1.0 SUMMARY

1.1 INTRODUCTION

The U. S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) (also collectively known as the Services) have received applications from the Board of Trustees of Leland Stanford Junior University (Stanford) for permits under the Federal Endangered Species Act of 1973, as amended (ESA), to take certain federally protected species incidental to otherwise lawful activities. This Draft Environmental Impact Statement (DEIS) addresses the potential environmental consequences that may occur if the applications are approved. The USFWS and NMFS are co-lead agencies under the National Environmental Policy Act (NEPA).

Stanford is a private entity that owns more than 8,000 contiguous acres in southern San Mateo County and northern Santa Clara County, California. Approximately 40 percent of the land has been intensively developed with urban facilities, including academic buildings, student and faculty housing, recreational facilities, administrative buildings, commercial and retail buildings, roads, sidewalks, an 18-hole golf course and golf driving range. In contrast, the other portions of the property are currently undeveloped or have only minor development.

The Services received applications from Stanford for incidental take permits pursuant to Section 10(a)(1)(B) of the ESA. The incidental take permits (ITPs) would authorize incidental take of ESA listed species on all of Stanford's lands, although only undeveloped lands provide habitat for the species. The listed species on Stanford's lands include the California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma californiense*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and Central California Coast steelhead (*Onchorhynchus mykiss*). As part of the ITP application process, Stanford prepared a habitat conservation plan (HCP), which also includes protection measures for the western pond turtle (*Actinemys marmorata*[1]), which is currently not listed under the ESA. The listed and non-listed species are collectively known as the Covered Species. The HCP specifies, among other things: (i) the impacts likely to result from the taking of the Covered Species and the measures Stanford will undertake to avoid, minimize, and mitigate such impacts; (ii) how the HCP would be funded; and (iii) alternatives to the proposed HCP. The proposed term of the permits is 50 years.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

Certain areas of Stanford's property are occupied by or provide suitable habitat for species that are presently listed as threatened and endangered under the ESA or may become listed under the ESA (see the Figures in Chapter 4 for the location of these species). Normal, otherwise lawful operation of Stanford could result in take of the Covered Species, and Stanford needs a long-term, comprehensive solution that assures compliance with the ESA.

The Services need to ensure compliance with the ESA and continue to conserve the Covered Species and their habitats at Stanford within a comprehensive conservation program that improves habitat functions and connectivity. Specifically, as the Stanford tiger salamander

[1] The taxonomic name is based on California Department of Fish and Game Special Animals List, July 2009. It was previously *Clemmys marmorata*.

population is the last remaining population on the San Francisco Peninsula, USFWS has a desire to conserve salamanders at Stanford for its potential conservation value.

The purpose of the proposed federal action is to enable the permit applicant (Stanford) to continue academic activities, building construction, and operations and maintenance activities that are consistent with its long-term academic mission that provides protection and conservation of the Covered Species and allows some take of listed Species, as provided for under Section 10(a)(1)(B) of ESA.

The applicant's needs and goals for preparing an HCP, as summarized from Section 1.5 of the HCP (Institutional and Biological Goals), are to: (1) provide cost effective measures to avoid, minimize and mitigate the incidental take of listed and unlisted species that may occur during the present and future operation of Stanford University; (2) utilize Stanford's natural resources in a manner that preserves their utility for future generations; (3) build on past efforts to conserve Stanford's tiger salamander population and steelhead populations; (4) support Stanford's academic mission, maintain land use flexibility, and incorporate sustainable land use practices; and (5) obtain long-term assurances from the Services that Stanford is in compliance with the ESA.

1.3 THE PROPOSED ACTION AND ALTERNATIVES

The DEIS assesses three alternatives:

1. The Proposed Action (Preferred Alternative) is ITPs issued by USFWS and NMFS, which would result in the applicant's implementation of an HCP that provides a comprehensive Conservation Program intended for the benefit of steelhead, tiger salamander, red-legged frog, garter snake and pond turtle. The proposed HCP's Conservation Program includes take avoidance and minimization measures, monitoring and management of habitat, and permanent preservation of habitat as mitigation for the permanent loss of habitat (at a ratio concomitant with the quality of habitat lost). It applies to all of Stanford University. Implementation of the Proposed Action will result in the issuance of an incidental take permit by NMFS for steelhead and by the USFWS for tiger salamander, red-legged frog, garter snake, and if it becomes listed, the pond turtle. The Covered Activities include ongoing maintenance and operation of Stanford, up to 180 acres of future development on Stanford lands, and implementation of the Conservation Program.
2. The No Action alternative is USFWS and NMFS not issuing ITPS. The applicant would not implement the HCP. The potential take of listed species would be addressed on a project-specific basis. Incidental take permits may be issued later in response to project-specific applications.
3. The HCP for CTS Only alternative is the issuance of an ITP by USFWS for the tiger salamander only. The applicant would only implement the portion of the HCP that is associated with the tiger salamander, and the Covered Activities would include only those activities that affect tiger salamanders. A permit authorizing the incidental take of steelhead, red-legged frog, or garter snake would not be issued and the HCP for CTS Only alternative would not cover these species or the pond turtle. The take of steelhead, garter snake and red-legged frog would require separate permits to be issued by the Services on a project-specific basis.

Ongoing maintenance and operation of Stanford consists of water management, academic activities, maintenance and construction of urban infrastructure, recreational and athletic uses, general infrastructure, grounds and vegetation, and agricultural and equestrian leases, and commercial and institutional leases. Future development is estimated to include development of 30 acres of land under an approved General Use Permit from Santa Clara County, and up to an additional 150 acres of yet undefined development that could occur at Stanford over the next 50 years in locations that could result in the take of the Covered Species. Any future development that has not already received all other applicable land use entitlements would still require local approvals, and any applicable state or other Federal approvals.

The HCP divides Stanford's lands into four zones according to their relative habitat value for the Covered Species. Zone 1 (approximately 1,295 acres), supports or provides critical resources for one or more of the Covered Species. Zone 2 (approximately 1,260 acres), is occasionally occupied by, or occasionally provides some of the resources used by, one or more of the Covered Species and provides a buffer between Zone 1 habitat and less biologically sensitive areas. Zone 3 (approximately 2,446 acres), consists of generally undeveloped open space lands that have some biological value, but provide only limited and indirect benefit to the Covered Species. Zone 4 (approximately 3,187 acres), consists of urbanized areas that do not provide any habitat value for any of the Covered Species. The ITPs authorize the incidental take of Covered Species in Zone 4, primarily by authorizing Stanford to relocate any species that wander into the urbanized areas to an appropriate habitat area in Zone 1. However, there is no habitat in Zone 4, so development and ongoing urban activities in Zone 4 are not Covered Activities. As such, the DEIS does not analyze the impacts of development or ongoing maintenance and operations in Zone 4.

The HCP requires implementation of a wide range of conservation measures that will minimize the potential adverse effects of operating Stanford University on the Covered Species, including both ongoing operations and maintenance and future development. These measures are called Minimization Measures in the HCP and they apply to the activities that occur in Management Zones 1 and 2, and sometimes when they occur in Zone 3.

Under the Proposed Action, mitigation for incidental take would be accomplished through the on-site preservation, enhancement and management of habitat for the Covered Species. Stanford would earn mitigation "credits" for preserving, managing, and enhancing this habitat and would draw from these credits as development or other permanent land conversions of the habitat occur in the future. Pursuant to the HCP's Conservation Program, Stanford will record permanent conservation easements over Zone 1 lands to protect the habitat most important for the Covered Species.

Under the HCP for CTS Only alternative, the USFWS would issue an ITP that authorizes the incidental take of tiger salamander and Stanford would implement an HCP that covers only tiger salamander. Mitigation for the authorized take would be accomplished through the on-site preservation, enhancement and management of habitat for tiger salamander. Similar to the Proposed Action, Stanford would earn mitigation credits for preserving, managing and enhancing tiger salamander habitat and would draw from these credits when tiger salamander habitat is permanently converted in the future. The Services may authorize the take of other federally listed species on a project-specific basis. This may occur through the ESA's Section 7 consultation process when such activities require permits from the United States Army Corps of Engineers (Corps) (or other Federal agency), or under Section 10 if there is no Federal nexus.

Under the No Action alternative, Stanford would continue to operate the university and to build new facilities as needed, and the Services may issue incidental take authorization as needed through either the Section 7 consultation process or Section 10 of the ESA.

1.4 SCOPING

The Services held a public scoping meeting on September 21, 2006, at the Stanford campus and accepted public comments on the scope of the NEPA document and HCP. As described in more detail in the DEIS, during the scoping process, the Services received a number of comments from members of the San Francisquito Creek Joint Powers Authority (JPA). The JPA, in cooperation with the Corps, is currently pursuing the "Flood Damage Reduction and Ecosystem Restoration Project" for the San Francisquito Creek watershed. JPA member agencies raised questions about the effect of the proposed action on their flood reduction efforts and whether flood reduction improvements could be included as part of the proposed action. These concerns, and other issues raised by the public during scoping have been addressed in this DEIS.

1.5 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES

The direct, indirect and cumulative environmental effects of the three alternatives are described and compared in Chapter 5.

The Proposed Action's effects on the environment would be caused by the Covered Activities, which include ongoing operations and maintenance and future development as well as activities required in the HCP's Conservation Program. Conservation Program activities are typically environmentally beneficial, such as establishing conservation easements, removing barriers in the creeks, erosion control, bank stabilization, control of non-native species, and habitat restoration. Each of the alternatives would cover Stanford's ongoing operations and maintenance activities, and future development. The effects resulting from these activities are therefore generally very similar.

Based on data collected for the General Use Permit (GUP) Environmental Impact Report (EIR) and an assessment of the additional future development anticipated during the term of the ITPs, the future development covered by the ITPs may have unavoidable adverse traffic effects that could remain adverse even after project-specific mitigation measures are implemented. The effects associated with future development could also adversely affect air quality, hazardous materials, and historic resources; however these effects should be mitigated with conditions imposed on specific projects in future environmental review.

Certain ongoing operations at Stanford would be subject to Minimization Measures defined in the HCP's Conservation Program. Some or all of these Minimization Measures would also apply to ongoing activities under the HCP for CTS Only alternative, and similar measures may also be required as conditions of a project-specific ITP issued under the No Action alternative. The Proposed Action and alternatives would not authorize ongoing operations and maintenance, but would regulate the manner in which these activities are carried out to reduce the biological impacts of those activities.

The Conservation Program may have beneficial cumulative effects on biological resources, and generally will not have an adverse cumulative effect on other resources. However, the future development will contribute to existing cumulative effects associated with traffic in the local area and associated with particulate matter emissions in the San Francisco Bay Area Air Basin.

Implementation of the Conservation Program will have both short-term and long-term beneficial biological effects, and will result in minor irreversible or irretrievable effects associated with fuel use.

The Proposed Action is the preferred alternative. It will result in the least damage to the environment and provides benefits related to geology and soils, biological resources, and water quality. The Proposed Action has the advantage of a comprehensive Conservation Program that has broad environmental benefits.