

# AGENDA

**Stakeholder Committee Meeting  
Butte Regional HCP/NCCP  
Wednesday, May 7, 2008  
11:00am- 3:00pm  
BCAG Conference Room**

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## **Agenda:**

1. Introductions
2. Overview of Recommended Approach to Conservation Strategy  
**(ATTACHMENT #1)**
3. Phil Johnson's Science Panel Report Comments **(ATTACHMENT #2)**
4. Local Species of Concern Accounts (merlin, hitch, hardhead, tule perch, four-angled spikerush, adobe lily, brittle scale, subtle orache, and heartscale) **(ATTACHMENT #3)**
5. New Term to Replace "Provisional Covered Species"
6. Update on General Plan Processes
7. Meeting Notes from April 2, 2008 **(ATTACHMENT #4)**
8. Action Items and Next Meetings



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To: Chris Devine – BCAG  
From: Paul Cylinder – SAIC  
Date: April 30, 2008  
Subject: **Alternative Approaches and Recommended Approach to Developing a Conservation Strategy for the Butte Regional HCP/NCCP**

The conservation strategy chapter of the Butte Regional HCP/NCCP will provide the description of specific approaches to species, habitat, and natural community conservation in the HCP/NCCP planning area. This chapter will include the HCP/NCCP biological goals and objectives, a comprehensive set of conservation measures to achieve those goals and objectives, an adaptive management plan, and a monitoring plan. The purpose of this memorandum is to describe alternate approaches to the structuring of conservation measures and to frame SAIC's proposed approach to the conservation strategy for the Butte Regional HCP/NCCP. To clarify and summarize key general concepts regarding conservation biology and conservation planning, Attachment A with this memorandum includes excerpts from the book Conservation Planning in California (Cylinder et al 2004). In addition, Attachment B to this memorandum provides an excerpt from SAIC's scope of work with the task for developing the conservation strategy.

### **Map-Based versus Process-Based Preserve Design**

A key aspect of a regional conservation plan is to describe the proposed design of the preserve system within the planning area. The NCCP Act requires that a preserve<sup>1</sup> system or equivalent conservation be described in the plan:

*The plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent conservation of covered species appropriate for land, aquatic, and marine habitats within the*

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<sup>1</sup> The terms "preserve," "reserve," and "conservation area" are used synonymously in this memorandum. These terms refer to any area of land or water used in implementing the HCP/NCCP to achieve the conservation goals of the plan. These areas may be fee title or conservation easement acquisitions and may include existing, restored, created, or enhanced habitat. The preserve system refers to the complete assemblage of preserves within the Planning Area.

*plan area.* (section 2820[3]).

The preserve system does not need to be specifically described with demarcated boundaries on a map, but rather can be described based on a defined process driven by a set of design criteria.

The conservation strategy can be structured in various ways. One way to distinguish conservation strategies is based on the level of geographic specificity of the preserve design included in the plan. The range of possibilities is a continuum between a fully map-based plan and a fully process-based plan (see definitions in Attachment A; note that USFWS sometimes uses the terms “hard-line preserves” and “soft-line preserves”). Because a fully map-based plan involves identifying specific properties for preservation and conservation actions, it generates many land use and land ownership conflicts throughout development and implementation of the plan. Such an approach does not address the goal of a willing-seller-only process.

Hybrid approaches can combine the benefits of map-based and process-based approaches without infringing on the willing-seller-only goal. An example of such a hybrid approach is the identification on a map of conservation acquisition zones (CAZ). CAZs are large sections of the planning area with a predominant ecological and land use condition within them. For each CAZ, specific goals and criteria are identified in the conservation strategy for the preservation of natural communities and species habitats found with them. The CAZs are mapped to be large enough such that only a portion of the land within them is necessary to meet the conservation goal and therefore a willing-seller approach can be used to achieve those goals.

### **Hierarchy of Ecological Scales**

The conservation strategy can be broken into separate but interrelated conservation measures based on a hierarchy of ecological scales. These scales may be:

- Landscape-level conservation measures (including the preserve design criteria)
- Natural Community-level conservation measures (including habitat enhancement and restoration measures)
- Population-level conservation measures (including impact avoidance and minimization measures)

Dividing the strategy into conservation measures by ecological scale allows for a more efficient achievement of biological goals and objectives because broad-scale landscape-level conservation measures typically address the ecological requirements of a wide range of covered species and natural communities, obviating the need for creating long lists of redundant natural community-level and population-level measures for each covered species.

### **“Top-down” versus “Bottom-up” Approach**

A top-down conservation strategy addresses landscape-level conservation measures first and then identifies natural community-level and population-level measures necessary to address conservation of covered species not encompassed by the larger scale landscape measures.

A bottom-up conservation strategy includes a conservation strategy, composed of a set of species-specific conservation measures, for each individual covered species. The natural community-level and landscape-level requirements are then build-up from the various individual species strategies.

There is great inefficiency in the bottom-up approach as it essentially involves writing as many conservation strategies as there are species covered by the HCP/NCCP. The large amount of spatial overlap in habitat for different species results in the preparation of multiple species-specific conservation strategies with many redundant conservation measures. Using this approach for the Butte Regional HCP/NCCP, we would need to prepare 43 separate and complete conservation strategies. There would be substantial overlap and redundancy in conservation measures among these species strategies. For example, there are 13 proposed covered species closely associated with vernal pool and swale complex communities for which a single set of landscape-level preserve design criteria could address the bulk of the conservation needs of all of these species to meet biological goals and objectives.

A top-down approach that addresses the requirements of covered species and planning species in setting criteria for landscape-level and natural community-level conservation (e.g., the preserve design criteria) will provide most of the conservation outcomes necessary for most covered species. Additional conservation measures to address individual covered species can then be provided to close any gaps in conservation for individuals species not addressed by larger-scale measures.

### **Addressing a Range of Ecological Conditions and Processes**

The NCCP Act requires that the plan address the conservation of ecosystem functions, environmental gradients, biological diversity, and shifting species distributions. A well prepared HCP also addresses these issues, though there is no specific regulatory requirement to do so.

The conservation strategy will include preserve design criteria and habitat management measures to address ecological processes. Habitat management tools include such actions as managed grazing, controlled fire, and stream flow management. The preserve size, shape, and proximity to developed lands affect the type and effectiveness of habitat management techniques that can be used. Effects on habitat management will be taken into consideration as preserve design criteria are established.

Environmental gradients are important to biodiversity, individual and population movement and migration, and shifting species distributions. The landscape-level conservation measures will identify the locations of intact environmental gradients for

conservation. A good example is the protection of continuous elevation gradients of natural communities from the valley floor to the eastern Planning Area boundary. Stream/riparian corridors tend to cross and to create a number of ecological gradients and therefore conservation measures for stream/riparian corridors and surrounding upland communities will be developed.

Conservation of biological diversity in the planning area will be addressed through a number of conservation measures. Landscape-level goals will be set for different major landforms in the Planning Area (e.g., Tuscan Formation grasslands, Sierran oak woodlands, Red Bluff Formation vernal pool and swale complexes). This approach will prevent substantial loss of natural communities in any one geomorphic landform that might risk the loss of biodiversity. The identification of minimum patch sizes and connectivity in the preserve design criteria for each natural community will serve to protect biodiversity. Planning species with the largest range and movement requirements and planning species that are most sensitive to movement barriers will be used to set minimum thresholds for natural communities and therefore will be assumed to best maintain biodiversity in the Planning Area. Measures to protect environmental gradients and to conserve areas to accommodate shifting species distributions will also serve to protect biodiversity. Habitat management measures to create disturbance regimes and a mosaic of successional seres will serve to maintain biodiversity.

Regional climate change as a result of factors causing global climate change is anticipated to result in shifting species distributions. Based on predicted changes in local climate it is anticipated that species will shift their distributions to higher altitudes and higher latitudes. To accommodate these distributional shifts we will identify locations within and outside of the Planning Area to be targeted for protection such that undisturbed landscapes are available into which species distributions may shift.

### **Types of Conservation Measures**

The conservation strategy will include a comprehensive list of conservation measures. Conservation measures can be grouped into categories. Examples of such categories are:

- Preserve design and assembly criteria (including total extent, patch size, patch shape, connectivity, spatial relationships)
- Avoidance and minimization measures (including planning survey and pre-construction survey requirements)
- Habitat acquisition measures (including conservation easement and fee title acquisitions)
- Habitat restoration and enhancement measures
- Habitat management measures
- Wildland-urban interface (WUI) requirements/guidelines

### **The Monitoring and Adaptive Management Plans**

Monitoring plan and adaptive management elements in the conservation strategy are recommended for HCPs in guidance provided in the USFWS's Five-Point Policy and are requirements of the NCCP Act. The NCCP Act states that:

*The plan integrates adaptive management strategies that are periodically evaluated and modified based on the information from the monitoring program and other sources, which will assist in providing for the conservation of covered species and ecosystems within the plan area. (section 2840 [2]).*

Different types of monitoring will be provided in the monitoring plan section of the conservation strategy, including:

- Compliance (or implementation) monitoring – used to document the implementation of conservation measures and compliance with terms and conditions of the permit
- Effects monitoring – used to evaluate the effects of covered activities (identified for covered activities for which there are uncertainties about the extent of likely impacts and mitigation needs)
- Effectiveness monitoring – used to determine the response of covered species and natural communities to the implementation of conservation measures (this is important for providing information necessary to implement the adaptive management plan)

Under the Five-Point Policy, the federal wildlife agencies define adaptive management as “a method for examining alternative strategies for meeting measurable biological goals and objectives, and then, if necessary, adjusting future conservation management actions according to what is learned.” The conservation strategy will include an adaptive management plan that spells out the process by which the monitoring results and input from new scientific research will be incorporated into plan implementation and how conservation measures may be modified as new knowledge is gained.

### **Conservation Plan Alternatives for the EIR/EIS**

The conservation strategy developed for the Butte Regional HCP/NCCP will be evaluated in an environmental impact report/environmental impact statement (EIR/EIS) for effects on the human environment.

The EIR/EIS will describe the screening process by which the proposed conservation strategy was developed. This section of the EIR/EIS will overview the process by which the Stakeholder Committee and permit applicants developed the HCP/NCCP.

The EIR/EIS will evaluate 2-3 fully developed alternatives to the proposed conservation strategy. Examples of potential alternatives are:

- No Action/No Project Alternative (must be included; means no permits are issued and not regional plan is implemented; typical project-by-project permitting continues)
- Proposed Conservation Strategy
- Greater Extent of Habitat Conservation Alternative
- Lesser Extent of Habitat Conservation Alternative
- Different Approach to Preserve Design Alternative
- Listed Species Conservation Only Alternative

### **Summary of Recommendations on Approach to the Conservation Strategy**

SAIC recommendations that the Butte Regional HCP/NCCP incorporate the following into the development of the conservation strategy:

1. Identify biological goals and objectives.
2. Use a hybrid approach between map-based and process-based strategies that includes subdividing the planning area into conservation acquisition zones (maintaining a willing-seller approach) and identifying specific natural community and species habitat targets for each zone;
3. Address conservation measures through a hierarchical method with landscape-level, natural community-level, and population-level measures;
4. Develop preserve design criteria as landscape-level measures based on the spatial habitat requirements of covered species and other non-covered planning species representative of natural communities;
5. Use a full range of conservation measures including habitat and population impact avoidance, impact minimization, preservation, restoration, enhancement, and management.
6. Address both the mitigation of impacts from covered activities and the contribution to recovery of species.
7. Address the full range of ecological conditions and processes important to long-term viability of covered species, species of local concern, biodiversity and natural communities;
8. Seek to preserve elevation gradients and natural community mosaics;
9. Include measures that provide spatial flexibility to address shifting species distributions resulting from climate change;
10. Provide a robust monitoring plan that supports the adaptive management plan;
11. Incorporate an adaptive management approach where necessary and applicable.

## **ATTACHMENT A. EXCERPTS FROM HABITAT CONSERVATION PLANNING BOOK:**

The follow text is excerpt from the book: “Understanding the Habitat Conservation Planning Process in California: A Guidebook for Project and Regional Conservation Planning” authored by Paul Cylinder, Ken Bogdan, and David Zippin; published by the Institute for Local Government in 2004. Available **free** on line at:  
<http://www.cacities.org/index.jsp?zone=ilsg&previewStory=22255>

### **BIOLOGICAL SCIENCE**

Regional plans should rely on the best scientific and commercial information available. Physical and biological information is used to identify resources, establish goals and objectives, analyze impacts, and develop conservation measures. To support plan development, the scientific disciplines of conservation biology, wildlife and fisheries ecology, plant ecology, hydrology, soil science, geology, and others are combined with the applied sciences of ecosystem restoration and habitat management.

#### **Spatial Principals of Preserve Design**

The principles of conservation biology provide the basis for design of an interconnected system of conservation areas. These areas support the conservation of individual species, species diversity, and overall ecosystem function. Conservation areas are those lands used specifically to achieve conservation goals. They may include lands for the protection of existing habitat, restoration of new habitat, and management of habitat for particular species requirements. The design of each conservation area must take into account:

- *Size.* The size of conservation areas is determined by biological goals. These goals are usually based on the size of the species’ range, the area necessary to support ecological functions and maintain species diversity, or a combination of these factors.
- *Shape.* The shape of conservation areas determines the ratio of perimeter to area. The optimum shape limits contact with incompatible land uses on the perimeter and maximizes undisturbed internal habitat area.
- *Edge Effects.* Edge effects are the effects of adjacent land uses (e.g., agricultural land, urban development, or rural development) on the conservation area. The need for “buffer” zones to reduce those effects must be addressed.
- *Spatial Relationships.* The design of the conservation areas must address the spatial relationships among conservation areas. Biological connectivity (for species movement, migration, and gene flow) among conservation areas is necessary to ensure that species will survive in the long term.

Effective conservation planning treats each species as unique and recognizes that knowledge of all species is incomplete. Ecologists developing conservation plans are often hampered by limited data on covered species. They must often depend on knowledge of similar species to develop criteria for covered species with the expectation that adaptive management during plan implementation will address these uncertainties (see “Adaptive Management Plan” in Chapter VI).

### **Species-Specific Requirements**

The conservation area system design should be based on the ecological requirements of species covered by the regional habitat plan. Criteria used in establishing these requirements include the following.

- *Specific Habitat Requirements.* Specific habitat requirements are different for every species. For example, plans for terrestrial wildlife usually address breeding, foraging and resting habitat; movement and migration routes; and interactions with predators, competitors, parasites, and diseases. Plans for fish species, on the other hand, often address feeding, spawning, and rearing habitat; specific conditions of water temperature, volume, and flow dynamics; movement and migration routes; three-dimensional physical structure (submerged logs and rocks and shaded aquatic habitat); and interactions with predators, competitors, parasites, and diseases. For plant species these requirements may include water, temperature, and soil requirements; slope, aspect, and elevation; flood scour, fire, and wind-throw; beneficial interactions with other species (e.g., pollinators, root fungi); and adverse interactions with other species (e.g., grazers and browsers, competing plant species, insect herbivores, diseases).
- *Movement Capabilities.* The movement of species must be considered in conservation area design. The survival of some species depends on preservation of their migration routes. The extent to which conservation areas must be physically connected depends on the ability of species to overcome barriers. Barriers for some species are not barriers for others. For example, a two lane road may impair the movement of reptiles, amphibians, and small mammals, but not birds. For long distance flyers like ducks and geese, whole cities may not pose obstacles to movement between habitat patches.
- *Population Dynamics and Demographics.* Population dynamics and demographics include the natural fluctuations of populations in size and location and the make-up of populations with regard to individuals’ ages, sizes, and gender. Conservation area design must take into account the natural fluctuations that are expected in species populations resulting from varying annual precipitation and temperature conditions, long-term climatic variations, minor and catastrophic disturbance events, predator and prey population fluctuations, disease outbreaks, and other causes.

- *Population Genetics and Gene Flow.* Population genetics and gene flow include the genetic variation within and among populations of the species and the natural pathways or restrictions to the movement of genes over generations. Maintaining genetic variation, the patterns of variation and the pathways for gene flow within a species is an important goal for conservation plans.

A key concept in conservation planning is that of the *metapopulation*. A metapopulation is a collection of discrete local breeding populations connected by migration and gene flow. While individual populations within a metapopulation may die out, individuals from other populations in the metapopulation may recolonize vacated areas and reestablish these populations. Thus, the metapopulation will persist over time, though populations within it may come and go. The movement of individuals and genes among populations within a metapopulation and the viability of the metapopulation are important parameters to consider in conservation planning.

## CONSERVATION STRATEGY AND CONSERVATION MEASURES

The heart of a regional conservation plan is the conservation strategy. Depending on the size and scope of the plan, the strategy may include a broad-based set of policies, specific conservation measures, or a combination of both. The conservation strategy must include an approach that meets the mitigation requirements of the U.S. Fish and Wildlife Service and the Department of Fish and Game to first avoid, second minimize, and third compensate for impacts on covered species. The conservation strategy must include an approach that meets the California ESA requirement of fully mitigating all impacts, the Natural Community Conservation Planning Act requirement for conserving species, and the federal ESA requirement of minimizing and mitigating impacts to the maximum extent practicable. There are as many approaches to conservation strategies as there are plans. The conservation strategy typically includes measures to preserve populations and habitat, to enhance and restore populations and habitat and to preserve and restore ecosystem processes. Plans may include conservation measures at a range of spatial scales.

- *Landscape-level measures* address overall conservation area design, including size, shape, composition, and buffers.
- *Community-level measures* include approaches to enhancing and restoring natural communities to improve ecological functions, species habitat, and biodiversity.
- *Species-specific measures* address means to increase species populations or genetic diversity through more direct means. These measures may include predator control, competitor control, weed removal, population augmentation, artificial habitat structures (e.g., nest boxes), and relocation of individuals.

Regional conservation plans vary greatly in their use of maps to identify the boundaries of conservation areas. At one extreme, a conservation plan may identify on a map the specific boundaries of conservation areas to be established (a *map-based plan*). At the

other extreme, the plan may describe a process, without identifying specific locations, by which the system of conservation areas will be assembled during plan implementation (a *process-based plan*). To achieve conservation goals, process-based plans typically rely on mitigation ratios (amount of restoration or preservation required for each unit of habitat affected) based on habitat acreage or an ecosystem function scoring system. Map-based and process-based approaches may be combined in the same plan. The advantages and disadvantages of map-based and process-based plans are summarized in Table VI-1.

Among approved conservation plans, the central/coastal Orange County Natural Community Conservation Plan and San Diego Multi-Species Conservation Plan in southern California are primarily map-based approaches. The Natomas Basin Habitat Conservation Plan and San Joaquin County Habitat Conservation Plan are primarily process-based approaches. The proposed Kern Valley Floor Habitat Conservation Plan is a hybrid of map- and process-based approaches that includes mapped geographic zones in which impact assessment and mitigation measures follow different processes. The proposed Western Riverside County Natural Community Conservation Plan and East Contra Costa County Natural Community Conservation Plan are hybrid map-based/process-based plans that include mapped zones for land acquisition within which property would be purchased from willing sellers.

<b>Table VI-1. COMPARISION OF MAP- AND PROCESS-BASED PLANS</b>	
<b>Map-Based Plan</b>	<b>Process-Based Plan</b>
<p><b>Definition</b>            Identifies specific boundaries of conservation areas to be established.</p>	<p><b>Definition</b>            Describes a process for assembling a system of conservation areas without identifying specific locations.</p>
<p><b>Advantages</b>            Clearly designates areas for conservation and development; easier to apply principles of conservation biology; easier to monitor; typically does not require pre-project surveys to measure impacts and determine mitigation.</p>	<p><b>Advantages</b>            Avoids controversy of identifying specific areas for conservation; easier to develop mitigation ratios rather than to plan conservation area system; more flexibility in assembling conservation areas; less likely to be reliant on specific or key parcels.</p>
<p><b>Disadvantages</b>            Landowner concerns about effects on property values; requires collection of a greater amount of habitat and species data during the plan development process so that impacts and conservation measures can be assessed; more difficult to adapt conservation area system design to new information derived from monitoring and research; reliant on specific areas or parcels for plan success.</p>	<p><b>Disadvantages</b>            Reliant on process and guidelines to develop ultimate conservation areas; less certainty as to conservation area system design and eventual function; may result in a patchwork of conservation areas; typically requires future expenditures for project-specific surveys to determine impacts, so that mitigation requirements can be determined.</p>
<p><b>Examples</b>            Central/Coastal Orange County Natural Community Conservation Plan and San Diego Multi-Species Conservation Plan</p>	<p><b>Examples</b>            Natomas Basin Habitat Conservation Plan and San Joaquin County Multi-Species Habitat Conservation and Open Space Plan</p>

*ATTACHMENT B. EXCERPT FROM SAIC SCOPE OF WORK FOR BUTTE  
REGIONAL HCP/NCCP*

**Subtask 7.3 Prepare Conservation Strategy**

Following the Stakeholder and Steering Committees selection of a proposed conservation strategy approach under Task 7.1 in Phase 2, SAIC will prepare a detailed description of the strategy that will serve as the draft conservation strategy chapter for the HCP/NCCP. The proposed conservation strategy will describe measurable goals and objectives for each of the covered species and natural communities and will be consistent with guidance provided under the USFWS's Five-Point Policy for HCPs and the requirements of the NCCP Act. Key elements of the conservation strategy are the conservation measures, monitoring plan, and adaptive management plan. The strategy will address conservation measures at the landscape level, natural community level, and species-specific level.

Working with the recommendations of the Science Advisory Panel, SAIC will develop principles and guidelines for establishing the HCP/NCCP preserves (i.e., lands that will be conserved and managed under the HCP/NCCP). The preserve system design guidelines will provide landscape-level conservation. These preserve system design guidelines will address such parameters as the appropriate composition, size, location, and landscape position relative to other habitats for the establishment of preserves.

To help establish these guidelines, SAIC will identify species whose key habitat parameters (e.g., minimum patch size necessary to support habitat functions) encompass the habitat of a much larger number of species. Thus, designing preserves that meet the needs of these broad ranging species should also meet some or all of the needs of other species that use similar habitats. Other parameters for preserve design will focus on preserving a sufficient extent of specific habitats or habitat components that are exceptionally rare or fragile such as vernal pool terrain. In formulating conservation measures, SAIC will look for opportunities, consistent with achieving the biological goals and objectives, to design the preserves to complement and augment the values provided by existing preserved lands (e.g., Gray Lodge Wildlife Area) and sensitive habitat areas (e.g., ESA designated critical habitat, habitat identified in ESA recovery plans, and deer habitat and migration corridors).

Conservation measures will be developed to conserve each of the covered natural communities. These community-level conservation measures will address ecosystem functions necessary to sustain each natural community and will also provide for the protection, enhancement, and restoration of habitats for the covered species associated with each of the communities. Community-level conservation measures will include provisions for management actions that may need to be periodically implemented to maintain desired vegetative structure and compositions and reduce the risk of wildfire.

The conservation strategy will identify species-specific conservation measures for those covered species for which their conservation needs cannot be wholly achieved through implementation of landscape- and natural community-level measures. Examples of species-specific measures include measures that would be implemented in conjunction

with covered activities that would avoid and minimize direct effects on covered species or that provide for protecting specified habitat areas necessary to conserve one or more covered species. These elements of the conservation strategy will be designed to be consistent and compatible with developing General Plan policies and land use designations for the County and the Cities.

The monitoring plan and adaptive management elements of the conservation strategy will be designed to meet the guidance provided in the USFWS's Five-Point Policy for HCPs and the requirements of the NCCP Act. The monitoring plan will identify monitoring goals and objectives, monitoring protocols and schedules, and reporting requirements. The plan will provide for effects monitoring (if needed), implementation monitoring, and effectiveness monitoring. Effects monitoring will only be identified for covered activities for which there are uncertainties about the extent of likely impacts and mitigation needs. The potential need for effects monitoring would be identified based on the results of the impact analysis. Implementation monitoring will describe the monitoring to be undertaken to document the implementation of conservation measures and compliance with terms and conditions of the permits. Effectiveness monitoring will be included to determine the response of covered species and natural communities to the implementation of conservation measures. Effectiveness monitoring will be directed towards providing the Implementing Entity with the information necessary to adaptively implement the conservation strategy over the term of the HCP/NCCP. The adaptive management plan will address processes and procedures for adjusting HCP/NCCP implementation based on new information learned through results of effectiveness monitoring and research conducted under the HCP/NCCP and by others over the term of the HCP/NCCP. The adaptive management plan will also identify changed circumstances and remedial measures that would be implemented in the event of one or more changed circumstance and will identify procedures for addressing unforeseen circumstances as defined under USFWS and NOAA Fisheries regulations.

SAIC will provide the Steering Committee, Stakeholder Committee, permitting agencies, and Science Panel with a draft proposed conservation strategy for review. Based on comments received, SAIC will prepare a revised draft for inclusion in the HCP/NCCP.

Regional Conservation Plan  
Science Advisor Report comments

By Altacal Audubon, Phil Johnson  
*Responses from SAIC in red italics (4/1/08).*

2.1 In general, will all of the scientific sources that are cited by the Science panel be formally cataloged into the RCP final draft, so that the future RCP implementing agency can use these documents as official sources for any future/potential conflict resolutions of gray areas left in the plan ?

*The Science Advisors Report (SAR) is part of the administrative record of HCP/NCCP development and will be available to the Implementing Entity (IE) of the HCP/NCCP. Therefore, there is no need to repeat the recommendations of the SAR in the HCP. The IE is free to (and encouraged to) use the SAR as a reference during implementation.*

2.1 (bullet 5) Does SAIC have a copy of Peter Moyle's (2002) book "Inland Fishes of California", or is the information in this book otherwise being used as part of the RCP?

*Yes, we do have Moyle 2002 and used it in development of fish species accounts.*

2.2 (bullet 2) Will populations sizes be identified, and mapped, as part of the conservation strategies?

*In general, no. This information is not readily available or easily acquired for most species. However, for Butte Co meadowfoam, SAIC will be using population estimates from past surveys in the assessment of conservation benefits and potential impacts.*

2.3 (bullet 3) Has a flood plain map been produced for the Plan Area?

*SAIC has floodplain GIS data for the planning area. We have not created a hardcopy map. We will use these data in plan development (e.g., identification of potential riparian forest restoration sites). Flood zones suggested (50, 100, 250-year) are not relevant to riparian habitat (2, 5, and 10-year flood zones are more relevant).*

2.3 (bullet 4) Has Steve Greco been contacted to find out if there are "potential alternative land cover maps" that could be used if needed?

?

3.2 The panel recommends realigning the eastern boundary to reflect "land ownership, land management boundaries, road alignments, or other legally defined boundaries". This seems critical to be able to legally defend the project. Are the lines drawn in the current computer mapping surveyable on the ground,

and thus clearly, and legally defined? If not, how can we proceed with establishing another boundary?

*The eastern boundary of the planning area is based on the ecological boundary of the contiguous oak woodland dominated vegetation. The only concern would be if parcels proposed for development and covered under the HCP straddle the boundary. We are not aware of any such parcels. Acquisition under the conservation strategy of parcels that straddle the boundary and support target habitat would not be precluded. We anticipate that the Plan will include measures to acquire lands above the eastern planning area boundary to address changing vegetation and species distributions with anticipated climate change.*

3.2 Due to the shifting nature of the Sacramento River, and the nature of the shared boundary of the river corridor, it seems inevitable that we will have to partner with neighboring counties to manage habitat for certain species over time (particularly Bank Swallow, Yellow-billed Cuckoo). This would require mapping the west bank of the river in certain cases, as suggested by the science panel. Are we going to do this?

*While covered activities will specifically preclude any activities affecting the Sacramento River, the IE would be free to address riparian habitat conservation through actions along the Sacramento River.*

3.4.2 Should we begin the process of selecting “planning species” for each of the natural community types in the NCCP as suggested by the science panel? Where will this fit into the overall process?

*As we move into the development of the Conservation Strategy (late this spring), SAIC will identify a number of planning species (“umbrella species”) that will be used to set size, shape, and connectivity guidelines for preserve design addressing different natural communities. Additional planning species may be identified in the monitoring plan as indicator species. Planning species, such as keystone species, may also be identified in conservation measures to enhance covered species survival (e.g. ground squirrels provide benefits to a number of covered species).*

3.4.1 Chaparral- the science panel believes that chaparral is “another vegetation community deserving of conservation attention in the county”. Chaparral is mapped in the Land Cover Mapping. Can we calculate how much chaparral is in the Plan area (by acreage) and discuss possible inclusion in the plan?

*The planning area was selected specifically to focus on the oak woodland community and not to extend into the chaparral dominated portions of the County. A small amount of chaparral is in the planning area because it occurs as “island” patches within oak woodland dominated terrain at higher elevations and because we included the entirety of Bidwell Park in the planning area and it supports chaparral at its highest elevation. Inclusion of the chaparral as a covered natural community would require substantial extension of the planning area upslope.*

3.4.1 (Bullet 1) Windowpane monardella- Where are we at with this species.

*Windowpane monardella is a covered species. With only one known occurrence, no habitat model could be created. The single population will be specifically addressed in the conservation strategy.*

Are we subdividing the “Grasslands and vernal pool grasslands” category of the “Natural Community” list to reflect the “three main types of vernal pools...on six different geologic substrates” as requested by the science panel?

*The conservation strategy will be based on conservation of the full range of landscape diversity including conservation of grasslands and vernal pool grasslands on each of the major geomorphic surfaces/formations (e.g., Red Bluff, Tuscan, Laguna, Riverbank, and Modesto).*

4.2 What is the status of the mapping of conservation lands in the plan area? Has this been exhaustively searched as is called out in the report? How shall we go about getting a comprehensive listing of all of the easements, management areas, etc?

*SAIC has developed a GIS database of existing protected lands of various ownerships (federal, state, local, private) and types (refuges, preserves, parks, management areas, mitigation banks). Drafts of this map have been displayed at Stakeholder meetings. SAIC has used various sources (County, City, BCAG, DFG, TNC) to identify private easement lands. Some private easements will not be displayed on public maps where the landowner may not want the property identified as such.*

The science advisors asked for a response from us as to why we chose to adopt/deny findings from their report. When will this be done?

*The SAR provides advice to the plan developers, not findings. The applicants are not required to “adopt” or “deny” SAR recommendations or to respond to the SAR. The SAR has been and will be used throughout development of the HCP and into HCP implementation. There is no plan to provide feedback to the science advisors, but we may request additional advice from them as the planning process moves forward.*

## Species of Local Concern (Wildlife and Fish Species)

### Merlin (*Falco columbarius*)

**Status.** The merlin was previously designated as a state species of special concern by DFG (Remsen 1978); however, the species is not included on the recently published revision of DFG's Bird Species of Special Concern (Shuford and Gardali 2008). The merlin currently has no federal, state, or other special status in California.

**Description.** The merlin is a small falcon (24-30 cm) with long pointed wings (53-68 cm) and a long banded tail. It is the least distinctively marked falcon in North America with a faint mustache mark, brown streaking on the chest and belly, and with an unmarked gray or brown back (Sodhi et al. 1993). The sexes are similar, but the male is smaller and with a gray back; the female has a brown back.

**Distribution.** The merlin's breeding range extends across Alaska and Canada and southward to the most northern United States. The species also occurs across northern Eurasia. The merlin does not breed in California. Merlins winter from southern Canada to northern South America (Sodhi et al. 1993). In California, it is an uncommon winter migrant from September to May, occurring throughout most of the western half of the state below 1,500 m (Zeiner et al 1990).

**Habitat Associations.** In California, merlins winter in open woodland, grasslands, open cultivated fields, marshes, estuaries, and along the coast. In the Central Valley, merlins are generally associated with agricultural and open grassland or savannah habitats merlins, particularly when associated with seasonal or permanent marsh habitats (Sodhi et al. 1993). They are generally not found in heavily wooded areas (Garrett and Dunn 1981). They prey primarily on birds, but also take small mammals, reptiles, and insects.

**Habitat Availability in the Planning Area.** Within the planning area, available habitat includes non-orchard agricultural fields, grasslands and vernal pool grasslands, and seasonal and permanent marshes and wetlands. Merlins may benefit from rice fields because these areas concentrate shorebird and other avian prey (Jones & Stokes 2005).

**Occurrence/Distribution in the Planning Area.** Merlins are occasionally reported in Butte County during the non-breeding season. The species occurs uncommonly throughout the non-orchard agricultural, grassland, vernal pool grassland, and wetland communities.

### Hitch (*Lavinia exilicauda*)

**Status.** Hitch have no federal or state status and no other special status. Moyle (2002) identifies them as a 1D “watch list” species.

**Description.** Hitch are native cyprinids (minnows) with laterally compressed, moderately deep bodies, moderately large scales, and a small head. The body tapers to a narrow caudal peduncle. They have a large forked tail and long anal fin, which distinguishes this species from most other California cyprinids. Individuals can reach up to 35 cm (standard length).

**Distribution.** Hitch are native to the Sacramento-San Joaquin River Delta and upstream tributaries, Clear Lake and associated lakes, the Russian River, and Pajaro-Salinas Rivers and major upstream tributaries. They have been introduced into upstream reservoirs within their native range and are found in the San Luis Reservoir in Merced County and in Los Angeles County, presumably by introduction via the California Aqueduct.

**Habitat Associations.** Hitch are found in warm, low elevation lakes, sloughs, and slow-moving portions of rivers and clear, low-gradient streams. Individuals are generally found in streams with sandy bottoms but can live in urbanized channels with high turbidity and silt loads.

**Habitat Availability in the Planning Area.** Most creeks and rivers in the planning area have stretches of slow-moving water that are potential habitat for hitch.

**Occurrence/Distribution in the Planning Area.** The Central Valley subspecies of hitch (*L. e. exilicauda*) is found most commonly in undisturbed reaches in the planning area (M. Marchetti pers. comm.). Hitch are found occasionally in the Feather River and in other waterways in Butte County (McReynolds pers. comm.). It is likely that hitch are found in other waterways with appropriate habitat throughout the planning area.

### **Hardhead (*Mylopharodon conocephalus*)**

**Status.** Hardhead have no federal status, but are identified as a California Species of Special Concern by DFG. Moyle (2002) identifies them as a 1D “watch list” species.

**Description.** Hardhead are large native cyprinids (60 cm or greater standard length) that have an elongate body, forked tail, and a shape similar to pikeminnow. Juveniles are silver colored, turning brown to dark bronze with maturity.

**Distribution.** Hardhead are widely distributed in undisturbed stretches of low- to mid-elevation streams in the Sacramento-San Joaquin River watershed. In the Sacramento drainage, hardhead are typically found in larger tributary streams as well as the mainstem Sacramento River.

**Habitat Associations.** Hardhead prefer clean, deep pools and runs with well-oxygenated water, substrate with a mix of sand, gravel, and boulders, and slow flows.

**Habitat Availability in the Planning Area.** There are several moderately large creeks and rivers in the Planning Area that support or could support hardhead populations.

**Occurrence/Distribution in the Planning Area.** Hardhead are found in scattered populations in waterways throughout the Planning Area. They have been seen in high numbers in Big Chico Creek (T. McReynolds, pers. comm.) and the Feather River (A. Seesholtz, pers. comm.). Hardhead are considered “plentiful” upstream of Lake Oroville (Oroville Facilities FERC Relicensing Project 2004). It is likely that hardhead are found in other waterways with appropriate habitat throughout the planning area.

### **Tule Perch (*Hysterothorax traskii*)**

**Status.** Tule perch have no federal or state status and no other special status. Moyle (2002) identifies them as a 1D “watch list” species.

**Description.** Tule perch are medium-sized (<15 cm total length), deep-bodied embiotocids (surfperch). Their color is highly variable, but is generally dark blue or purple on their backs and white or yellow on their underside. There are three color variants of side barring: unbarred, broad-barred, and narrow-barred. Only unbarred and narrow-barred individuals are found in the Planning Area. Adults often have a hump on their back between their head and dorsal fin. Both dorsal fin rays and anal fin rays extend to the caudal peduncle.

**Distribution.** The Sacramento-San Joaquin subspecies of tule perch (*H. t. traskii*) is found in Central Valley rivers up to major canyons or water falls. It also occurs in the Delta, Suisun Marsh, the Napa River, and other creeks in the San Francisco Bay area. The Russian River subspecies is found throughout the Russian River and lower reaches of its tributaries. The Clear Lake subspecies is found in Clear Lake and nearby lakes. Tule Perch have established in Silver and Pyramid Reservoirs, presumably carried there from the Delta via the California Aqueduct.

**Habitat Associations.** Tule perch are typically found in lowland lakes, estuarine sloughs, and clear rivers and streams. They require cool, well-oxygenated water and have a high salinity tolerance. As their name suggests, they are commonly associated with tules (*Schoenoplectus* spp. and *Scirpus* spp.)

**Habitat Availability in the Planning Area.** There are a number of creeks and rivers in the Planning Area that support or could support tule perch populations.

**Occurrence/Distribution in the Planning Area.** The Sacramento-San Joaquin River subspecies of tule perch is found in Big Chico Creek and tributaries (T. McReynolds, pers. comm.) and the Feather River (A. Seesholtz, pers. comm.). It is likely that tule

perch are found in other waterways with appropriate habitat conditions throughout the planning area.

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## **Personal Communications:**

- 1/16/08. Alicia Seesholtz, Environmental Specialist, DWR. Phone Conversation with Rick Wilder about fish distribution and abundance in the Feather River.
- 2/18/2008. Michael Marchetti, Professor, CSU Chico. Phone conversation with Rick Wilder regarding fish distribution and abundance in Butte County.
- 2/19/2008. Tracy McReynolds, Biologist, DFG. Phone conversation with Rick Wilder about fish distribution and abundance in Big Chico Creek.

## Species of Local Concern (Plant Species)

### **Brittlescale** (*Atriplex depressa*)

**Status.** Brittlescale is a federal Species of Concern. It currently has no status under the federal ESA or California ESA. It is listed as a CNPS List 1B.2 species with a state ranking of S2.2 (defined as 6 to 20 occurrences or 1000 to 3000 individuals or fewer than 2,000 to 10,000 acres of occupied extent) (CNPS 2008). It is covered under the East Contra Costa County HCP/NCCP federal and state permits and is proposed for coverage under the Solano County HCP/NCCP.

**Description.** Brittlescale is a small annual herb, grayish in color, which generally grows prostrate and rarely exceeds 8 inches (20 centimeters) in height (Hickman 1993). Its flowers are inconspicuous. Species of *Atriplex* are most easily identified when plants are bearing fruit (Hickman 1993). Brittlescale (like subtle orache) has oppositely-arranged leaves while lesser saltscale has spirally-arranged leaves (Preston pers comm).

**Distribution.** Brittlescale is a California endemic. It is known from both the Sacramento and San Joaquin valleys, ranging from Glenn and Butte County in the north to northern Kern County in the south. Of the 52 occurrences known throughout its range, most are located in Alameda, Contra Costa, and Solano County (CNDDDB 2008).

**Habitat Associations.** Brittlescale occurs on alkali soils. It typically occurs in barren areas within alkali grassland, alkali meadow, and alkali scrub communities. It is occasionally found on the margins of alkali vernal pools (Calflora 2008).

**Habitat Availability in the Planning Area.** Suitable habitat for brittlescale is found on intermittently flooded alkali soils in the basin landform. In the planning area these are found in the far southwest portions of the county, principally at the Gray Lodge Wildlife Refuge (See lesser saltscale habitat suitability model at [www.buttehcp.com](http://www.buttehcp.com)).

**Occurrence/Distribution in the Planning Area.** It is unlikely that this species occurs in the planning area. According to the California Native Diversity Database, the species is recorded from one occurrence in Butte County, located at Gray Lodge (CNDDDB 2008). R. Preston states that this occurrence was a misidentification, and that the species was actually a lesser saltscale occurrence (pers comm 1/03/08). Preston states that it is not known to Butte County, though it may have originally been there. However, because of taxonomic uncertainty regarding the species, it will remain as on the Species of Local Concern list until further evidence demonstrates that it is not present in Butte County.

### **Subtle orache** (*Atriplex subtilis*)

**Status.** Subtle orache currently has no status under the federal or state ESA (CNPS 2008). It is a CNPS 1B.2 plant, with a state ranking of S2.2 (defined as 6 to 20 occurrences or 1000 to 3000 individuals or fewer than 2,000 to 10,000 acres of occupied extent) (CNPS 2008). It is not included in other HCPs or NCCPs. It is a recently described plant species (Stutz and Chu 1997).

**Description.** Subtle orache is a small annual herb, grayish in color, which generally grows prostrate and rarely exceeds 8 inches (20 centimeters) in height (Hickman 1993). The flowers are inconspicuous (Calflora 2008). Similar to brittlescale, subtle orache has oppositely-arranged leaves (R. Preston pers comm).

**Distribution.** Subtle orache is a California endemic. With a distribution very similar to lesser saltscale, the species is found predominantly in the San Joaquin Valley (where it ranges from Kern to Merced County), with one disjunct population in Butte County. Of the 24 known occurrences throughout its range, 23 are listed as “presumed extant” (CNDDDB 2008).

**Habitat Associations.** Subtle orache occurs on alkali soil. It typically occurs in barren areas within alkali grassland, alkali meadow, and alkali scrub communities. It is occasionally found on the margins of alkali vernal pools (Calflora 2008).

**Habitat Availability in the Planning Area.** Suitable habitat for subtle orache is found on intermittently flooded alkali soils in the basin landform. In the planning area these are found in the far southwest portions of the county, principally at the Gray Lodge Wildlife Refuge (see lesser saltscale habitat suitability model at [www.buttehcp.com](http://www.buttehcp.com)).

**Occurrence/Distribution in the Planning Area.** This species is known from one occurrence at Gray Lodge, which R. Preston has confirmed as a correct identification (R. Preston pers comm).

### **Heartscale (*Atriplex cordulata*)**

**Status.** Heartscale has no status under the federal ESA or California ESA. It is a CNPS 1B.2 plant, with a state ranking of S2.2 (defined as 6 to 20 occurrences or 1000 to 3000 individuals or fewer than 2,000 to 10,000 acres of occupied extent) (CNPS 2008).

**Description.** Heartscale is a small annual herb, grayish in color, which generally grows prostrate and rarely exceeds 4 to 20 inches (10 to 50 centimeters) in height (Hickman 1993). The leaves of the species are heart-shaped, accounting for the taxon name (Oswald 2002).

**Distribution.** Heartscale is a California endemic. Of the 58 CNDDDB occurrences throughout its range, most are located in the western San Joaquin Valley in Kern, Madera, Merced, and Fresno County. A small number of occurrences are found in the Sacramento Valley with most located in Solano County; a few occurrences are found in

Yolo and Glenn County and one occurrence is known from Butte County (CNDDDB 2008).

**Habitat Associations.** Heartscale occurs on alkali soils. It typically occurs in barren areas within alkali grassland, alkali meadow, and alkali scrub communities. It is occasionally found on the margins of alkali vernal pools (Calflora 2008). It is found below 666 feet (200 meters) in elevation (CNPS 2008).

**Habitat Availability in the Planning Area.** Suitable habitat for heartscale is found on intermittently flooded alkali soils in basin landform. In the planning area these are found in the far southwest portions of the county, principally at the Gray Lodge Wildlife Refuge (See lesser saltscale habitat suitability model at [www.buttehcp.com](http://www.buttehcp.com)).

**Occurrence/Distribution in the Planning Area.** This species is known from one occurrence at Gray Lodge, which has been verified by R. Preston as a correct identification (R. Preston pers comm). There are 7 records of the species in Butte County contained in the California Consortium of Herbaria (2008). All of these are from the Gray Lodge Wildlife Refuge, ranging in elevation from 63 to 117 feet (19 to 35 meters). Collection dates range from 1982 to 1993. Oswald describes the habitat as dry alkaline soils of grassy fields, levees, and margins of seasonally flooded marshes in the planning area (Oswald 2002).

### **Four-angled spikerush (*Eleocharis quadrangulata*)**

*(Note: There is recent evidence to suggest that *Eleocharis quadrangulata* is not a California native, but was introduced into California within the last 70 years. A list released in April 2008 by the Department of Fish and Game entitled “Changes to the CNDDDB Special Plants, Bryophytes, and Lichens list” states that the species has been deleted from their rare plant list citing that the species is not native to California. In addition, Galen Smith (author of the *Eleocharis* chapter for *The Jepson Manual 2<sup>nd</sup> Edition*) indicates that the species is most likely introduced into California. As evidence he cites that no collections of the species in California are known from before 1948, most of the collections are from obviously disturbed places, and its range seems to be spreading (Online Jepson Material, from a supplement to the treatment updated in 2006). SAIC suggests reconsideration of including this species as a Species of Local Concern in our planning area.*

**Status.** Four-angled spikerush has no federal ESA or California ESA status. CNPS identifies it as a List 2 species, rare in California but common elsewhere (CNPS 2008).

**Description.** Four-angled spikerush is a perennial rush; it is also known as the squarestem spikerush after the shape of its stem. It reaches from 20 inches to 3.28 feet (50 cm to 1 m) in height (Hickman 1993). The inconspicuous flowers bloom in late May (Oswald 2002).

**Distribution.** In California, four-angled spikerush is found in Butte, Shasta, Tehama, and Merced County (DWR 2004). It is also known from the eastern United States (eastern midwest, northeast and southeast states) and from Ontario Canada. There is currently debate over whether the species is native or introduced in California (see above).

**Habitat Associations.** Four-angled spikerush resides in marshes and ponds and along the margins of lakes (Hickman 1993).

**Habitat Availability in the Planning Area.** Marshes, wetlands, and lake margins constitute habitat in the planning area. Oswald (2002) cites habitat in Butte County as shallow water or drying beds of ponds found from 100 to 300 feet (30.5 to 91.5 meters) in elevation.

**Occurrence/Distribution in the Planning Area.** The Consortium of California Herbaria reports 13 records in Butte County, ranging from 106 to 273 feet (32 to 82 meters) in elevation. Collection dates range from 1987 to 2006. Specific locations in Butte County include Llano Seco, near the Waterfowl Brood pond near Thermalito Afterbay, near Vandergrift Lake just south of Tehama County, and along the edges of a large reservoir just south of the town of Honcut (California Consortium of Herbaria 2008).

### **Adobe lily (*Fritillaria pluriflora*)**

**Status.** Adobe lily currently has no status under the federal or state ESA. It is listed as a CNPS list 1B.2 plant, with a state ranking of S2.2 (defined as 6 to 20 occurrences or 1000 to 3000 individuals or fewer than 2,000 to 10,000 acres of occupied extent) (CNPS 2008). It has not been proposed for coverage in other HCP or NCCPs though the Solano HCP and Yolo HCP/NCCP are within its range.

**Description.** Adobe lily is a perennial herb that reaches from 6 to 17.6 inches (15 to 44 cm) in height (Hickman 1993). These bulbous plants can remain dormant in unfavorable years. The flower is pink to purple, and flowering occurs in early spring (February to mid-March) (Calflora 2008). One investigator of populations on the east side of the Sacramento Valley found that despite its rarity plant recruitment was occurring as evidenced by a range of plants sizes found across several localities (Witzman 1991). Pollen vectors are thought to be biotic though little is known about pollinators of adobe lily (Witzman 1991).

**Distribution.** While some sources list adobe lily as a California endemic (Calflora 2008, CNPS 2008), other sources cite it as known also from southern Oregon (Hickman 1993) though it is notably not included in a 1990 publication entitled "Rare and Endangered Plants of Oregon" (NatureServe 2008). In California, adobe lily is known from 97 occurrences, all of which are presumed extant and 8 of which are in Butte County (dating from 1897 to 2002) (CNDDDB 2008). Most occurrences are in 6 counties along the western floor of the Sacramento Valley. The Butte County occurrences represent the

eastern part of the plant's range (CNDDDB 2008). Elevation of occurrences ranges from 0 to 1665 feet (0 to 500 meters) (Hickman 1993).

**Habitat Associations.** Adobe lily occurs only where there are deep clay soils with a high water-holding capacity and direct sunlight (NatureServe 2008). On the west side of the Sacramento Valley in the Coast Range foothills, adobe lily occurs in foothill valley grasslands and on sloping openings in blue oak woodland and chaparral. These occurrences (Napa, Yolo, Colusa, Lake, Glenn and western Tehama County) are in heavy clays at 600 to 2100 feet (183 to 640 meters) elevation, with one occurrence at 2700 feet (823 meters) (CNDDDB 2008). On the east side of the Sacramento Valley (Butte and eastern Tehama County occurrences) adobe lily occurs in heavy clay with no serpentine influence and at lower elevation (200 feet, or 60 meters) in open grassland.

**Habitat Availability in the Planning Area.** See above.

**Occurrence/Distribution in the Planning Area.** Within the plant's range, all eastern occurrences (predominantly in Butte County with one occurrence in eastern Tehama County) are found at the base of the southern Cascade Range foothills on soils derived from basaltic alluvium (Anita clay). There are no occurrences associated with the Sierran foothills (CNDDDB 2008). All Butte County occurrences are found at lower elevations in open grassland (CNDDDB 2008).

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Stutz, H. C., and G. L. Chu. 1997. *Atriplex subtilis* (Chenopodiaceae): A new species from south-central California. Madrono 44:184-188.

Witzman, Jean. 1991. The biology of *Fritillaria pluriflora* (Liliaceae): a rare endemic of the California flora. M.S. thesis in Botany, California State University, Chico.

### **Personal Communications:**

1/03/08. Robert Preston, Jones and Stokes Associates. Phone Conversation with Letty Brown regarding *Atriplex* species in Butte County.

## Meeting Summary

### Butte Regional HCP/NCCP Stakeholder Committee Meeting

April 2, 2008, 11:00 a.m. to 2:00 p.m.

BCAG Conference Room

### Stakeholder Committee Attendees

Nathan Key (Butte County RCD)  
Pia Sevelius (Butte County RCD)  
Richard Price (Butte County Ag.  
Commission)

Phil Johnson (Altacal Audubon)  
Colleen Aguilar (BC Farm Bureau)  
Virginia Getz (Ducks Unlimited)

### Resource Agencies Attendees

Jason Hanni (USFWS)

Nina Bicknese (USFWS)

### Steering Committee and Staff Attendees

Jane Dolan (BCAG/ Supervisor)  
Jon Clark (BCAG)

Paul Cylinder (SAIC)

Letty Brown (SAIC)

Chris Devine (BCAG)

### Interested Public Attendees

Caroline Short (Altacal  
Audubon/Cherokee Watershed Alliance)  
Connie Balou

Barbara Vlamis (BEC)

### Associated Documents/Handouts:

1. Agenda packet including new Covered Species Accounts, write-ups for Potential Additional Species of Local Concern, and Meeting Notes from March 5, 2008
2. Handout: Rationale for Adding and Not Adding Covered Species and Species of Local Concern

**Action Items and Key Recommendations:**

- Four new species have been added to the Covered Species list. These are California beaked-rush, Red Bluff dwarf rush, Ahart's paronychia, and slender Orcutt grass. The Committee reviewed the accounts and habitat suitability models for each species and offered feedback. SAIC will add Recovery Units to the slender Orcutt grass account and habitat model maps. With any comments or additional information about these or any Local Concern species, please contact Chris Devine or Letty Brown.
- The Committee recommended that nine new species be added to the Species of Local Concern list. SAIC will bring accounts for these species to the May 7 Stakeholder meeting.
- The General Plan update and the HCP/NCCP processes are running in tandem and relevant information is being shared. Biological resource data generated in the HCP/NCCP process is being provided to the planning departments. At present, portions of the HCP/NCCP are on hold until Butte County's preferred land use alternatives under the General Plan update process are released.
- SAIC is developing Butte County meadowfoam conservation scenarios for the city of Chico to assist them in assessing potential development options within the city of Chico area. Loss that has occurred since the Recovery Plan for Vernal Pool Species will be factored into the analysis.
- The next Stakeholder meeting will be held on Wednesday, May 7, 2008, 11:00 am- 3:00 pm, at BCAG.

**Meeting Purpose:**

- Review of New Covered Species Accounts
- Recommendations for Additional Species of Local Concern
- Update on General Plan Processes
- Update on Butte County Meadowfoam Evaluation for city of Chico
- Meeting Notes from March 5, 2008
- Action Items and Next Meeting

**Review of New Covered Species Accounts:**

- Paul Cylinder and Letty Brown introduced the new Covered Species- California beaked-rush, Red Bluff dwarf rush, Ahart's paronychia, and slender Orcutt grass. SAIC developed species accounts and habitat models (when applicable) for each species. The Stakeholder Committee posed questions and offered feedback. It was recommended that Recovery Units be added to the slender Orcutt grass account and habitat model maps. SAIC will do this.
- With any comments or additional information about these species, please contact Chris Devine or Letty Brown.

**Recommendations for Additional Species of Local Concern:**

- The Committee recommended that an additional nine species be included on the Species of Local Concern list, based on input from the Independent Science Advisory Panel and the consulting team. These are five plants, one bird, and 3 fish species- heartscale, subtle orache, brittlescale, adobe lily, four-angled spikerush merlin, hardhead, hitch, and tule perch, respectively.
- Species of Local Concern under the Butte HCP/NCCP will be approached differently than Covered Species. These will be evaluated in terms ensuring that their habitat is incorporated into the HCP/NCCP analysis.
- With any comments or additional information about these species, please contact Chris Devine or Letty Brown.

**Update on General Plan Processes:**

- Chris Devine presented an update on the General Plan update process and how it is interacting with the HCP/NCCP. Several General Plan update processes are moving forward and portions of the HCP/NCCP are on hold while waiting for the County to finalize its preferred land use alternatives.
- Jane Dolan walked the group through the County's preferred land use alternatives. These will go before the Citizen's Advisory Council in April, the Planning Commission in May, and the Board of Supervisors in late July.

**Butte County Meadowfoam Evaluation:**

- SAIC is developing Butte County meadowfoam conservation scenarios for the city of Chico to assist them in assessing potential development options within the city of Chico area. The analysis is being undertaken using many types of data including mapped locations of occurrences, survey boundaries for positive and negative occurrences, habitat suitability model information, and recovery units and critical habitat areas. All scenarios are being evaluated using conservation biology principles and current knowledge of meadowfoam ecology and genetics.
- Loss that has occurred since the Recovery Plan for Vernal Pool Species was written will be factored into the analysis.

**Meeting Notes from March 5, 2008:**

- Meeting notes from March 5, 2008 were accepted.

**Upcoming Workshops/Meetings:**

- The next Stakeholder meeting will be held on Wednesday, May 7, 2008, 11:00 am- 3:00 pm, at BCAG. Agenda items will include and overview of Conservation Strategies, responses to Phil Johnson's "Regional Conservation Plan Science Advisor Report Comments", renaming of the "Provisional Covered Species", and Species of Local Concern accounts.

