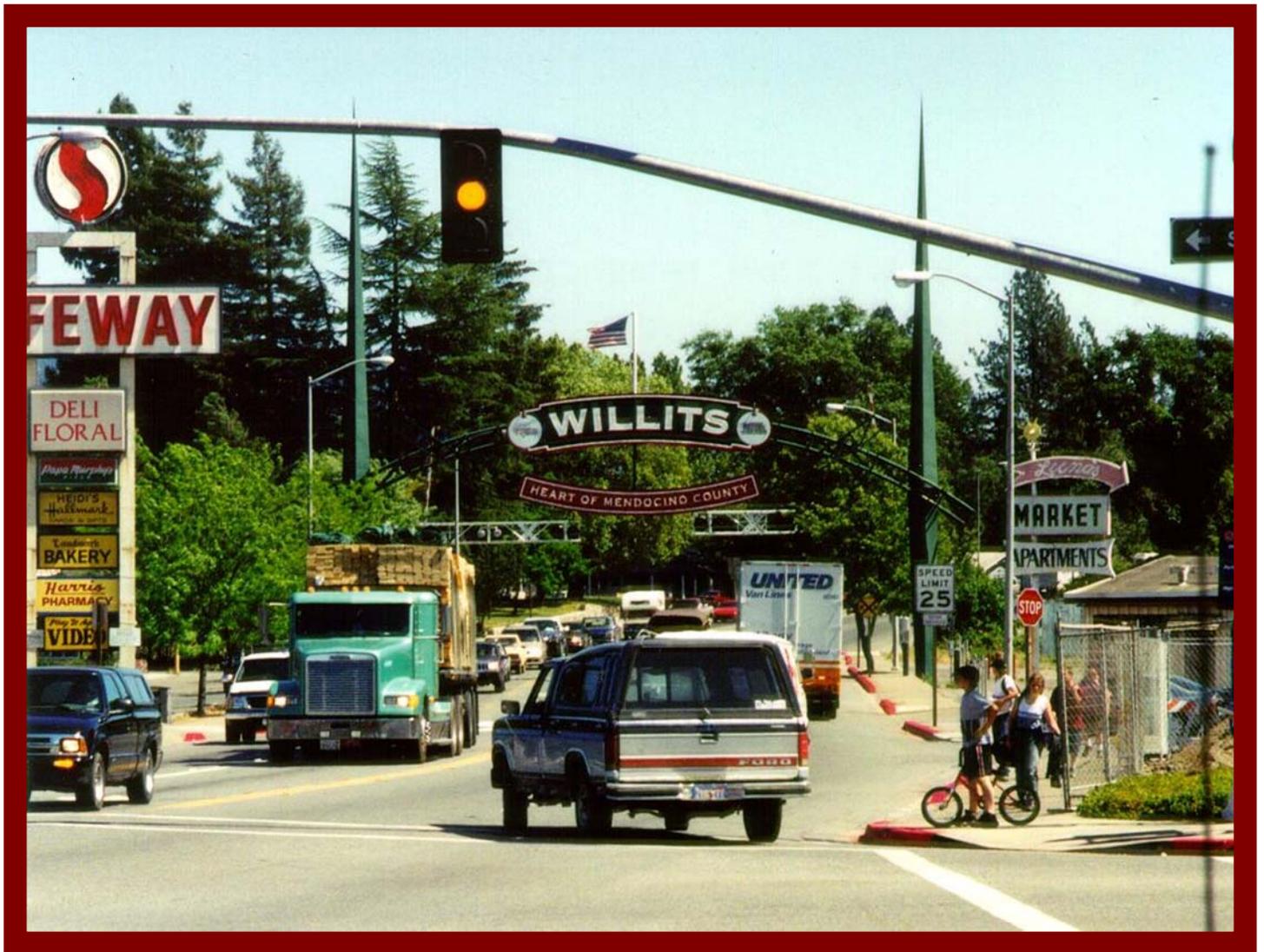


**WILLITS BYPASS**  
MENDOCINO COUNTY  
KP R69.4/KP 84.2 (PM R43.1/52.3) [EA26200]

**SUPPLEMENTAL  
ENVIRONMENTAL IMPACT REPORT  
May 2010**

California Department of Transportation



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SCH Number: 1990030006  
01-Men-101, KP R69.4/84.2 (PM R43.1/52.3)  
EA 01-26200

Construction and Operation of a Freeway Bypass  
on US 101 around the City of Willits in Mendocino County, California  
from KP R69.4 to KP 84.2 (PM R43.1/52.3)

**SUPPLEMENTAL  
ENVIROMENTAL IMPACT REPORT**

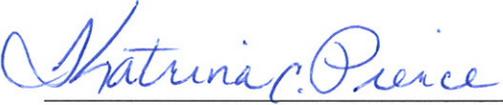
Submitted Pursuant to:  
California Environmental Quality Act, Div. 13, Public Resources Code  
by the

STATE OF CALIFORNIA, Department of Transportation

Responsible Agency: California Transportation Commission

Trustee Agency: California Department of Fish and Game

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*for*   
Matt Brady, Acting District 1 Director  
California Department of Transportation

5/19/10  
Date of Approval

The following persons may be contacted for additional information concerning this document:  
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# 1. EXECUTIVE SUMMARY

This document is a ~~Draft-Final~~ Supplemental ~~Final~~ Environmental Impact Report (SEIR) for the Willits Bypass project. A Final Environmental Impact Statement /Environmental Impact Report (FEIS/EIR) for the bypass project was prepared in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for the Willits Bypass project in October 2006. Following publication and certification of the FEIS/EIR, additional environmental studies were conducted for minor project revisions and for the purposes of identifying suitable mitigation opportunities. During the course of these additional environmental studies, a state-listed threatened plant species, North Coast semaphore grass (*Pleuropogon hooverianus*), was identified within the project limits. This SEIR is necessary because new information indicates the project will have a significant effect on the environment that was not identified in the previous EIR. The purpose of this SEIR is to disclose and describe the impacts and mitigation measures for North Coast semaphore grass (NCSG). Impacts to ~~North Coast semaphore grass~~NCSG will be considered less than significant after mitigation. This document is focused on ~~North Coast semaphore grass~~NCSG, as all other significant impacts were identified at the time of the previous circulation.

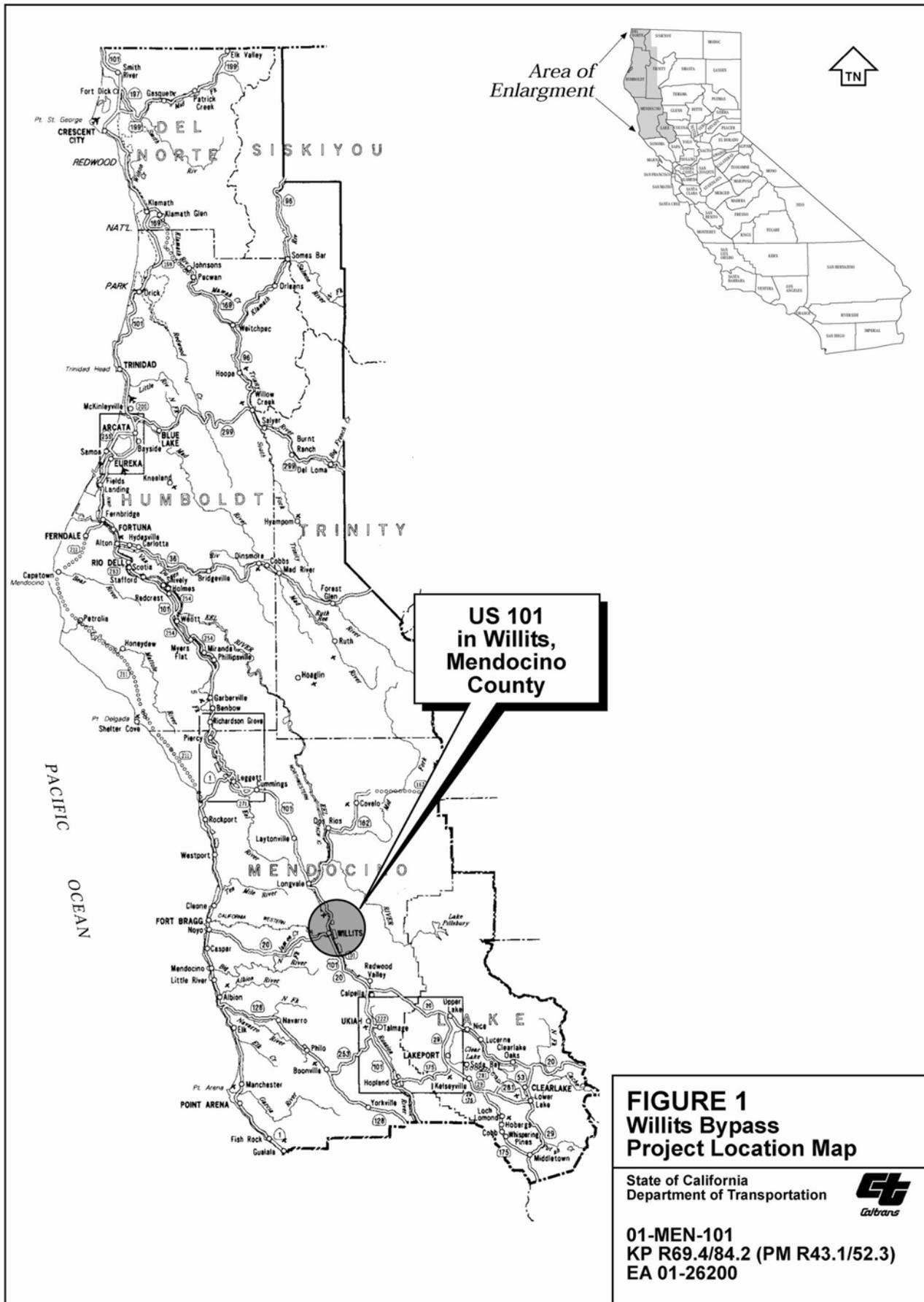
## 2. PROJECT PURPOSE AND NEED

The following is a brief description of the project purpose and need to assist the reader in reviewing this document. It is not intended to replace the Project Purpose and Need discussion provided in the Final EIS/EIR. For a full discussion of the project Purpose and Need, please refer to Volume 3, Chapter 2 of the FEIS/EIR, which can be found at:

<http://www.dot.ca.gov/dist1/d1projects/willits/reports.feir.htm>.

The proposed U.S. 101 bypass is located in and near the City of Willits in Mendocino County (Figure 1). U.S. 101 is an important route for interstate and inter-regional travel and is considered the economic lifeline of California's North Coast. It is the principal arterial route for people and goods between the San Francisco Bay Area and the greater Eureka-Arcata area. Travel times and the costs of transporting goods to and from the communities along U.S.101 are significant. These costs are exacerbated by congestion-related delays where U.S. 101 passes through developed areas on surface streets. The segment of U.S. 101 in Willits is an example of this type of facility. U.S. 101 serves as Main Street in Willits and is the only continuous north-south street traversing the city. U.S. 101 must accommodate nearly all local traffic traversing Willits, as well as all inter-regional traffic.

The purpose of the bypass project is to bypass the City of Willits to reduce delays, improve safety, and achieve a minimum level of service (LOS) "C" for inter-regional traffic on U.S. 101 within the project area through the 20-year design period.



**FIGURE 1**  
**Willits Bypass**  
**Project Location Map**

State of California  
 Department of Transportation



01-MEN-101  
 KP R69.4/84.2 (PM R43.1/52.3)  
 EA 01-26200

### 3. PROJECT DESCRIPTION

The following is a brief description of the proposed U.S. 101 highway bypass to assist the reader in reviewing this document. It is not intended to replace the project description provided in the FEIS/EIR. For a full discussion of the Project Description, refer to Chapter 2 of the 2006 FEIS/EIR.

The Modified Alternative JIT has been identified as the Least Environmentally Damaging Practicable Alternative (LEDPA) and has been selected as the Preferred Alternative. This Supplemental EIR and the mitigation measures discussed herein are consistent with such a selection.

Based on input from the community and the resource agencies, as well as on engineering and environmental analyses, Modified Alternative JIT had been identified as the Preferred Alternative for the proposed Willits Bypass project. In accordance with Section 404(b)(1) of the Clean Water Act, a Final Alternatives Analysis (FAA), which compared the alternatives considered in the Draft EIS/EIR, was completed in April 2005. As a result of the FAA, Modified Alternative JIT was identified as the Least Environmentally Damaging Practicable Alternative (LEDPA) for the proposed project. Modified Alternative JIT was determined to be the LEDPA/Preferred Alternative because it would have the least overall impact to the natural and community resources, while still meeting the purpose and need for the project. Qualitatively, there would be at least one alignment (E3) that would not impact the NCSG. However, numerous other issues were involved in selecting the LEDPA over the other alternatives. The other alternatives - valley alignments (as discussed in the EIS/EIR) convergence to the northern interchange would likely impact semaphore or had other considerations that made them infeasible to the community. The factual determinations in the Final Alternatives Analysis demonstrate the following:

E3 would have substantial impacts to salmonids beyond those of any valley alternative. It would result in the largest impact to Spotted Owl foraging habitat, the highest potential for water quality degradation, displace 133 home and businesses, affect the most archaeological sites and the most Williamson Act contract farmland, and impact the most upland/foothill habitats. The alignment also had raised concerns over potential growth inducing impacts. And E3 was not considered to be practicable because of its high cost.

CIT and L/C alternatives would have required extensive creek realignments. These alignments also extended the furthest to the east in the Little Lake Valley, resulting in more impacts to resources and greater habitat fragmentation.

Alternative J1T had the fewest wetland impacts. However, this alternative impacted a business park and a regional park recreation complex. Language in the alternative analysis stated that feasible mitigation could not be provided to reduce or compensate for the impacts to the business park and Section 4(f) resource.

Modified Alternative J1T was chosen as the LEDPA because it resulted in the least overall environmental harm. The Draft Alternatives Analysis identified Alternatives J1T and LT as potential candidates for the LEDPA; however, it became necessary to develop a modification that incorporated portions of these two alternatives (Modified Alternative J1T ) in order to avoid important community and biological resources. The Modified Alternative J1T had comparable wetlands impacts to those of Alternative J1T, but it avoided the important community resources that Alternative J1T would have otherwise affected. Modified Alternative J1T affected fewer wetlands than Alternative LT and avoided a large stand of valley oak riparian woodland. Impacts to NCSG for LT and Modified J1T would have been the same.

The Modified Alternative J1T will traverse the Little Lake Valley just east of the town of Willits. The alignment will begin approximately 1.3 km (0.8 mi) south of the Haehl Overhead and will end approximately 2.9 km (1.9 mi) south of Reynolds Highway where it will tie back in to existing U.S. 101 (Figure 2).

The bypass facility will consist of two interchanges, several bridge structures, three retaining walls, and a floodway viaduct. The bypass is designed to accommodate the predicted average annual daily interregional traffic (AADT) in 2028 at a Level of Service (LOS) of “C” or better. While a two-lane interim facility will be constructed initially, the ultimate facility will be a 4-lane freeway with a 45-ft (13.8 m) median separating the northbound and southbound lanes. Each lane will be 12 ft (3.6 m) wide. The inside shoulder width (nearest the median) will be 5 ft (1.5 m) while the outside shoulder width will be 10 ft (3.0 m). The freeway sections will maintain a minimum design speed of 68 mph (110 kph) and will meet the purpose of providing a LOS of C. Where local roads will be improved or constructed, there will be two 12-ft lanes and shoulder width meeting local design standards.



## 4. BIOLOGICAL RESOURCES

### 4.1 IMPACTS TO SPECIAL STATUS PLANTS

The October 2006 Final EIR disclosed that impacts to special status plants were significant prior to mitigation and less than significant after mitigation; however, at that time, ~~North Coast Semaphore Grass~~NCSG had not been identified in the project area. The purpose of this Supplemental EIR is to disclose impacts and mitigation pertaining to ~~North Coast semaphore grass~~NCSG.

Caltrans submitted an Incidental Take Permit (ITP) Application to the California Department of Fish and Game (CDFG) on March 1, 2010, to address the potential take of southern Oregon/northern California coho salmon evolutionarily significant unit (*Oncorhynchus kisutch*) and North Coast semaphore grass (*Pleuropogon hooverianus*) from implementation of the Willits Bypass Project in Mendocino County, California. These two species are listed under Section 2081(b) of the California Endangered Species Act (CESA). As part of the submittal of the ITP application, CDFG requested that Caltrans collect additional information on the abundance of NCSG populations in Little Lake Valley and at other NCSG population occurrences outside of Little Lake Valley. General site characterization information was also collected for NCSG occurrences (e.g., vegetation, soil, and hydrology conditions). This survey was completed in March 2010 and presented in a technical memorandum (ICF International 2010).

#### 4.1.1 North Coast Semaphore Grass

North Coast semaphore grass (*Pleuropogon hooverianus*) is listed by the State of California as a threatened species and is a federal species of concern. It is also a California Native Plant Society (CNPS) List 1B.1 species (Plants Rare, Threatened, or Endangered in California or Elsewhere). Both CNPS and ~~the California Department of Fish and Game (CDFG)~~ consider the species to be seriously threatened in California. North Coast semaphore grass (NCSG) is known only from a few occurrences in Mendocino, Sonoma, and Marin counties. Suitable habitat for ~~North Coast semaphore grass~~NCSG consists of partially- to fully-shaded mesic (wet) sites that occur at forest and woodland edges, and it blooms from April through August. Per CDFG's Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities, a floristically-based plant survey was conducted during the flowering seasons of 2005 and 2006. ~~North Coast semaphore grass~~NCSG was not identified during the protocol surveys at that time, and the presence of this special status plant within the project area was not reported in the FEIS/EIR. Additional plant surveys were conducted for recent minor revisions to the bypass alignment at which time a population of ~~North Coast semaphore~~

~~grass~~NCSG was identified within the project limits. As originally reported in the draft SEIR, ~~T~~he mapped population of NCSG occurred ~~s~~ on two parcels within and adjacent to the bypass alignment, totaling approximately 1.06 acres.

~~It has been determined that the bypass will~~Early projections indicated that the bypass might permanently impact 0.66 acres and temporarily impact 0.02 acres of ~~North Coast semaphore~~ ~~grass~~NCSG (a total of 0.68 acres of impacts). Potential indirect impacts to the remaining 0.38 acres of this species could occur in the form of habitat fragmentation or habitat degradation due to changes in drainage patterns and hydrology. Due to the limited distribution and few known occurrences of ~~North Coast semaphore~~ ~~grass~~NCSG, the impacts to this species ~~are~~ ~~were~~ considered significant.

NCSG abundance surveys conducted in March 2010 confirmed that construction of the project will affect only one of the known occurrences of NCSG (Occurrence 32). In addition, the March 2010 abundance surveys determined that approximately 1.528 acres of NCSG habitat, supporting 9,254 plants, is present at Occurrence 32. By comparing the distribution of these existing populations based on the March 2010 surveys with the project alignment described in the 2006 FEIS/EIR, Caltrans determined that Project construction will directly affect a total of 0.401 acre of NCSG habitat, resulting in the loss of 2,826 plants. Direct impacts include a permanent loss of 0.386 acre (2,798 plants) and a temporary loss of 0.015 acre (28 plants) of NCSG habitat. This is less than the 0.68 acre of direct permanent and temporary impacts reported in the draft Supplemental Environmental Impact Report. Although fill placed as part of roadway construction has the potential to indirectly affect the remaining 1.127 acres (1.528 acres minus 0.401 acre) of NCSG habitat supporting 6,428 plants (9,254 minus 2,826 plants), two cross culverts will be included in the roadway embankment where the bypass alignment impacts Occurrence 32 to maintain surface hydrology in the vicinity of the adjacent NCSG populations. By maintaining surface hydrology at Occurrence 32, Caltrans expects to minimize the potential for indirect impacts to occur on the remaining population not directly affected by project construction. In addition, design-related avoidance and minimization measures have been included to capture roadway runoff and avoid discharging polluted runoff into adjacent NCSG habitat to further reduce the potential for indirect effects on the remaining NCSG habitat (ICF International, March 2010).

The draft SEIR proposed a 5:1 ratio based on preliminary discussions with CDFG and USFWS. Based on ongoing discussions with CDFG and USFWS, Caltrans is implementing studies to provide additional information on NCSG (please see Response 1). Based on the results of these studies, the ratio was increased to approximately 12.7:1 (5.094 acres preserved to 0.401 acre affected) while direct impacts on the species (0.401 acre) are lower than what was evaluated in the draft SEIR (0.68 acre). The mitigation ratio of 12.7:1 was based on the amount of available occupied habitat (5.094 acres) within preserves divided by the affected acreage (0.401).

As part of mitigation actions, Occurrences 30, 32 (a portion of), 33, and NEW will be placed in preserves. Occurrence NEW was identified in February 2010 and has not yet been reported in the CNNDDB. A total of 5.094 acres of NCSG habitat has been identified at these preserves, which represents 71% (5.094 out of 7.174 acres) of the known NCSG habitat in Little Lake Valley.

Most of the existing known occurrences of NCSG in Little Lake Valley may not be affected by the project. Of the 7.174 acres (93,142 of plants) of NCSG habitat in Little Lake Valley, approximately 0.401 acre, or 5.6% of the total NCSG habitat in Little Lake Valley, supporting 2,826 plants, will be directly affected. When extrapolated beyond Little Lake Valley to the species' full range, slightly less than 5% (0.401acre out of 8.086 acres) of NCSG habitat will be affected by the project. In the absence of mitigation, the loss of up to 5% of NCSG habitat (2,826 plants on 0.401acre) within NCSG's range potentially could have a substantial impact on the species.

In an effort to understand potential cumulative impacts to ~~North Coast semaphore grass~~NCSG, a search of the CEQAnet database was conducted to identify additional projects in the Willits area where ~~North Coast semaphore grass~~NCSG occurrences may be impacted. Several projects were identified; however most projects were exempt or were not located in areas where ~~North Coast semaphore grass~~NCSG is likely to be affected. The only **reasonably foreseeable** project in which impacts to ~~North Coast semaphore grass~~NCSG could occur is the *Willits Wastewater Treatment Plant Expansion Project*; however, according to the environmental document for that project, the species was not identified in the project area. No other current or proposed projects in the Willits vicinity were identified that could impact ~~North Coast semaphore grass~~NCSG. Consultation with CDFG indicated that the CDFG is not aware of any pending incidental take authorizations for ~~North Coast semaphore grass~~NCSG (C. Martz, pers. comm. Nov. 2009).

## 4.2 MITIGATION MEASURES

Caltrans has been working closely with the CDFG to develop appropriate mitigation for ~~North Coast semaphore grass~~NCSG, pursuant to the California Environmental Quality Act (CEQA) Sections 15065 and 15126.4. An incidental take permit (ITP) will be obtained from CDFG pursuant to Fish and Game Code §2081(b) prior to beginning construction on the bypass. **Caltrans applied for the ITP in March 2010.** In order to issue the permit, CDFG will need to determine that impacts to the species have been minimized and fully mitigated, and that all mitigation measures are capable of being implemented.

Impacts to ~~North Coast semaphore grass~~NCSG will be mitigated, as with Baker's meadowfoam, primarily through off-site preservation and enhancement of existing populations and habitat. However, measures will also be taken to minimize direct and indirect impacts to the affected

population and to protect and restore the remaining portions of the population within the right-of-way. ~~Environmentally Sensitive Area (ESA) fencing will be identified on the project plans and installed prior to construction to protect the remaining plants and habitat from inadvertent disturbance. To ensure no unique genetic material is lost, seed from the population will be collected prior to construction and sponsored with a participating institution as an accession to the Center for Plant Conservation's National Collection of Endangered Plants. A portion of the seed collected will be reserved for propagation and outplanting to the adjacent suitable habitat within the right-of-way. Individual mature plants will also be salvaged from the impact area and reestablished within these areas where feasible.~~

~~A total of 6.2 acres of North Coast semaphore grass populations has been identified among the available candidate mitigation parcels for which options to purchase have been already obtained; therefore, extant semaphore grass populations are adequately available within the Little Lake Valley to achieve a similar mitigation ratio as that of Baker's Meadowfoam, which is being preserved at a 5:1 ratio. North Coast semaphore grass preservation sites will be acquired in fee within the Little Lake Valley, and an endowment will be established to sustain a long term restoration and management program. The North Coast semaphore grass preserves will be maintained and managed in perpetuity as habitat for the species, as specified in the preservation easement to be developed for the properties. Compliance with the terms and conditions of the incidental take permit will ensure that the direct and indirect impacts to North Coast semaphore grass will be less than significant after mitigation.~~

~~No other special status plants are expected to be identified within the project area; however, should any additional special status plants be identified, mitigation would be implemented in a similar manner as described here.~~

The information presented below discusses the avoidance and minimization measures that have been incorporated into the project description to reduce or eliminate environmental impacts on NCSG and its habitat from construction of the project. These avoidance and minimization measures have been incorporated into project design and construction subsequent to the approval of the final EIS/EIR to further reduce environmental impacts. Avoidance and minimization measures related to project design and construction for the overall project are described first, followed by avoidance and minimization measures related to project design and construction and specifically addressing NCSG (e.g., seed collection, transplantation from the impact site to adjacent habitat outside of the bypass alignment). Mitigation efforts for NCSG (i.e., preservation and management of NCSG habitat) are then described.

#### Design Avoidance and Minimization Measures

- The highway median width was decreased from 61 feet to 45 feet to reduce the construction footprint and environmental effects of the project. The narrower median will result in less impact on NCSG plants and habitat.
- Surface hydrology will be maintained at the impact site (Occurrence 32). Under existing (pre-project) conditions, surface water flows across the parcel from south to north. These surface flows are fed by direct precipitation and from overflow from an adjacent lumber mill. Surface flow is also increased from high flows that overtop Mill Creek. The overflow from Mill Creek sheet flows across the parcel, is contained by existing berms, or is concentrated in existing ditches. As the water flows across the parcel it is impounded by the tree-line at the northern edge of the parcel where it evaporates, infiltrates into the ground, or flows on to Mill Creek (if the water level is high enough). To maintain this surface hydrology, Caltrans will install two cross culverts through the highway embankment. One culvert will route flow that would have been impounded at the tree-line and directs it into a ditch along the embankment and then into a cross culvert that allows flows to spread out and again be impounded by the tree-line. A second culvert will route flow that is concentrated in the existing ditch along the eastern edge of the railroad tracks through a culvert under the embankment and back into the existing ditch.
- Roadway runoff will be captured to avoid discharge into adjacent NCSG populations. Two culverts will route precipitation falling on the roadway which will then be concentrated by dikes into a modified drain inlet (DI) for sand removal. The DI is designed to reduce sand and other solids into the drainage system. The drainage system will then discharge to a bioswale that treats the runoff to meet the stormwater treatment levels established for the bypass project by the North Coast Water Control Board. After this water is combined with water collected in the embankment ditch along the southern side of the embankment, it will ultimately flow to the previously mentioned drainage system.
- The embankment width at the impact site has been reduced. The Northwestern Pacific Railway agreed to a nonstandard vertical clearance during project construction that allowed falsework height to be reduced. Based on the reduced vertical clearance, the roadway profile was lowered by approximately 6 feet at the crossing. Lowering the height of the 1:2 sideslopes for the embankment resulted in reducing the embankment width by approximately 12 feet on each side, or 24 feet total. In addition, the slope rounding at the foot of the embankment was eliminated, resulting in an additional 9 feet on each side versus the original design concept.

In addition to the design avoidance and minimization measures described above, Caltrans also investigated other design-related avoidance and minimization that were determined not to be

feasible. These infeasible design-related avoidance and minimization measures are explained below:

- Extending the viaduct over the parcel supporting the impacted NCSG population would cost approximately \$9 million more than the current design of the viaduct, which ends roughly at the parcel supporting Occurrence 32. However, the reasons for not extending the viaduct go beyond the increase in costs. The current design calls for a constant width ultimate southbound bridge. But immediately north of the viaduct the roadway begins to widen to accommodate the southbound on-ramp taper. As a result, any extension of the viaduct would involve a varying structure width, complicating the construction. More importantly, viaduct construction requires width outside the extent of the finished structures for haul road, material staging, and equipment operating areas. Fifty-five feet to the left and 100 feet to the right of the viaducts are allowed to provide room for these functions. The catch line for the proposed embankment is in the range of 66 to 72 feet from the edge of pavement so the area impacted by the embankment is actually less than the area that would be impacted during construction of the viaduct.
- Reducing the width of the embankment through the use of a retaining wall also is problematic because of the elevated height of the roadway across the parcel supporting Occurrence 32 (retaining walls would need to be approximately 33 feet in height). In addition, the underlying soils in which the walls would be constructed are very compressible and therefore piles to support the walls would need to be very deep. Lastly, because of the nature of the underlying geology, the embankment would need to be constructed before the wall is constructed. After a suitable settlement period, the embankment would have to be cut back to the wall location and then the wall would be constructed. This construction process is necessary to prevent the settling soil from creating a downward on the wall, which could cause the wall to fail. Therefore, the construction process to erect retaining walls would impact the same area as the proposed embankment.

#### Construction and Post-Construction Avoidance and Minimization Measures

- Seed collection. Boundaries of the impacted NCSG population will be identified in the field when the plants are in bloom and most evident and identifiable (April–May). If the area is still being actively grazed, livestock exclusion fencing may be necessary prior to the blooming period to identify and protect the population until the seeds are mature. When a botanist experienced with NCSG has determined that the seeds have matured, the seeds will be collected. The seeds and chaff will be stripped from the stems by hand and material placed in paper bags. Pin flags or equivalent field markers will be placed to identify locations of future transplant material (rhizomes). Seeds will be collected several times at regular intervals, as determined by the botanist, to allow for natural variation in seed set and

development. The seed materials will be allowed to dry for at least a week and then will be stored in paper bags at cool temperatures. The bags will be labeled to identify the species, collection location, and collection date. The collected seed will be stored to be sowed at the transplantation locations; provided to a plant nursery experienced in native grass propagation (propagated plants will be used for additional future planting adjacent to the project alignment); and provided to a germplasm conservation bank. Caltrans will coordinate with CDFG and USFWS to determine, based on the amount of seed material collected, how the seed material will be distributed between these three efforts.

- **Transplantation.** After seeds have been collected from the impacted population, viable rhizomes will be excavated and transplanted in fall 2010 to locations adjacent to the project alignment that will not be affected by project construction. The transplantation of the rhizomes will be overseen by a botanist experienced with NCSG and native grass restoration. The botanist will demarcate the transplantation locations based on soil and hydrology monitoring. The transplant locations will be recorded using GPS data recorders to facilitate future monitoring of the transplants and to identify the location where ESA fencing will be installed prior to the start of project construction.
- **ESA Fencing.** NCSG habitat within the right-of-way (R/W) that can be avoided will be protected by ESA fencing during bypass project construction activities. Protective fencing will consist of orange plastic-mesh fencing that is secured to metal T-posts, and will be installed in accordance with the construction documents.

Information on the phenology of NCSG is limited. To address this data gap, Caltrans is undertaking a 2-year study in coordination with the California Department of Fish and Game and the US Fish and Wildlife Service to determine how site conditions, such as soil texture, soil moisture, soil temperature, groundwater, canopy cover, and land uses influence the establishment and growth of NCSG. Initial results from this study will be used to identify the highest quality sites for NCSG transplantation in an effort to improve transplantation success.

- **Documentation of onsite transplantation locations.** To protect NCSG against future unnecessary disturbance from highway maintenance activities, the plant will be added to Caltrans' District 1 ESA database. This database informs Caltrans staff, such as maintenance personnel, of sensitive resources present within Caltrans' R/W. Caltrans will also place ESA paddles within the R/W as a means of identification for Caltrans maintenance staff.

### Mitigation Efforts

- Mitigation for project effects on NCSG will include preserving portions of four existing occurrences (i.e., Occurrences 30, 32, 33, and NEW) located on Caltrans-owned parcels in Little Lake Valley. A total of 5.094 acres of occupied NCSG habitat has been identified on these offsite mitigation parcels. Therefore, extant NCSG populations are adequately available within the Little Lake Valley to achieve a mitigation ratio of approximately 12.7:1 (5.094 acres preserved to 0.401 acre affected). Caltrans has acquired in fee the NCSG offsite mitigation parcels from willing sellers. These offsite mitigation parcels will be maintained and managed in perpetuity as habitat for NCSG, to be specified in conservation easements to be developed for the parcels. Caltrans will be preparing long-term management plans/grazing management plans to ensure NCSG habitat is protected and maintained, subject to approval by CDFG and other stakeholder resource agencies.
- In addition to preserving NCSG at the offsite mitigation parcels, Caltrans will also mitigate for bypass project effects on NCSG by actively managing the preserves to attempt to expand the populations. Advanced habitat characterization efforts are currently underway as part of a 2-year study to determine how the physical (i.e., soils and hydrology) and biological (e.g., associated plant species) environment influences the success of the species; these data will help inform expansion efforts at the offsite mitigation parcels.

No other special status plants are expected to be identified within the project area; however, should any additional special status plants be identified, mitigation would be implemented in a similar manner as described here.

## 5. PUBLIC REVIEW AND COMMENTS ON THIS DOCUMENT

~~The public is provided a 45-day review period of this Draft Supplemental EIR beginning the day the Notice of Availability is published in the Federal Register. Reviewers are requested to limit their comments to only information provided in this Draft Supplemental EIR. Comments received on information provided in this Draft Supplemental EIR will be responded to and published in the Final Supplemental EIR. The public is requested to send comments to:~~

~~Jeremy Ketchum, Senior Environmental Planner  
California Department of Transportation  
North Region Environmental Branch  
2800 Gateway Oaks Dr. (MS-19)  
Sacramento, CA 95833~~

~~An additional public hearing for this Draft Supplemental EIR is not required or planned at this time; however, a public hearing may be held if sufficient public interest warrants it.~~

The 45-day public review period for the Draft Supplemental EIR ended on January 10, 2010. Overall, Caltrans received one comment email and four comment letters. Appendix A includes all public comments. Appendix B includes the responses to comment.

## 6. CONTRIBUTORS

Sarah M. Allred, Associate Environmental Planner. B.A. Anthropology, California State University, Sacramento. 19 years experience in cultural resource management and environmental analysis. *Project Environmental Coordinator and Draft Supplemental EIR Preparer.*

Jeremy Ketchum, Senior Environmental Planner. B.S. Environmental Policy Analysis and Planning, University of California, Davis; M.S. Transportation Management, San Jose State University. 10 years experience preparing CEQA and NEPA documents. *Chief, Environmental Branch, SI.*

Ken Lastufka, Associate Environmental Planner. M.A. Urban Studies and B.A. Environmental Studies, California State University, Sacramento. Over 25 years experience in environmental coordination, analysis, and document preparation. *Project Environmental Coordinator and Supplemental EIR Preparer.*

Jason Meigs, Associate Environmental Planner (Natural Sciences). B.S. in Environmental Studies, California State University, Sacramento; 12 years professional experience in biological resource analysis and management. *Project Biologist.*

## 7. TECHNICAL STUDIES

### Caltrans

- 2009 Technical Memorandum for the Presence of North Coast semaphore grass within the Willits Bypass Study Area. Prepared by Jason Meigs.

### ICF International

- 2010 Technical Memorandum: Supplemental Data Requested in Support of Incidental Take Permit Application (dated March 1, 2010).

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## **APPENDICES**

Appendix A: Comments Received on SEIR

Appendix B: Response to Comments

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## **Appendix A: Comments Received on SEIR**

The following list of individuals, agencies, and organizations provided comments on the Draft Supplemental Final Environmental Impact Report (SEIR) for the Willits Bypass project in written form by letters and emails sent directly to Caltrans during the 45-day public circulation period required for the SEIR. Overall, Caltrans received 1 email and 4 letters.

### **Email Comments:**

- Geri Hulse-Stephens

### **Letter Comments:**

- California Native Plant Society
- Joseph Oslund
- Barbara Sicard
- California Native Grasslands Association

# California Native Plant Society

North Coast Chapter  
P.O. Box 1067  
Arcata, CA 95518  
January 15, 2010

Jeremy Ketchum, Senior Environmental Planner  
California Department of Transportation  
North Region Environmental Branch  
2800 Gateway Oaks Dr. (MS-19)  
Sacramento, CA 95833

Re: Draft Supplemental Environmental Impact Report for Construction and Operation of a Freeway Bypass on US 101 around the City of Willits in Mendocino County, California

Dear Mr. Ketchum:

Thank you for the opportunity to comment on the State Department of Transportation Willits Bypass Draft Supplemental Environmental Impact Report (Supplemental DEIR).

I am writing this letter on behalf of the North Coast Chapter of the California Native Plant Society (CNPS). CNPS is a nonprofit organization of nearly 10,000 amateurs and professionals dedicated to the preservation of California's diverse native flora. CNPS conducts a variety of conservation efforts focused on long-term protection and preservation of native flora in its natural habitat, and is the foremost non-governmental organization working to protect rare, threatened, and endangered plants in California. The North Coast Chapter is based in Arcata and represents approximately 300 members.

North Coast semaphore grass (*Pleuropogon hooverianus*) is listed by the State of California as a Threatened species and is a federal species of concern. It is also a California Native Plant Society (CNPS) List 1B.1 species (Plants Rare, Threatened, or Endangered in California or Elsewhere). Both CNPS and the California Department of Fish and Game (CDFG) consider the species to be seriously threatened in California. North Coast semaphore grass is known only from a few occurrences in Mendocino, Sonoma, and Marin counties. Suitable habitat for North Coast semaphore grass consists of partially- to fully-shaded mesic (wet) sites that occur at forest and woodland edges, suggesting that preventing hydrologic disruption is paramount to the long-term preservation of this species.

It has been determined that the bypass will permanently impact 0.66 acres and temporarily impact 0.02 acres of North Coast semaphore grass (a total of 0.68 acres of impacts). Potential indirect impacts to the remaining 0.38 acres of this species could occur in the form of habitat fragmentation or habitat degradation due to changes in drainage patterns and hydrology. Due to the limited distribution and few known occurrences of North Coast semaphore grass, the impacts to this species are considered significant.



*Dedicated to the preservation of California native Flora*

**Incomplete Disclosure**

The SDEIR fails to disclose important information that should be available to the public and agency reviewers to enable a meaningful analysis of proposed mitigation. The SDEIR should include a detailed characterization of the semaphore grass habitat that will be impacted, including habitat quality, structure, and composition; population size and density; soil characteristics and site hydrology, put in the context of all known sites and populations, and in the context of the proposed mitigation habitat and populations; population numbers (how many plants will be preserved, avoided and impacted?); habitat quality of preserved, protected and impacted areas (are habitats similar in type and population densities?); associated species (are habitats native or non-native dominated?); and other key habitat or life history characteristics.

1

**Inadequate Mitigation Measures**

According to the SDEIR, Caltrans has been working closely with the California Department of Fish and Game (CDFG) to develop appropriate mitigation for North Coast semaphore grass, pursuant to the California Environmental Quality Act (CEQA) Sections 15065 and 15126.4. An incidental take permit will be obtained from CDFG pursuant to Fish and Game Code §2081(b) prior to beginning construction on the bypass. In order to issue the permit, CDFG will need to determine that impacts to the species have been minimized and fully mitigated, and that all mitigation measures are capable of being implemented. *“Impacts to North Coast semaphore grass will be mitigated...primarily through off-site preservation and enhancement of existing populations and habitat.”* (page 6). The requirements of the take permit should be determined and disclosed for public review and comment in a recirculated SDEIR.

2

According to the SDEIR, *“Impacts to North Coast semaphore grass will be considered less than significant after mitigation”* (page 1). However, CNPS and other rare plant experts do not consider transplantation to be an acceptable mitigation since it is rarely effective. These types of preservation and mitigation measures are untried therefore success unknown. If transplantation is to be considered as a mitigation measure, it is critical that the project include a schedule for ongoing monitoring and adaptive management. In many cases it may takes several decades to determine if an introduced rare plant population succeeds, and reproduction in the newly established population is an essentially component of defining “success.”

3

**Hydrology**

Indirect impacts due to habitat fragmentation or habitat degradation resulting from changes in drainage patterns, soil moisture, and hydrology are of particular concern with this species and this project. Impermeable surfaces, management of the right-of-way vegetation and surface runoff, and other activities related to highway construction should be disclosed and potential impacts to adjacent semaphore grass habitat assessed and fully mitigated. Of critical importance is to begin continuous hydrological monitoring in the right-of-way, in both occupied and proposed transplant sites, to help determine its habitat requirements and predict where seed and/or transplants are most likely to survive in the long-term. This should be done in conjunction with botanical experts with specific knowledge of North Coast semaphore grass.

4

**Avoidance**

Ultimately, avoidance is the most appropriate means of protection for a state-listed Threatened plant species with so few known occurrences. Attempting to manage existing populations, transplantation to establish new populations, and protecting roadside populations are all untested and cannot be considered reliable mitigation measures.

5

**Inadequate Alternatives Assessment**

The SDEIR findings provide no substantive analysis of project alternatives that address other feasible options. The SDEIR should consider alternatives and adopt the least environmentally damaging feasible alternative pursuant to the requirements of the California Environmental Quality Act (CEQA). Recirculation of the SDEIR should follow once an adequate alternatives analysis is conducted. It is unfortunate that presence of this species was discovered so late in the planning process, but that does not relieve the agency of its duty to conduct a thorough alternatives assessment that could potentially avoid impacts to North Coast semaphore grass.

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We appreciate the opportunity to comment on the State Department of Transportation Willits Bypass Draft Supplemental Environmental Impact Report (Supplemental DEIR). Please keep us informed of future opportunities for public review and comment on this project, using the above address.

Respectfully,



Jennifer Kalt, Conservation Chair  
North Coast Chapter, California Native Plant Society  
[jkalt@asis.com](mailto:jkalt@asis.com)

Cc:

Scott Greacen, Environmental Protection Information Center  
Peter Warner, Sanhedrin Chapter, California Native Plant Society  
David Amme, California Native Grasslands Association  
Craig Martz, California Department of Fish and Game  
David Imper, U.S. Fish and Wildlife Service

Geri Hulse-Stephens  
915 East Hill Road  
Willits, CA 95490  
January 15, 2010

Jeremy Ketchum  
Office of Environmental Management S-1  
California Department of Transportation  
2800 Gateway Oaks Drive  
Sacramento, CA 95833

**Willits Bypass Supplemental EIR public comment**

Dear Jeremy,

I have reviewed the SEIR and wish to make a few comments. The general information concerning the phenology of Hoover's semaphore grass (*Pleuropogon hooverianus*) (NCSG) is not accurate for Little Lake Valley nor is the habitat completely correct based on my observations. My records show the blooming time of NCSG to be much narrower and that is an important factor in successfully gathering seed. I have observed it to be blooming in late May and very difficult to identify in early May due to its similarity to *Pleuropogon californicus*. It disarticulates rapidly after seed set and therefore the window for gathering seed is narrow and will take special attention based on the particular wetness of the spring. Also the habitat described in the report is accurate for some of the populations in Little Lake Valley however it is important to broaden that description as large populations have been observed in open sunny sites more than fifty feet beyond the shaded canopy. It is also found in the shaded conditions you describe as well but seeds from both locales should be collected in hopes of capturing a range of tolerances.

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The maintenance and management of the mitigation sites will require efforts to manage in the ways that have favored the persistence of these plants. Simply preserving them may be detrimental to them without an adequate introduction of practices that favor NCSG and discourage weedy competitors. The population that will be removed by freeway construction has been annually hayed and cows set out on it after the haying. This seems to favor this robust population.

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I suggest that a study be conducted of the soils and hydrology of the take area in order to successfully relocate these plants.

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Sincerely  
Geri Hulse-Stephens

DECEMBER 4, 2009

DEAR CALTRANS:

THIS IS A COMMENT ABOUT YOUR "DRAFT SUPPLEMENTAL EIR" FOR THE WILLITS BYPASS. I HAVE NOT TAKEN THE TIME TO READ THE SUPPLEMENTAL, NOR DO I CARE TO. APPARENTLY IT HAS SOMETHING TO DO WITH THE IMPACTS OF THE BYPASS ON 'SEMAPHORE GRASS', OR SOMETHING LIKE THAT.

I THINK BACK TO AN OLD ADAGE: THERE ARE TIMES TO WORRY ABOUT THE GRASS AND THEN THERE ARE TIMES TO BUILD A ROAD. NOW IS THE TIME TO BUILD THE DAMN ROAD.

HIGHWAY 101 GOES STRAIGHT THROUGH THE MIDDLE OF MY TOWN - IT'S AN INCREDIBLE DANGER TO PEDESTRIANS, MOTORISTS, CYCLISTS - IT'S A DANGER TO MY COMMUNITY THAT NEEDS TO GO AWAY. WHEN SOME POOR KID GETS HIT BY A SOUTHBOUND SEMI, THE LAST THING ON ANYBODY'S MIND IS GOING TO BE FLEUROPOFON HOOVERIANUS.

THIS TOWN HAS WAITED LONG ENOUGH FOR THIS ROAD. NEARLY HALF A CENTURY, PROBABLY MORE. PLEASE RIP UP THE SEMAPHORE GRASS AND BUILD US A HIGHWAY, BEFORE SOMEONE I LOVE GETS ~~NO~~ HURT. STOP THE MADNESS.

- JOSEPH OSLOWD  
WILLITS, CALIF.

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96 Muir Lane  
Willits, CA 95482  
December 13, 2009

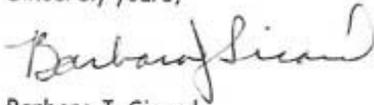
Mr. Jeremy Ketchum  
California Department of Transportation  
Office of Environmental Management  
2800 Gateway Oaks Drive  
Sacramento, CA 95833

Dear Mr. Ketchum:

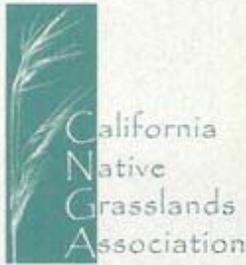
Your office sent me a Public Notice regarding the Willits Bypass, and here is my opinion. Many people in Willits, including myself, believe this has taken much too long. You took out the access to and from the planned freeway at Commercial Street and at Highway 20, and in that way it is a poorly designed plan. The cost is astronomical (and will only get worse).

However, we need the bypass before we all die of the fumes from the traffic which is backed up through the entire town, for extended periods of time at least twice a day. More than ferns will be dead, and you open yourself up to lawsuits from people whose health is impacted by your delays in construction. So, you all should get it together, begin work immediately, early in the year 2010, and in general, stop dilly-dallying. We know this bypass will never happen if you don't do it now.

Sincerely yours,



Barbara J. Sicard



P.O. Box 8327  
Woodland, CA 95776

Phone/Fax 530.661.2280

www.cnga.org  
admin@cnga.org

The mission of the California Native Grasslands Association is to promote, preserve, and restore the diversity of California's native grasses and grassland ecosystems through education, advocacy, research, and stewardship.

January 12, 2010

Jeremy Ketchum, Senior Environmental Planner  
California Department of Transportation  
North Region Environmental Branch  
2800 Gateway Oaks Dr. (MS-19)  
Sacramento, CA 95833

**RE: Comment Letter on Draft Supplemental Environmental Impact Report, Construction and Operation of a Freeway Bypass on US 101 around the City of Willits in Mendocino County, California, from KP R69.4 to KP 84.2 (PM R43.1/52.3)**

Dear Mr. Ketchum:

Thank you for the opportunity to comment on the State Department of Transportation Willits Bypass Draft Supplemental Environmental Impact Report (Supplemental DEIR).

The California Native Grasslands Association (CNPS) is a statewide non-profit organization that promotes, preserves, and restores the diversity of California's native grasses and grassland ecosystems through education, advocacy, research, and stewardship.

Caltrans has determined that the J1T route is the Preferred Alternative among the other alternatives reviewed in the Final EIR. To follow the J1T route, the Supplemental DEIR states that North Coast semaphore grass (NCSG), a species considered seriously threatened by the California Native Plant Society and the California Department of Fish and Game (CDFG), will be permanently impacted on 0.66 acres, temporarily impacted on 0.02 acres, and have potential indirect impacts to the remaining 0.38 acres (in the form of habitat fragmentation and habitat degradation due to changes in drainage patterns and hydrology).

Caltrans proposes to obtain an "incidental take" permit from CDFG if the agency determines that "impacts to the species have been (A) minimized and (B) fully mitigated, and (C) that all mitigation measures are capable of being implemented."

On the Bypass construction site, Caltrans proposes essentially to avoid or mitigate for North Coast semaphore grass as follows (*Supplemental DEIR page 6*):

- *Off-site preservation and enhancement of existing populations and habitat,*
- *Environmentally Sensitive Area (ESA) fencing,*

- Seed from the population will be collected prior to construction and sponsored with a participating institution as an accession to the Center for Plant Conservation's National Collection of Endangered Plants.
- A portion of the seed collected will be reserved for propagation and outplanting to the adjacent suitable habitat within the right-of-way.
- Individual mature plants will also be salvaged from the impact area and reestablished within these areas where feasible.

Off site, the agency proposes to preserve in perpetuity existing North Coast semaphore grass locations at a 5:1 ratio.

Our review indicates that the Supplemental DEIR, as it stands, is incomplete and fails to adequately show: 1) that impacts to the species have been minimized and fully mitigated and 2) that all mitigation measures are capable of being implemented.

Specifically:

1. The Supplemental DEIR fails to discuss avoidance of impacts to threatened NCSG.

*(Supplemental DEIR page 5) Additional plant surveys were conducted for recent minor revisions to the bypass alignment at which time a population of North Coast semaphore grass was identified within the project limits.*

There is no discussion of revisions of the bypass alignment or construction design to avoid impacts in light of the results of additional plant surveys. These discussions are required.

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2. The Supplemental DEIR states that the impacts to NCSG will be primarily mitigated through off-site preservation and enhancement of existing populations and habitat.

- a. The Supplemental DEIR provides no rationale on the basis for applying a 5:1 ratio for preservation from a rare herb (Baker's meadowfoam) to a seriously threatened perennial grass.

A preservation ratio of 5:1 has been used for *rare* Baker's meadowfoam. In comparison, the Supplemental DEIR reports that CNPS and CDFG consider North Coast semaphore grass to be *seriously threatened*. NCSG is known only from a few occurrences in Mendocino, Sonoma, and Marin counties. There is no rationale provided that would support comparable mitigation ratios for plants at different threat levels and potential population densities.

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- b. No information is provided that would indicate how preservation of existing acreage of NCSG still is not a net loss of 0.66 acres of directly

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impacted NCSG, and potentially also loss of the indirectly impacted 0.38 acres of the species.

c. The ecology of NCSG is not well known. Caltrans needs to develop a long-term effort to manage NCSG. A thorough knowledge of the hydrology and ground water is needed as well as the different possible management options, including proper cultural practices, livestock grazing, mowing, and periods of rest as part of a comprehensive, long-term restoration plan that includes adaptive management strategies conducted by knowledgeable and qualified investigators.

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3. The Supplemental DEIR lacks information that would indicate how critical hydrological impacts to the remaining 0.38 acres of NCSG on the project would qualify as only indirect effects.

*(Supplemental DEIR page 5) Potential indirect impacts to the remaining 0.38 acres of this species could occur in the form of habitat fragmentation or habitat degradation due to changes in drainage patterns and hydrology.*

As noted in section 4.1.1, "suitable habitat for North Coast semaphore grass consists of partially to fully shaded mesic (wet) sites that occur at forest and woodland edges." The document fails to explain how habitat degradation due to changes in drainage patterns and hydrology to 0.38 acres of the species would be minimized to qualify as an indirect impact. Because soil water levels are critical to maintaining the species, a discussion of hydrology is necessary.

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4. The document fails to describe - beyond just ESA fencing - how normal and usual construction impacts would be minimized on the population.

Given that the species grows within an ecological system of several biotic and abiotic elements, the document only notes the use of orange ESA fencing without reference to what the necessary protection zone is that would sustain ecosystem function for the population. If the fence is simply placed at the perimeter of the existing population, as is commonly done, on what basis would that protect the ecosystem factors the plants need to remain viable? Relatedly, the document fails to anticipate the impacts from usual highway construction activity, such as soil compaction by heavy equipment and invasive weeds commonly accompanying construction activity, and the measures that would minimize these impacts on the species to be maintained.

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5. Mitigation for restoration in "adjacent suitable habitat within the right-of-way" is too vague to ensure the mitigation measures are capable of being implemented.

The Supplemental DEIR does not explain the criteria for "suitable habitat," the identified locations of that habitat in the project plans and how they provide the biotic and abiotic factors required to support plants reintroduced by propagation or salvage, nor the amount of acreage proposed.

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As similarly noted in the above comments regarding mitigation by preservation of existing populations, the ecology of NCSG is not well known. Caltrans needs to develop a long-term effort to manage NCSG. A thorough knowledge of the hydrology and ground water is needed as well as the different possible management options including proper cultural practices, livestock grazing, mowing and periods of rest as part of a comprehensive, long-term restoration plan that includes adaptive management strategies conducted by knowledgeable and qualified investigators.

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6. The Supplemental DEIR fails to cite the regulatory basis for stating that identification of future special-status plants on the project are exempt from the environmental impact process.

*(Supplemental DEIR page7) No other special-status plants are expected to be identified within the project area; however, should any additional special-status plants be identified, mitigation would be implemented in a similar manner as described here.*

It is our understanding that if more and/or different listed/rare species are found that could be significantly impacted, then focused assessment and full public disclosure is merited.

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7. The Supplemental DEIR has insufficient background and baseline information to enable adequate public review and ensure that "impacts to the species have been minimized and fully mitigated", and "all mitigation measures are capable of being fully implemented."

a. Lack of NCSG locations identified on generalized project footprint map (page 4), especially relation of the population to planned construction, watershed systems, and existing vegetation. It is obvious that there is not enough information regarding presence and absence of this rare species in the freeway bypass wetlands.

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b. Lack of detail on species information including estimated population numbers (How many plants will be preserved, avoided, and impacted?), habitat quality of preserved, protected, and impacted areas (Are habitats equitable in type and population densities?), associated species (Are habitats dominated by native or non-native plants?), and other key habitat or life history components.

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c. Lack of source for species phenology statements. Page 5 states that NCSG "blooms from April through August." Our information and

observation is that NCSG blooms April-June, and the species is summer-dormant after June. Obviously, successful seed collection for mitigation is entirely dependent on accurate biological data. Are there observations or data that indicate NCSG blooms in the summer in the project area?

d. Lack of a stated plan for inventorying and analyzing the biotic and abiotic factors of the existing populations prior to construction to guide replication of those factors for restoration, including data on existing aspect, soil type and characteristics, habitat, below- and above-ground hydrology, topography, surrounding vegetation, etc.

e. Lack of quantifiable success criteria for any of the proposed mitigation, minimization, or avoidance.

f. Lack of citations or references on the ecological and botanical science used as a basis for developing the Supplemental DEIR. Unless otherwise cited, these types of preservation and mitigation measures are untried for NCSG, and therefore their success is unknown.

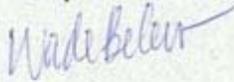
g. Lack of statement of qualifications to demonstrate that environmental personnel have botanical expertise, experience, and/or background to assess and develop a successful and full mitigation of this rare and threatened species.

h. Lack of compensation plan if quantifiable success criteria are not achieved.

In sum, there is insufficient information to adequately assure the public that the Supplemental DEIR measures for avoidance, that off-site and on-site mitigation will adequately minimize and fully mitigate impacts to the species, and that all mitigation measures are capable of being implemented.

Thank you for the opportunity to comment in order to produce a Supplemental DEIR that will meet our joint interests for preserving California's unique and valued flora. CNGA appreciates your attention to these comments, and we look forward to your response.

Sincerely,



Wade Belew, President  
CNGA Board of Directors

cc: Craig Martz, Northern Region CDFG  
David Imper, Endangered Species Program USFWS  
Geri Hulse-Stephens, President, CNPS Sanhedrin Chapter  
Chuck Williams, Conservation Chair, CNPS Sanhedrin Chapter

WB: da

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## **Appendix B: Response to Comments**

## RESPONSES TO PUBLIC COMMENTS

### 1. *California Native Plant Society*

#### Response 1

The Supplemental Draft Environmental Impact Report (SDEIR) used the best available information to evaluate impacts from the Willits Bypass Project (Project) on North Coast semaphore grass (*Pleuropogon hooverians*). Since issuance of the SDEIR in November 2009, Caltrans submitted an Incidental Take Permit (ITP) application in March 2010 for review by California Department of Fish and Game (CDFG) according to the requirements of the California Endangered Species Act (CESA), Section 2081(b). As part of the submittal of the ITP application, CDFG requested that Caltrans collect additional information on the abundance of North Coast semaphore grass (NCSG) populations in Little Lake Valley and at other NCSG population occurrences outside of Little Lake Valley. General site characterization information was also collected for NCSG occurrences (e.g., vegetation, soil, and hydrology conditions). This survey work was completed in March 2010.

#### **March 2010 Abundance Survey Results**

A summary of March 2010 abundance survey results is presented in Table 1 for NCSG occurrences in and outside of Little Lake Valley. While all occurrences listed in the California Natural Diversity Database (CNDDDB) in Little Lake Valley were surveyed as part of this most recent abundance survey, not all occurrences listed in the CNDDDB outside of Little Lake Valley were surveyed. This was because of small occurrence size and density reported in the CNDDDB, a lack of access to occurrences on private property, or timing constraints related to the abundance study (to comply with CESA, the abundance survey results had to be reported to CDFG by March 30, 2010). Of the 18 existing occurrences in the CNDDDB (2010), 14 were surveyed for abundance in March 2010 (Table 1).

NCSG density varied among the populations that were surveyed as part of the March 2010 abundance surveys. Where densities were high, especially in Little Lake Valley, site conditions included those parameters that seem to favor successful establishment and growth of the grass (based on field observations and input from local experts), including larger areas of sheet drainage or areas that drain quickly; and available light at different times in the season (early spring light before trees leaf out and shaded summer light that reduces heat of longer days). As such, it is reasonable to assume that a high density of plants in a plant community indicates a high quality habitat. Based on density, habitat quality was assumed to be high for NCSG Occurrences 8, 22 - 25, 27, 28, 30, 31, 33, and NEW.

**Table 1. March 2010 Abundance and Site Characterization Survey Results for North Coast Semaphore Grass Occurrences in and Outside Little Lake Valley**

CNDDB Occurrence Number	March 2010 Survey Results			Location	Property Owner
	Area (acres)	Number of Plants	Density (number/acre)		
<b>Outside Little Lake Valley</b>					
8	0.065	1,505	23,154	Sonoma County	Private
21	n/a	0	0	Mendocino County	Private
22	0.366	15,131	41,342	Mendocino County	Private
23	0.030	1,427	47,567	Mendocino County	Private
24	0.030	1,322	44,067	Mendocino County	Private
25	0.037	529	14,297	Mendocino County	Private
26	0.006	18	3,000	Mendocino County	Private
27	0.037	1,309	35,378	Mendocino County	Private
28	0.341	9,399	27,563	Mendocino County	Private
<b>Subtotal</b>	<b>0.912</b>	<b>30,640</b>			
<b>In Little Lake Valley*</b>					
30	4.671 (4.483)	67,412	14,432	Little Lake Valley, Mendocino County	Caltrans
31	0.326 (0.0)	5,146	15,785	Little Lake Valley, Mendocino County	Private
32 <sup>a</sup>	1.528 (0.0)	9,254	6,056	Little Lake Valley, Mendocino County	Caltrans and City of Willits
33	0.061 (0.023)	1,893	31,032	Little Lake Valley, Mendocino County	Private and Caltrans
NEW <sup>b</sup>	0.588 (0.588)	9,437	16,049	Little Lake Valley, Mendocino County	Caltrans
<b>Subtotal</b>	<b>7.174 (5.094)</b>	<b>93,142</b>			
<b>Total for All Surveyed Occurrences = 123,782 plants</b>					

Note: n/a = not applicable.

<sup>a</sup> This occurrence will be affected by the Project.

<sup>b</sup> Occurrence NEW was identified in February 2010 by Caltrans staff and has not yet been listed in the CNDDB.

\* Data in parenthesis represent the NCSG preserved in portions of occurrences.

### March 2010 General Site Characterization Survey Results

A summary of March 2010 general site characterization results (soil, hydrology, and topographic conditions) for NCSG occurrences in Little Lake Valley is presented below.

#### Occurrence 32 (Impact Site)

Occurrence 32 is located in the west-central portion of Little Lake Valley north of the City of Willits.

*Vegetation.* NCSG grows in wet meadow and is a component of the herbaceous understory in Valley oak (*Quercus lobata*) woodland. Tree canopy cover in the Valley oak woodland was 15% to 80%. Shrub layer cover in the Valley oak woodland was approximately 1% and consisted primarily of California blackberry (*Rubus ursinus*) and Himalaya blackberry (*Rubus armeniacus*). Frequently observed associated species in the NCSG stands included tall fescue (*Festuca arundinacea*), white clover (*Trifolium repens*), cut-leaf geranium (*Geranium dissectum*), spreading rush (*Juncus patens*), and buttercup (*Ranunculus* spp.). Invasive species observed included Himalayan blackberry, tall fescue, cut-leaf geranium, orchard grass (*Dactylis glomerata*), bird's-foot trefoil (*Lotus corniculatus*), pennyroyal (*Mentha pulegium*), Italian ryegrass (*Lolium multiflorum*), bull thistle (*Cirsium vulgare*), and poison hemlock (*Conium maculatum*). All of these invasive species are found commonly in riparian and wetland habitats.

*Soils.* The surface soil both within and outside of NCSG habitat ranged from loam to silty clay, with clay loam being the most common texture. A silt loam soil was observed at one observation. Subsurface and subsoil textures were loams and clay loams.

*Hydrology.* Depth to the water table within NCSG habitat ranged from 3 to 20 inches but in eight of the 10 observations the depth to the water table was 10 inches or less. None of the observations had surface water present; however, up to 2 inches of surface water was present in the general vicinity. At observations outside of NCSG habitat, depth to the water table ranged from 0 to 11 inches. None of the observations had surface water present; however, up to 2 inches of surface water was present in the general vicinity at two observations.

*Microtopography.* Slope gradients within and outside of NCSG habitat ranged between 0 and 4%. At one NCSG stand, the land was elevated approximately 12 to 18 inches above the surrounding plain and the depth to groundwater was 20 inches. The slope shape in NCSG habitat usually was depressional or planar; only one stand had a slope shape that was convex. The slope shape at observations outside of NCSG habitat was typically planar.

#### Occurrence 30 (Preservation Site)

Occurrence 30 is located in the east-central portion of Little Lake Valley and east of the City of Willits.

*Vegetation.* NCSG grows in wet meadow and is a component of the herbaceous understory in Valley oak–Oregon ash forest. Within the wet meadow NCSG habitat, frequently observed associated species were spreading rush, cut-leaf geranium, buttercup, yampah (*Perideridia* spp.), common vetch (*Vicia sativa*), dock (*Rumex* spp.), tall fescue, pennyroyal, and sedges (*Carex* spp.). Forested plots were dominated by Valley oak and Oregon ash (*Fraxinus oregonus*). Tree canopy cover ranged from 5% to 25%. Within the shrub layer, the most frequently observed species were poison-oak (*Toxicodendron diversilobum*), snowberry (*Symphoricarpos albus*), California blackberry, and Himalayan blackberry. The shrub layer cover was highly variable, ranging from none to 30%. Frequently observed herbaceous species were spreading rush, dock (*Rumex* spp.), common vetch, sedges, Italian ryegrass, hedge parsley (*Torilis arvensis*), cutleaf geranium, buttercup, and blue wildrye (*Elymus glaucus*). Invasive species observed included cut-leaf geranium, tall fescue, Italian ryegrass, pennyroyal, Himalayan blackberry, hedge parsley, orchard grass, pea (*Lathyrus* spp.), bull thistle, poison hemlock, and cat's-ear (*Hypochaeris* spp.). These invasive species are associated primarily with wetlands or shaded woodlands.

*Soils.* The surface soil both within and outside of NCSG habitat ranged from loam to clay, with clay loam being the most common texture. Other surface soil textures were silty clay loam and silty clay. Subsurface and subsoil textures were in the clay loam to clay range at all but two of the observations, where textures were gravelly clay loam or coarse sandy loam. Both of these observations were located outside of NCSG habitat.

*Hydrology.* Depth to the water table within NCSG habitat ranged from 2 to 16 inches, but in nearly all of the observations, the depth to the water table was 10 inches or less, or was ponded by up to 3 inches of standing water. For the two observations where the water table was relatively deep, NCSG habitat occurred beneath a Valley oak/Oregon ash canopy. At observations outside of NCSG habitat, depth to the water table ranged from 3 to 20 inches. None of the observations had surface water present.

*Microtopography.* Slope gradients within and outside of NCSG habitat, ranged between 0 and 5%, with most NCSG habitat occurring on 0 to 2% slopes. The steepest slope upon which a NCSG habitat occurred was estimated to be 4 to 5%, which was one of the stands that occurred beneath a Valley oak/Oregon ash canopy. The slope shape within NCSG habitat nearly invariably ranged from depressional to planar; only two were broadly convex. The slope shape at observation points outside of NCSG habitat was planar or broadly convex.

#### Occurrence NEW (Preservation Site)

Occurrence NEW is located in the west-central portion of Little Lake Valley and north of the City of Willits.

*Vegetation.* NCSG is an understory component of Oregon ash woodland. Oregon ash is the dominant tree with Valley oak as an associate. A shrub understory is present, dominated by California blackberry, Himalayan blackberry, and snowberry. In the central portion of the population, where NCSG is the dominant herbaceous species, the tree canopy cover is 100% and the shrub canopy cover is 15%. Around the margins of the population, where NCSG density is much lower, the tree canopy cover is 15% and the shrub canopy cover is 40%. Associated species include poison hemlock, common trillium (*Trillium chloropetalum*), meadow rue (*Thalictrum fendleri* var. *polycarpum*), cut-leaf geranium, and poison-oak. Invasive species observed included poison hemlock, curly dock (*Rumex crispus*), Himalayan blackberry, cut-leaf geranium, Italian thistle (*Carduus pycnocephalus*), hedge parsley, and fuller's teasel (*Dipsacus fullonum*).

*Soils.* The surface soil both within and outside of NCSG habitat was loam or sandy loam. Subsurface and subsoil textures were loamy sands and clay loams.

*Hydrology.* Depth to the water table within NCSG habitat ranged from 6 to 10 inches. Surface water was present at one of the observations in the deeper depressions between hummocks. At observations located outside of NCSG habitat, depth to the water table was 22 inches or more. None of the observations had surface water present.

*Microtopography.* NCSG habitat was restricted to what appears to be a broad, abandoned channel area, generally lower than the area to the south and level with the area to the north. Slope gradients throughout the site, both within and outside of NCSG habitat, were estimated to range between 0 and 5%. The slope shape within NCSG habitat was hummocky or undulating, which appeared to be a result of stream cutting and deposition. The slope shape at observations outside of NCSG habitat was planar.

#### Occurrence 33 (Preservation Site)

Occurrence 33 is located in the east-central portion of Little Lake Valley, north-east of the City of Willits. Half of this occurrence occurs on Caltrans property (to be preserved as part of mitigation efforts) and the other half occurs on private property.

*Vegetation.* NCSG is present primarily in wet meadow habitat, although some plants were also observed under the canopy of a large Valley oak tree. Associated species observed included spreading rush, buttercup, tall fescue, dock, Himalayan blackberry, Davy's semaphore grass (*Pleuropogon californicus* var. *davyi*), and bluegrass (*Poa* sp.). Invasive species observed included tall fescue and Himalayan blackberry.

*Soils.* The surface soil and subsoil within NCSG habitat were clay loam. The surface soil outside of NCSG habitat was clay loam, and the subsoil was clay loam or gravelly clay loam.

*Hydrology.* Depth to the water table within NCSG habitat ranged from 3 to five inches. Surface water was present in the vicinity of one of the observations. At observations outside of NCSG habitat, the soil was saturated to the surface or the depth to the water table was 6 inches. Surface water was present in the vicinity of one of the observations.

*Microtopography.* Slope gradients within and outside of NCSG habitat ranged between 0 and 1%. There was little elevation difference between NCSG habitat and areas outside of NCSG habitat. NCSG habitats restricted to an overall planar microtopography but within a shallow and poorly defined depression. The slope shape at observations outside of NCSG habitat was planar.

#### Occurrence 31 (Private)

Occurrence 31 is located in the central portion of Little Lake Valley, east of the City of Willits.

*Vegetation.* NCSG grows in wet meadow and is an understory component of Oregon ash woodland. Oregon ash is the dominant canopy tree, and canopy cover within the stands ranged from 3% to 70%. California blackberry and Himalayan blackberry were present in the understory as a shrub layer with a cover ranging from 2% to 8%. Observed associated species included tall fescue, spreading rush, and sedges. Invasive species observed included tall fescue, cut-leaf geranium, Italian ryegrass, orchard grass, common dandelion (*Taraxacum officinale*), hedge parsley, and bull thistle.

*Soils.* The surface soil and subsoil within and outside of NCSG habitat were almost invariably loams and clay loams.

*Hydrology.* Depth to the water table within NCSG habitat was 4 or 5 inches at all observations except for one, where the water table was at 22 inches. Surface water was present at three of the stands, but only in the abandoned channels. At the single observation outside of NCSG habitat, the depth to the water table was 5 inches. There was no surface water present anywhere in the previously mapped population area.

*Microtopography.* Slope gradients within and outside of NCSG habitat ranged between 0 and 5%. The slope shape within NCSG habitat was hummocky or undulating, which appeared to be a result of stream cutting and deposition. The slope shape at the observation point located outside of NCSG habitat was planar.

A summary of March 2010 general site characterization results (soil, hydrology, and topographic conditions) for NCSG occurrences outside Little Lake Valley is presented in Table 2. General site characterization data for NCSG occurrences outside of Little Lake Valley were not collected to the same level of resolution as for NCSG occurrences in Little Lake Valley. The more detailed site characterization data collected for Little Lake Valley will be useful in developing information to guide possible expansion of NCSG occurrences at preservation sites in Little Lake Valley. However, the USDA Natural Resources Conservation Service (NRCS) soil survey was reviewed for occurrences outside of Little Lake Valley prior to conducting the field surveys to gain an understanding of the general soil and hydrologic characteristics that might be present at each occurrence (Table 2).

**Table 2. Characteristics of Soils Outside Little Lake Valley as Mapped by USDA NRCS Soil Survey<sup>a</sup>**

Soil Map Symbol	Soil Map Unit Name	Landform	Drainage Class	Generalized Typical Profile (surface, subsurface, subsoil, and parent material)	Occurrence Number
109	Casabonne-Wohly loams, 9 to 30% slopes	ridgetops of hills and mountains	well <sup>b</sup>	loam over gravelly clay loam over sandstone or shale	23
110	Casabonne-Wohly loams, 30 to 50% slopes	hills and mountains	well <sup>b</sup>	loam over gravelly clay loam over sandstone or shale	27 (western cluster of NCSG only)
212	Wohly-Casabonne loams, 30 to 50% slopes	hills and mountains	well <sup>b</sup>	loam over gravelly clay loam over sandstone or shale	25
225	Yorktree-Hopland-Woodin complex, 30 to 50% slopes	hills and mountains	well <sup>b</sup>	loam over gravelly loam over graywacke, shale, sandstone, or siltstone	22
232	Yorkville-Squawrock-Witherell complex, 15 to 30% slopes	spur ridges, drainageways, and side slopes of hills and mountains	moderately well, well, and somewhat excessive <sup>c</sup>	loam over clay or cobbly loam over greywacke, chloritic schist, shale, or sandstone	26
233	Yorkville-Squawrock-Witherell complex, 30 to 50% slopes	spur ridges, drainageways, and side slopes of hills and mountains	moderately well and well <sup>c</sup>	loam over clay or cobbly loam over greywacke, chloritic schist, shale, or sandstone	24, 27 (eastern three clusters of NCSG only), 28
GIE	Goulding cobbly clay loam, 15 to 30% slopes	mountainous uplands	well <sup>b</sup>	cobbly clay loam over very gravelly clay loam over basalt	8

Notes

<sup>a</sup> The characteristics described above for each map unit do not cover map unit inclusions where drainage class and profile characteristics may be different from the primary soil component of the map unit.

<sup>b</sup> NCSG is assumed to occur on more poorly drained, unnamed inclusions that occur within this map unit.

<sup>c</sup> NCSG is assumed to occur on the (moderately well drained) Yorkville component of this map unit, in which saturation may occur above its claypan during the rainy season.

Sources: Howard and Bowman 1991; Miller 1972.

**Effects of the Willits Bypass Project on NCSG within the Context of March 2010 Abundance Survey Results**

In the SDEIR, the Project will have permanent direct impacts on 0.66 acre of NCSG habitat from the placement of fill for the construction of the roadway embankment and temporary direct impacts on 0.02 acre of NCSG habitat from soil compaction and temporary changes in hydrology, for a total direct impact of 0.68 acre of NCSG. The SDEIR further concluded that indirect impacts on the remaining 0.38 acre of NCSG habitat could occur from habitat fragmentation or habitat degradation as a result of changes in drainages patterns and hydrology. As a result, up to 1.06 acres (0.68 acre plus 0.38 acre) of NCSG habitat could be affected by construction of the Project. Because of the limited distribution and few known occurrences of NCSG, the SDEIR determined that Project impacts on NCSG were significant.

NCSG abundance surveys conducted in March 2010 (described above) confirmed that construction of the Project will affect only one of the known occurrences of NCSG (Occurrence 32). In addition, the March 2010 abundance surveys determined that approximately 1.528 acres of NCSG habitat, supporting 9,254 plants, is present at Occurrence 32 (Table 1). By comparing the distribution of these existing populations based on the March 2010 surveys with the Project alignment described in the 2006 FEIR/EIS, Caltrans determined that Project construction will directly affect a total of 0.401 acre of NCSG habitat, resulting in the loss of 2,826 plants. Direct impacts include a permanent loss of 0.386 acre (2,798 plants) and a temporary loss of 0.015 acre (28 plants) of NCSG habitat. This is less than the 0.68 acre of direct permanent and temporary impacts assumed in the SDEIR. Although fill placed as part of roadway construction has the potential to indirectly affect the remaining 1.127 acres (1.528 acres minus 0.401 acre) of NCSG habitat supporting 6,428 plants (9,254 minus 2,826 plants), two cross culverts will be included in the roadway embankment where the bypass alignment impacts Occurrence 32 to maintain surface hydrology in the vicinity of the adjacent NCSG populations. By maintaining surface hydrology at Occurrence 32, Caltrans expects to minimize the potential for indirect impacts to occur on the remaining population not directly affected by project construction. In addition, design-related avoidance and minimization measures have been included to capture roadway runoff and avoid discharging polluted runoff into adjacent NCSG habitat to further reduce the potential for indirect effects on the remaining NCSG habitat (design- and construction-related avoidance and minimization measures are discussed in detail under Response 3).

Based on the potential for impacts described above, on population data provided in the CNDDDB and the March 2010 abundance surveys, the construction of the Project may affect approximately 19% (1.528 acres out of 8.086 acres) of the surveyed NCSG habitat and up to 7.5% (i.e., 9,254 plants out of an estimated 123,782 plants) of the total plants surveyed during the March 2010 abundance surveys (Table 1).

Most of the existing known occurrences of NCSG in Little Lake Valley will not be affected by the Project. Of the 7.174 acres (93,142 of plants) of NCSG habitat in Little Lake Valley, approximately 0.401 acre, or 5.6% of the total NCSG habitat in Little Lake Valley, supporting 2,826 plants, will be directly affected. When extrapolated beyond Little Lake Valley to the species' full range, slightly less than 5% (0.401 acre out of 8.086 acres) of NCSG habitat will be affected by the Project. In the absence of mitigation, the loss of up to 5% of NCSG habitat (2,826 plants on 0.401 acre) within NCSG's range potentially could have a substantial impact on the species.

Measures will be taken to minimize and fully mitigate project impacts. As part of minimization measures, NCSG seed and plants will be salvaged from the impact area prior to impact and transplanted within the Project alignment to an unaffected area. In addition, Caltrans has started a 2-year study to characterize groundwater, soil moisture, and soil temperature conditions at Occurrences 30, 32, 33, and NEW for use in determining the potential to expand these occurrences that will be preserved as part of mitigation efforts. Of most interest from this study will be data collected that relates to the soil dry down curve at these NCSG occurrence sites. Based on qualitative observations made during the March 2010 surveys, expansion of these occurrences seems more likely than not as there appears to be unoccupied NCSG habitat available at the boundaries of the occurrences that could accommodate expansion. Land management practices, such as low intensity livestock grazing and limited mowing, also appear to encourage expansion of NCSG. More definitive information on expansion potential will be available at the conclusion of the study.

As part of mitigation efforts, Occurrences 30, 32 (a portion of), 33, and NEW will be placed in preserves. A total of 5.094 acres of NCSG habitat has been identified at these preserves, which represents 71% (5.094 out of 7.174 acres) of the known NCSG habitat in Little Lake Valley. Therefore, extant NCSG populations will be preserved and managed in Little Lake Valley to achieve a mitigation ratio of approximately 12.7:1 (5.094 acres preserved to 0.401 acre affected). Lastly, no other projects have been identified that also could affect NCSG in Little Lake Valley.

Caltrans fully intends to implement the avoidance and minimization measures and mitigation actions described above to limit take of NCSG to the levels described. However, the Project may result in additional unforeseen impacts based on the sheer complexity of implementing a project of this breadth. As part of the Project's mitigation program, an adaptive management component is included to address uncertainty and unforeseen impacts.

## **Response 2**

Caltrans has been working closely with CDFG to develop appropriate mitigation for NCSG, pursuant to CEQA and the CESA. Although CDFG cannot make a final conclusion until after the CEQA process is complete, Caltrans has incorporated all of CDFG concerns into the mitigation program to address all of CDFG requirements. In addition, Caltrans has prepared an ITP application that describes the impacts on the species and the avoidance, minimization, and mitigation measures to fully mitigate for those impacts. The discussion of the effects of the Project under Response 1 reflects this new information.

Caltrans disagrees with the comment that the SDEIR needs to be re-circulated to disclose and allow public comment on the requirements of the ITP requirements. According to CEQA Guidelines, Section 15088.5:

*(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:*

- (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.*
- (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (Mountain Lion Coalition v. Fish and Game Com. (1989) 214 Cal.App.3d 1043)*

*(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.*

In summary and based on the above, Caltrans believes that re-circulation of the SDEIR is not warranted, because:

- 1) No new significant environmental impacts have been identified and no new mitigation measures that could result in a significant environmental impact have been proposed since the SDEIR was released in November 2009;

- 2) The severity of the environmental impacts identified in the SDEIR would not increase as a result of the additional survey data collected as part of the ITP application and summarized in Response 1.;
- 3) No new project alternatives or mitigation measures are being proposed as a result of the additional survey data collected for the ITP application and summarized in Response 1. Similar mitigation for Baker's Meadowfoam and other special status plants was proposed in the EIS/EIR, including ESA fencing, creation, restoration, enhancement, and/or preservation of sensitive habitats affected by the project, and a long-term management and maintenance program. Appendix A (Avoidance, Minimization, and Mitigation Measures) and Appendix L (Conceptual Mitigation Plan) of the EIS/EIR detail proposed mitigation measures;
- 4) The additional survey data collected for the ITP application and summarized in Response 1 merely elaborates on the information presented in an otherwise adequate EIR.

### **Response 3**

Caltrans will implement measures to avoid, minimize, and fully mitigate Project impacts. The information presented below discusses the avoidance and minimization measures that have been incorporated into the Project description to reduce or eliminate environmental impacts on NCSG and its habitat from construction of the Project. These avoidance and minimization measures have been incorporated into project design and construction subsequent to the approval of the final EIS/EIR to further reduce environmental impacts. Avoidance and minimization measures related to Project design and construction for the overall Project are described first, followed by avoidance and minimization measures related to project design and construction and specifically addressing NCSG (e.g., seed collection, transplantation from the impact site to adjacent habitat outside of the bypass alignment). Mitigation efforts for NCSG (i.e., preservation and management of NCSG habitat) are then described.

#### **Design Avoidance and Minimization Measures**

- The highway median width was decreased from 61 feet to 45 feet to reduce the construction footprint and environmental effects of the Project. The narrower median will result in less impact on NCSG plants and habitat.
- Surface hydrology will be maintained at the impact site (Occurrence 32). Under existing (pre-project) conditions, surface water flows across the parcel from south to north. These surface flows are fed by direct precipitation and from overflow from an adjacent lumber mill. Surface flow is also increased from high flows that overtop Mill Creek. The overflow from Mill Creek sheet flows across the parcel, is contained by existing berms, or is concentrated in existing ditches. As the water flows across the parcel it is impounded by the tree-line at the northern edge of the parcel where it evaporates, infiltrates into the ground, or flows on to Mill Creek (if the water level is high enough). To maintain this surface hydrology, Caltrans will install two cross culverts through the highway embankment. One culvert will route flow that would have been impounded at the tree-line and directs it into a ditch along the embankment and then into a cross culvert that allows flows to spread out and again be impounded by the tree-line. A second culvert will route flow that is concentrated in the existing ditch along the eastern edge of the railroad tracks through a culvert under the embankment and back into the existing ditch.
- Roadway runoff will be captured to avoid discharge into adjacent NCSG populations. Two culverts will route precipitation falling on the roadway which will then be concentrated by dikes into a modified drain inlet (DI) for sand removal. The DI is designed to reduce sand and other solids into the drainage system. The drainage system will then discharge to a bioswale that treats the runoff to meet the stormwater treatment levels established for the bypass project by the North Coast Water Control Board. After this water is combined with water collected in the embankment ditch along the

southern side of the embankment, it will ultimately flow to the previously mentioned drainage system.

- The embankment width at the impact site has been reduced. The Northwestern Pacific Railway agreed to a nonstandard vertical clearance during Project construction that allowed falsework height to be reduced. Based on the reduced vertical clearance, the roadway profile was lowered by approximately 6 feet at the crossing. Lowering the height of the 1:2 sideslopes for the embankment resulted in reducing the embankment width by approximately 12 feet on each side, or 24 feet total. In addition, the slope rounding at the foot of the embankment was eliminated, resulting in an additional 9 feet on each side versus the original design concept.

In addition to the design avoidance and minimization measures described above that can be successfully implemented, Caltrans also investigated other design-related avoidance and minimization that were determined not to be feasible. These infeasible design-related avoidance and minimization measures included extending the viaduct over the parcel supporting the impacted NCSG population and using retaining walls to further reduce the width of the embankment at the impact site.

- Extending the viaduct over the parcel supporting the impacted NCSG population would cost approximately \$9 million more than the current design of the viaduct, which ends roughly at the parcel supporting Occurrence 32. However, the reasons for not extending the viaduct go beyond the increase in costs. The current design calls for a constant width ultimate southbound bridge. But immediately north of the viaduct the roadway begins to widen to accommodate the southbound on-ramp taper. As a result, any extension of the viaduct would involve a varying structure width, complicating the construction. More importantly, viaduct construction requires width outside the extent of the finished structures for haul road, material staging, and equipment operating areas. Fifty-five feet to the left and 100 feet to the right of the viaducts are allowed to provide room for these functions. The catch line for the proposed embankment is in the range of 66 to 72 feet from the edge of pavement so the area impacted by the embankment is actually less than the area that would be impacted during construction of the viaduct.
- Reducing the width of the embankment through the use of a retaining wall also is problematic because of the elevated height of the roadway across the parcel supporting Occurrence 32 (retaining walls would need to be approximately 33 feet in height). In addition, the underlying soils in which the walls would be constructed are very compressible and therefore piles to support the walls would need to be very deep. Lastly, because of the nature of the underlying geology, the embankment would need to be constructed before the wall is constructed. After a suitable settlement period, the embankment would have to be cut back to the wall location and then the wall would be constructed. This construction process is necessary to prevent the settling soil from creating a downward load on the wall, which could cause the wall to fail. Therefore, the construction process to erect retaining walls would impact the same area as the proposed embankment.

#### Construction and Post-Construction Avoidance and Minimization Measures

- Seed collection. Boundaries of the impacted NCSG population will be identified in the field when the plants are in bloom and most evident and identifiable (April–May). If the area is still being actively grazed, livestock exclusion fencing may be necessary prior to the blooming period to identify and protect the population until the seeds are mature. When a botanist experienced with NCSG has determined that the seeds have matured, the seeds will be collected. The seeds and chaff will be stripped from the stems by hand and material placed in paper bags. Pin flags or equivalent field markers will be placed to identify locations of future transplant material (rhizomes). Seeds will be collected several times at regular intervals, as determined by the botanist, to allow for natural variation in seed set and development. The seed materials will be allowed to dry for at least a week and then will be stored in paper bags at cool temperatures. The bags will be labeled to identify the species, collection location, and collection date. The collected seed will be stored to be

sowed at the transplantation locations; provided to a plant nursery experienced in native grass propagation (propagated plants will be used for additional future planting adjacent to the Project alignment); and provided to a germplasm conservation bank. Caltrans will coordinate with CDFG and USFWS to determine, based on the amount of seed material collected, how the seed material will be distributed between these three efforts.

- Transplantation. After seeds have been collected from the impacted population, viable rhizomes will be excavated and transplanted in fall 2010 to locations adjacent to the Project alignment that will not be affected by Project construction. The transplantation of the rhizomes will be overseen by a botanist experienced with NCSG and native grass restoration. The botanist will demarcate the transplantation locations based on soil and hydrology monitoring. The transplant locations will be recorded using GPS data recorders to facilitate future monitoring of the transplants and to identify the location where ESA fencing will be installed prior to the start of project construction.
- ESA Fencing. NCSG habitat within the right-of-way (R/W) that can be avoided will be protected by ESA fencing during bypass project construction activities. Protective fencing will consist of orange plastic-mesh fencing that is secured to metal T-posts, and will be installed in accordance with the construction documents.
- Documentation of onsite transplantation locations. To protect NCSG against future unnecessary disturbance from highway maintenance activities, the plant will be added to Caltrans' District 1 ESA database. This database informs Caltrans staff, such as maintenance personnel, of sensitive resources present within Caltrans' R/W. Caltrans will also place ESA paddles within the R/W as a means of identification for Caltrans maintenance staff.

#### Mitigation Efforts

- Mitigation for Project effects on NCSG will include preserving portions of four existing occurrences (i.e., Occurrences 30, 32, 33, and NEW) located on Caltrans-owned parcels in Little Lake Valley. A total of 5.094 acres of occupied NCSG habitat has been identified on these offsite mitigation parcels. Therefore, extant NCSG populations are adequately available within the Little Lake Valley to achieve a mitigation ratio of approximately 12.7:1 (5.094 acres preserved to 0.401 acre affected). Caltrans has acquired in fee the NCSG offsite mitigation parcels from willing sellers. These offsite mitigation parcels will be maintained and managed in perpetuity as habitat for NCSG, to be specified in conservation easements to be developed for the parcels. Caltrans will be preparing long-term management plans/grazing management plans to ensure NCSG habitat is protected and maintained, subject to approval by CDFG and other stakeholder resource agencies.
- In addition to preserving NCSG at the offsite mitigation parcels, Caltrans will also mitigate for bypass project effects on NCSG by actively managing the preserves to attempt to expand the populations. Advanced habitat characterization efforts are currently underway as part of a 2-year study to determine how the physical (i.e., soils and hydrology) and biological (e.g., associated plant species) environment influences the success of the species; these data will help inform expansion efforts at the offsite mitigation parcels.

#### Response 4

Caltrans is undertaking a 2-year study to characterize groundwater, soil, soil moisture, and soil temperature conditions at Occurrences 30, 32, 33, and NEW for use in determining the potential to expand these occurrences. The purpose of this study is to determine the soil moisture drying curve and to identify suitable NCSG habitat conditions at candidate transplantation locations at the impact site and candidate expansion locations at the preservation sites. This study will be conducted April through July in 2010 and again in 2011. This study has been developed in coordination with CDFG, US Fish and Wildlife Service (USFWS), and botanists with expertise in NCSG. The study is being conducted for Caltrans by local NCSG experts and others with NCSG and native grass experience.

To accomplish this study, Caltrans is installing a total of 20 groundwater monitoring wells within the impact site population, within the preservation site occurrences, and immediately beyond the periphery of the preservation site occurrences. Groundwater wells have been located in occupied and non-occupied NCSG habitat. The wells beyond the periphery of the impact and preservation site occurrences will serve to provide a basis for assessing the groundwater hydrology for expansion of these existing populations, as well as to gain an understanding of groundwater conditions where NCSG does not occur.

To further characterize hydrologic and soil conditions at NCSG and non-NCSG sites, stationary soil moisture-soil temperature sensors and data logger systems are being installed to automatically monitor soil moisture and soil temperature at the impact site occurrence and at two of the preservation site occurrences. The probes for soil moisture and temperature are being installed in the middle of the primary root zone of NCSG and have been programmed to collect readings every hour. To supplement these data, a portable soil moisture-soil temperature probe is being used to measure soil moisture and soil temperature at the impact and preservation sites to cross-check and supplement the readings collected by the continuous data loggers at the impact and preservation sites.

Finally, soil profiles will be described from hand excavated soil pits within the impact site occurrences, within the preservation site occurrences, and immediately beyond the periphery of the preservation site occurrences to provide a basis for assessing the suitability of soils for expansion of these existing occurrences, as well as to gain an understanding of soil characteristics where NCSG does not occur.

## **Response 5**

Avoidance is the preferred approach to protect NCSG from Project construction effects. Although design- and construction-related avoidance and minimization measures have been incorporated into the Project description (see Response 3), it is not possible to completely avoid impacts on existing NCSG populations at the impact site. Please recall that abundance surveys undertaken in March 2010 indicated that fewer plants and less habitat than that evaluated in the SDEIR will be directly affected by the Project (see Response 1).

As stated in previous responses to comments above, Caltrans is proposing a combination of avoidance, minimization, and mitigation measures to avoid and minimize impacts and fully mitigate effects from Project construction on NCSG. In addition, as discussed under Response 4, Caltrans has started a 2-year study to better inform transplantation and expansion actions in the impact and preservation sites, respectively.

## **Response 6**

Consistent with the NEPA/404 Integration Memorandum of Understanding, the current Project description has been identified as the least environmentally damaging practicable project alternative or LEDPA. A section describing the LEDPA has been added to Chapter 3 of the SEIR. As discussed under Response 3, Caltrans will implement measures to avoid, minimize, and fully mitigate Project impacts. Additional avoidance and minimization measures beyond those identified for the LEDPA have been incorporated into the Project description to further reduce or eliminate environmental impacts on NCSG and its habitat from construction of the Project. Caltrans does not agree that re-circulation of the SDEIR is warranted (see Response 2).

## ***2. Geri Hulse-Stephens***

### **Response 7**

As discussed under Response 5, Caltrans will be collecting seed, propagating plants, and transplanting plants as part of avoidance and minimization measures. A botanist experienced in NCSG will monitor the NCSG population at the impact site beginning in April 2010 to determine the appropriate timing of seed collection. Vegetative clusters of NCSG can be successfully identified against vegetative clusters of *Pleuropogon californicus* var. *davyi* (PLCA), a similar-appearing species that frequently occurs with NCSG. PLCA is a smaller caespitose annual to perennial species that is white to cream color at the base of the stem, whereas NCSG is a larger, rhizomatous perennial species that is a deep purple color at the base of the stem.

### **Response 8**

The SDEIR relied on existing information to describe the general ecology and biology of NCSG. As part of the submittal of the ITP application for the Project, CDFG requested that Caltrans collect additional information on the abundance and site characteristics of NCSG populations in and outside of Little Lake Valley. The results of these surveys, which were conducted in March 2010, are discussed under Response 1 and have contributed greatly to an increased understanding of the distribution and abundance of NCSG.

### **Response 9**

Please see Responses 1, 3, 4, and 5 for a description of avoidance, minimization, and mitigation measures that will be implemented.

### **Response 10**

Please see Response 4 for a description of the 2-year study that Caltrans is implementing to better inform transplantation and expansion efforts in the impact and preservation sites, respectively.

## **3. *Joseph Oslund***

### **Response 11**

Comment noted.

## **4. *Barbara Sicard***

### **Response 12**

Comment noted.

## **5. *California Native Grasslands Association***

### **Response 13**

Please see Response 3 for a discussion of impact avoidance and minimization measures.

### **Response 14**

The SDEIR proposed a 5:1 ratio based on preliminary discussions with CDFG and USFWS. Based on ongoing discussions with CDFG and USFWS, Caltrans is implementing studies to provide additional information on NCSG (please see Response 1). Based on the results of these studies, the ratio has

increased to approximately 12.7:1 (5.094 acres preserved to 0.401 acre affected) while direct impacts on the species (0.401 acre) are lower than what was evaluated in the SDEIR (0.68 acre). As part of mitigation actions, Occurrences 30, 32, 33, and NEW will be placed in preserves. A total of 5.094 acres of NCSG habitat has been identified at these preserves, which represents 71% (5.094 out of 7.174 acres) of the known NCSG habitat in Little Lake Valley.

### **Response 15**

Please see Response 1 for updated information concerning impact and mitigation quantities for NCSG. Caltrans fully intends to implement the avoidance and minimization measures and mitigation actions described under Response 3 to limit the loss of NCSG while maximizing the expansion potential of existing NCSG populations in Little Lake Valley. Included in these actions is the implementation of a 2-year monitoring study to better inform transplantation and expansion actions in the impact and mitigation sites, respectively (please see Response 4). However, the Project may result in additional unforeseen impacts based on the sheer complexity of implementing a project of this breadth. As part of the Project's mitigation program, an adaptive management component is included to address uncertainty and unforeseen impacts.

### **Response 16**

Caltrans is undertaking a 2-year study to characterize groundwater, soil, soil moisture, and soil temperature conditions at Occurrences 30, 32, 33, and NEW for use in determining the potential to expand these occurrences (please see Response 4). The purpose of this study is to determine the soil moisture drying curve and to identify suitable NCSG habitat conditions at candidate transplantation locations at the impact site and candidate expansion locations at the preservation sites. Most populations of NCSG face threats; the most common threats are competition from nonnative invasive species (10 occurrences), livestock grazing (6 occurrences), and roadside maintenance (including ditch excavation and maintenance and vegetation control) (4 occurrences). Other threats include habitat modification. Occurrences in the Little Lake Valley are grazed to varying levels of intensity. Although the effects of grazing on NCSG are currently unknown, light grazing benefits other semaphore grass and similarly may benefit NCSG by removing thatch and reducing competition from nonnative invasive species.

The preservation sites will be maintained and managed in perpetuity as habitat for NCSG (i.e., focus on preserving and expanding the existing NCSG populations as a primary goal), to be specified in conservation easements to be developed for the preservation sites. Caltrans will be preparing long-term management plans/grazing management plans to ensure NCSG habitat is protected and managed for expansion, subject to approval by CDFG and other stakeholder resource agencies.

### **Response 17**

Please see Response 1 for updated information concerning impact and mitigation quantities for NCSG. Please see Response 3 for information on how the Project has been designed to maintain hydrology at the impact site.

### **Response 18**

Environmentally sensitive area (ESA) fencing will be placed at locations that provide the minimum required space for Project construction. In determining the construction footprint which was used to assess impacts on NCSG habitat, the entire area of temporary and permanent soil disturbance was included, as well as those areas affected by soil compaction as a result of heavy equipment operation. However, soils will be de-compacted post-construction. And vehicle wash stations will be located at entry points to the Project to reduce the transport of invasive species.

### **Response 19**

Site characterization data for NCSG habitat, including soil profile, soil moisture, and soil temperature; and ground-/surface water hydrology, will be collected for the impact and preservation sites as part of a 2-year study that is currently underway (see Responses 1 and 4). Results of this study will provide additional information on NCSG, which will be valuable in determining transplantation actions at the impact site and the development of long-term management plans for the preservation sites (e.g., expansion potential).

### **Response 20**

Please see Responses 4 and 16.

### **Response 21**

Comment noted.

### **Response 22**

Please see Response 1.

### **Response 23**

Please see Response 1.

### **Response 24**

Please see Responses 1, 3, 4, 5, and 7.

### **Response 25**

The preservation sites will be maintained and managed in perpetuity as habitat for NCSG (i.e., focus on preserving and expanding the existing NCSG populations as a primary goal), to be specified in conservation easements to be developed for the preservation sites. Caltrans will be preparing long-term management plans/grazing management plans to ensure NCSG habitat is protected and managed for expansion, subject to approval by CDFG and other stakeholder resource agencies.

### **Response 26**

Please see Responses 1, 3, 4, 5, and 7.

### **Response 27**

Individuals' expert in NCSG and native grass restoration have been consulted with and contracted by Caltrans to study and develop appropriate avoidance and minimization measures and mitigation actions to address Project effects on NCSG. The March 2010 survey team members were qualified to perform the surveys because of their collective knowledge of wetland and riparian plant taxonomy, natural community ecology, and soil science; familiarity with NCSG/other plant species and natural communities in Mendocino County; experience conducting focused botanical surveys; and familiarity with appropriate state and federal statutes related to plants and plant collecting. Table 3 lists those individuals who have been consulted with regarding NCSG and the Project.

**Table 3. Individuals Consulted with or Assisting Caltrans with the Study of NCSG and the Project**

<b>Individual</b>	<b>Agency</b>	<b>Title</b>
Butterworth, Joel (CPESC)	Valley Environmental Consulting	Soil Scientist
Collison, Chris	Caltrans	Biologist
Hooten, Julia	ICF Jones & Stokes	Biologist
Hughes, Charles "Chuck"	Direct Project, Inc.	Botanist/Local NCSG Expert
Imper, Dave	USFWS	Botanist
Kirby, Seth	ICF Jones & Stokes	Botanist
Martz, Craig	CDFG	Botanist
Meigs, Jason	Caltrans	Botanist
Preston, Rob (Ph.D.)	ICF Jones & Stokes	Botanist/Wetland Ecologist
Hulse-Stephens, Geri	Hulse-Stephens Services	Botanist/Local NCSG Expert
Widdowson, Margaret (Ph.D.)	ICF Jones & Stokes	Botanist/Wetland Ecologist
Williams, Chuck	Independent	Local NCSG Expert

**Response 28**

An adaptive management component has been included as part of the Project's mitigation program to address uncertainty and unforeseen impacts.