Stanford Habitat Conservation Plan
San Francisquito Creek Watershed Council
April 11, 2007
Agenda

• HCP Overview
• Stanford’s HCP Approach
• Benefits to Covered Species
• HCP Process and Schedule
Purpose of an Habitat Conservation Plan

- Take is prohibited without a permit

- Incidental Take Permit needs to be supported by an HCP

- HCP will:
  - provide a net benefit to the Covered Species
  - implement a comprehensive conservation program
  - set federal ESA-related mitigation requirements
  - not take the place of local land use permits

Matadero Creek; Oct 2006
Basic Elements of an HCP includes:

- **species “covered” by plan**  
  (and the “ecosystems upon which they depend”)

- **types of activities “covered” by plan**

- **anticipated impacts of applicant**  
  (impacts of Covered Activities on Covered Species)

- **conservation program**
  - minimization/avoidance measures
  - mitigation for unavoidable impacts
  - promotes the recovery of the Covered Species  
    (provides for a net benefit to Covered Species)
Stanford HCP: Goals

- Respond to the federal Endangered Species Act
- Support mission as a research and teaching institution
- Coordinate multiple conservation actions
- Provide a 50-year framework for dealing with take and promoting all phases of conservation
- Contribute to regional efforts to maintain native biodiversity

San Francisquito Creek; summer 2002
Stanford HCP: Participants

Lead Agencies

- U.S. Fish and Wildlife Service
- U.S. National Marine Fisheries Service

with

- Stanford University
- California Department of Fish and Game
Stanford HCP: Species Covered

- Western pond turtle
  - San Francisquito Creek; Jul 2006

- Steelhead
  - Los Trancos Creek; Jul 2006

- California tiger salamander
  - Stanford; Dec 2005

- California red-legged frog
  - Matadero Creek; Sept 2006
California tiger salamander (Ambystoma californiense)

- listed as “Threatened” by the USFWS in 2004

- local population largely dependent on an aging reservoir, Lagunita, but also reproducing in two recently constructed ponds

- most of life cycle spent in upland areas
  - usually underground
  - generally active year-round
  - occasionally dormant during driest part of summer

- cross-country migrations occur during rainy nights
California red-legged frog
(*Rana aurora draytonii*)

- listed as “Threatened” by the USFWS in 1996

- two concentrations at Stanford:
  - Matadero/Deer creeks
  - mid-San Francisquito Creek

- large numbers of red-legged frogs are present on west-side of Santa Cruz Mountains

- adults and juveniles often found kilometers from breeding sites
  - in wetlands
  - in upland areas

© 2004 William Flaxington
Western pond turtle
(*Actinemys marmorata*)

- currently not protected by the federal ESA

- scattered throughout the Bay Area, but common in only a few locations

- uncommon at Stanford, but still found in San Francisquito Creek

- make extensive use of upland areas

- problematic population demographics and density
  - very little reproduction
  - aging population
  - too spread out to effectively find mates
Steelhead  
(*Oncorhynchus mykiss*)

- “Central California Coast” ESU listed as “Threatened”
- anadromous “form” of rainbow trout
- entities are not well defined evolutionarily, classified as same species with variable life history
- NOAA working definition:
  - steelhead: all individuals in the zone of anadromy
  - rainbow trout: all individuals upstream of major barriers and/or from headwater areas where no individuals are migratory
Steelhead at Stanford

- Most reproduction occurs in Los Trancos Creek – but some also occurs in San Francisquito Creek and Bear Creek
- Steelhead are no longer regularly present in the Matadero watershed
- Summer densities and total numbers vary by location and year, and range from:
  - 20 to 250 individuals/mile in San Francisquito Creek
  - 180 to 700 individuals/mile in Los Trancos Creek
  - 250 to 1000 total in Stanford portion of San Francisquito Creek
  - 400 to 2200 total in Stanford portion of Los Trancos Creek
Stanford HCP: Covered Activities

- Stanford activities on Stanford lands
  - any action conducted by the University that will result in the take of a Covered Species
  - minor actions of non-Stanford entities (mainly leaseholders) that occur on Stanford lands – with a certificate of inclusion (= acceptance of conditions of HCP)

- Some activities cannot be covered (such as the application of biocides)

- Existing structures (buildings, roads, dams, etc.) do not need to be mitigated

- Significant unanticipated actions would require an amendment
Activities potentially causing take

- Academics
- Facilities operations and maintenance
- Redevelopment
- Future development
- Conservation program
Searsville Reservoir

- Maintenance and current operation are Covered Activities

- The existence of the dam, while causes impacts, does not specifically require ESA mitigation

- Major changes in operation or structure are not Covered Activities
Stanford’s Conservation Strategy

• Target multiple levels of biodiversity

• Permanently protect key resources

• Expand existing conservation programs

• Initiate new conservation activities
Stanford’s Conservation Approach: Target levels of biotic diversity

- individual and genetic
- population
- species
- community
- ecosystem
Stanford’s General Approach: Land designation

- Divide land into management zones based on “value” of land to Covered Species

- This allows for focused impact analyses, mitigation, and conservation efforts
Riparian easements

• Riparian easements will be established prior to new take

• Easements will mitigate future take
  – future development
  – new activities

• Easement acres are “used” as take occurs

• Extent of easements will be increased as necessary to mitigate take

• Easements include funds for management and restoration
Riparian Easements

• Initial extent of riparian easement: 360 acres

• Continuous along creeks on Stanford lands: approximately 13 miles

• Includes areas to be restored
  – initial commitment of 50 acres
  – most sites are located along Los Trancos and Deer creeks
San Francisquito/Los Trancos Easement

- 270 acres
- ~10.5 miles
- **Width ranges from:**
  - 450+ feet in some undeveloped portions of campus
  - ~75 feet in areas where Stanford only owns half the creek bottom and there is local development
Easement management and restoration

• integral part of conservation program

• address immediate threats and problems
  – biological
  – physical

• restoration
  – active and passive restoration
  – long-term objectives
Pond construction

- 8 ponds constructed in lower foothills in 2003

- by spring 2006:
  - California tiger salamanders successfully reproduced in 2 ponds (= multiple larvae survived to metamorphosis)
  - aquatic invertebrates and wetland plants are thriving
  - used by many terrestrial species

- multiple additional ponds will be constructed as part of HCP
Lagunita

• Since 2001 Lagunita has been managed solely for the benefit of CTS

• Lagunita is filled at essentially the same schedule as it has been for the last three decades
  – natural run-off
  – supplemented with creek water
  – allowed to remain dry in years with low rainfall

• Depth of Lagunita has been reduced due to safety concerns (surface area is also reduced, but by a much smaller %)

• This management regime will continue for the 50-year life of the HCP
Minimization of impacts

Best Management Practices

Modification of diversion structures and operation

Review field activities

Monitoring of construction sites
Monitoring

- Annual work since mid-1990s
- Goal to determine the distribution and abundance of species of conservation concern
- Efforts include:
  - creek and pond monitoring
  - night surveys
  - terrestrial and aquatic surveys

Dish service road; Nov 2006

California red-legged frog distribution
Benefit to Covered Species

– improve habitat quality and increase quantity
– increase population size
– increase extent of range
– increase connectivity between occupied areas
Benefit to Covered Species

– Protects significant portion of local biotic communities and ecosystems

– Provide an “umbrella of protection” for many other non-federally listed species and their communities

– Provides for coordinated monitoring, management and restoration plans (= adaptive management)
Benefit to Covered Species

- Substantial mitigation “up front” (= prior to new take)

- Creates program to identify and address future threats and impacts

- Provides framework to take advantage of future opportunities and partnerships
Stanford HCP - Current Process

• Continue agency coordination and communication with interested parties

• Develop
  – Environmental Impact Statement (by federal agencies)
  – Habitat Conservation Plan (by Stanford, “accepted” by agencies)
  – Incidental Take Permits (issued by agencies to Stanford)
  – Implementation Agreement (between Stanford and agencies)
Targeted Schedule

- EIS Scoping........................................................................................................Fall 2006

- Preparation of Draft EIS..........................................................Spring/Summer 2007

- Release Draft HCP and EIS.........................................................Winter 2007
  (Public Review and Comment 60 Days)

- Release Final HCP and EIS.......................................................Spring 2008

- Prepare Final Documents..........................................................Summer 2008

- Agencies issue ITPs.................................................................Fall 2008
Stanford Habitat Conservation Plan
Open Discussion