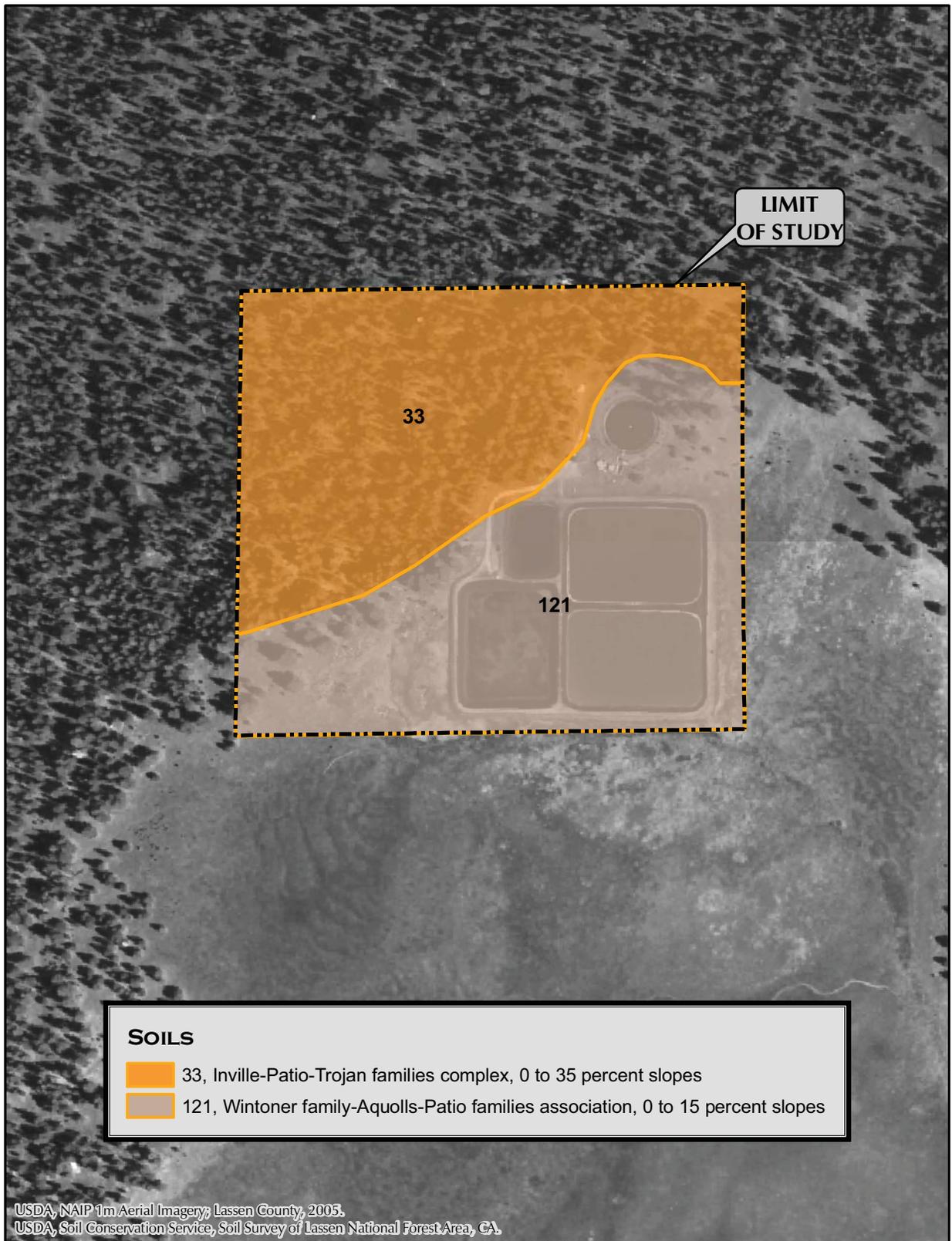


SITE AND VICINITY



Drawn By: PDL
 Date: 11/05/08

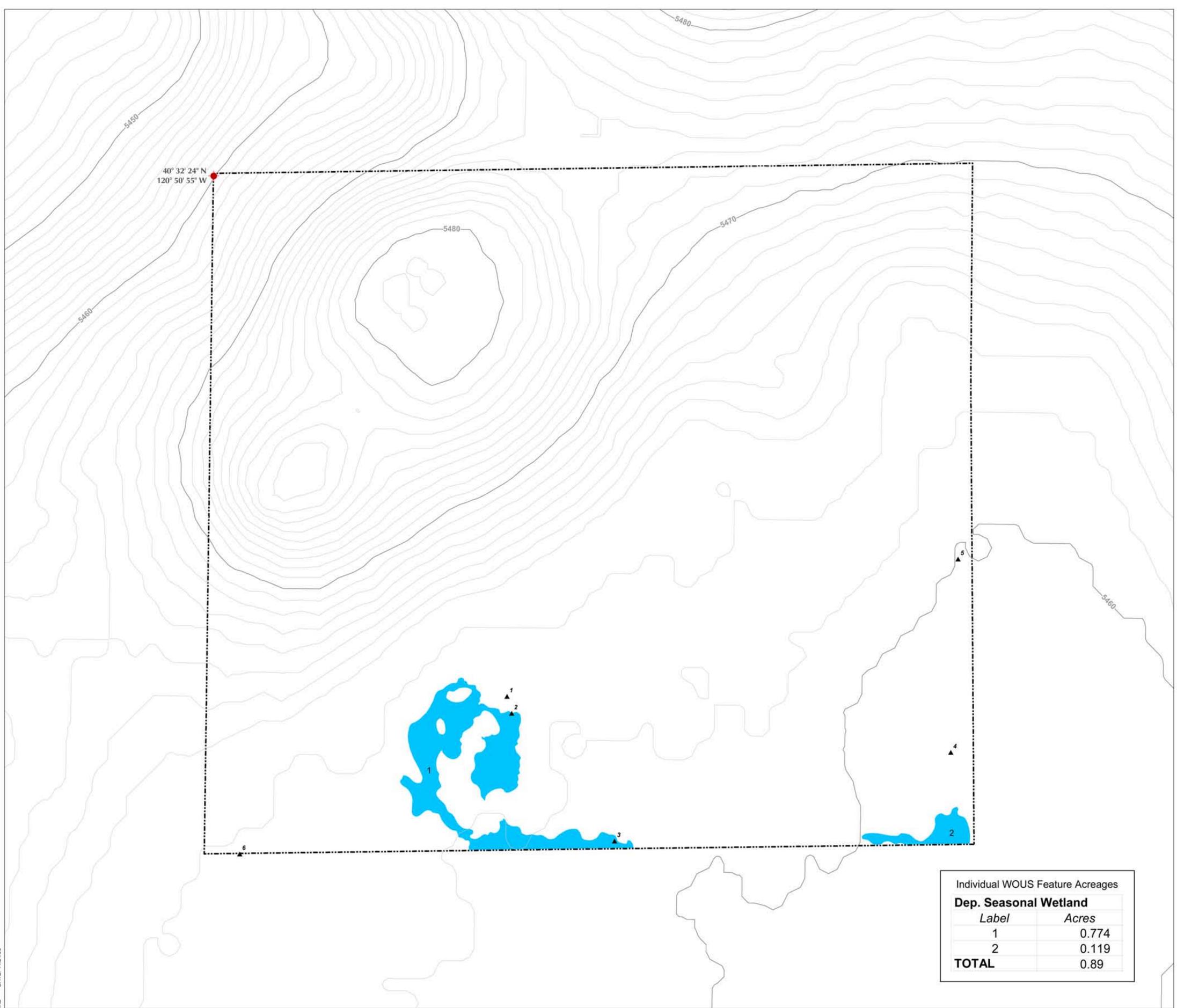
FIGURE 1



SOILS



PROJECT NAME: Eagle Lake FILE NAME: Wetland Delineation.MXD DATE: 11/24/08

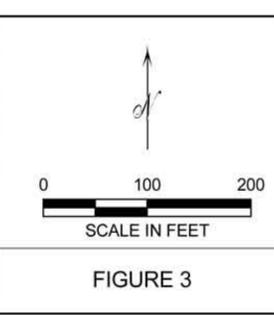


Individual WOUS Feature Acreages	
Dep. Seasonal Wetland	
Label	Acres
1	0.774
2	0.119
TOTAL	0.89

WATERS OF THE U.S.	
CLASSIFICATION	ACREAGE
DEPRESSIONAL WETLANDS	
Seasonal Wetland	0.89
TOTAL	0.89

OTHER FEATURES	
Data Points	
Project Boundary	

- NOTES**
- Waters of the U.S. are subject to U.S. Army Corps of Engineers verification.
 - Contour lines generated from USGS 10m DEM for the Pikes Point quad. Contour interval is 1 foot.
 - The Hydrologic Unit Code for this site is 180080003.
 - This delineation utilizes the Corps' 1987 three-parameter methodology and the Western Mountains, Valleys, and Coast Region Interim Regional Supplement to delineate jurisdictional waters of the U.S.
 - Waters of the U.S. were mapped using a Trimble Global Positioning System (GPS).



Eagle Lake Sewage Pond Site

DELINEATED WATERS OF THE U.S.

FOOTHILL ASSOCIATES

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DATE: 11/24/08 FILE NAME: Wetland Delineation.MXD
 REVISION: DRAWN BY: PDL
 DELINEATED BY: JCH

FIGURE 3



Individual WOUS Feature Acreages	
Dep. Seasonal Wetland	
Label	Acres
1	0.774
2	0.119
TOTAL	0.89

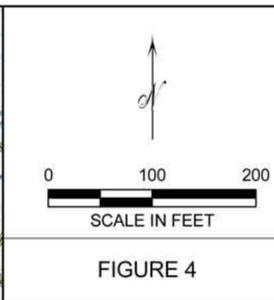
USDA, NAIP 1m Aerial Photo for Lassen County, 2005.

PROJECT NAME: Eagle Lake | FILE NAME: Wetland Delineation.MXD | DATE: 11/24/08

WATERS OF THE U.S.	
CLASSIFICATION	ACREAGE
DEPRESSIONAL WETLANDS	
 Seasonal Wetland	0.89
TOTAL	0.89

OTHER FEATURES	
	Data Points
	Project Boundary

- NOTES**
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Eagle Lake Sewage Pond Site

DELINEATED WATERS OF THE U.S.

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DATE: 11/24/08 | FILE NAME: Wetland Delineation.MXD
 REVISION: | DRAWN BY: PDL
 DELINEATED BY: JCH

Appendix A — Contact Information

Client Contact Information:

Christine Hill
Eagle Lake Ranger District
Lassen National Forest
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Delineation Conducted by:

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#00001386
Foothill Associates
590 Menlo Drive, Suite 1
Rocklin, CA 95765

Appendix B — Routine Determination Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 1
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = _____ FACW species <u>0%</u> x 2 = _____ FAC species <u>0%</u> x 3 = _____ FACU species <u>0%</u> x 4 = _____ UPL species <u>0%</u> x 5 = _____ Column Totals: <u>0%</u> (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Bromus diandrus</u>	<u>80</u>	<u>Y</u>	<u>NL</u>	
2. <u>Cirsium vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. <u>unid forb</u>	<u>15</u>	<u>N</u>	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 2
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = _____ FACW species <u>0%</u> x 2 = _____ FAC species <u>0%</u> x 3 = _____ FACU species <u>0%</u> x 4 = _____ UPL species <u>0%</u> x 5 = _____ Column Totals: <u>0%</u> (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Navarretia leucocephala</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Eleocharis sp.</u>	<u>15</u>	<u>Y</u>	<u>*</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: * Assumed to be hydrophytic.				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 3
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = _____ FACW species <u>0%</u> x 2 = _____ FAC species <u>0%</u> x 3 = _____ FACU species <u>0%</u> x 4 = _____ UPL species <u>0%</u> x 5 = _____ Column Totals: <u>0%</u> (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Juncus mexicanus</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Deschampsia danthanoides (?)</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. <u>unid forb</u>	<u>10</u>	<u>N</u>	_____	
4. <u>unid forb</u>	<u>5</u>	<u>N</u>	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 4
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover					Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = _____ FACW species <u>0%</u> x 2 = _____ FAC species <u>0%</u> x 3 = _____ FACU species <u>0%</u> x 4 = _____ UPL species <u>0%</u> x 5 = _____ Column Totals: <u>0%</u> (A) _____ (B)
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index = B/A = _____	
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
2. _____	_____	_____	_____		<input type="checkbox"/> Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> Wetland Non-Vascular Plants ¹
Herb Stratum (Plot size: _____)					<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Deschampsia danthanoides (?)</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Poa sp.</u>	<u>15</u>	<u>N</u>	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
<u>75</u> = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 5
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Carex sp.</u>	<u>100</u>	<u>Y</u>	<u>*</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0% x 1 = _____
 FACW species 0% x 2 = _____
 FAC species 0% x 3 = _____
 FACU species 0% x 4 = _____
 UPL species 0% x 5 = _____
 Column Totals: 0% (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Wetland Non-Vascular Plants¹
 ___ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

Remarks:
 * Assumed to be hydrophytic.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eagle Lake City/County: Lassen Sampling Date: 11/12/2008
 Applicant/Owner: Lassen NF State: CA Sampling Point: 6
 Investigator(s): JCH Section, Township, Range: 21, Township 31 North, Range 10 East
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): concave Slope (%): < 1%
 Subregion (LRR): MLRA22A Lat: 40 deg 32' 24" N Long: 120 deg 50' 55" W Datum: _____
 Soil Map Unit Name: Wintoner family-Aquolls- Patio families association NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = _____ FACW species <u>0%</u> x 2 = _____ FAC species <u>0%</u> x 3 = _____ FACU species <u>0%</u> x 4 = _____ UPL species <u>0%</u> x 5 = _____ Column Totals: <u>0%</u> (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex sp.</u>	<u>100</u>	<u>Y</u>	<u>*</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: * Assumed to be hydrophytic.				

