

Agenda

**Stakeholder Committee Meeting #25
Butte Regional HCP/NCCP
Wednesday, February 3, 2010
11:00 am - 3:00 pm
BCAG Conference Room**

Agenda Items:

1. Introductions and Agenda Review
2. General Plans - Status
3. Admin. Draft Avoidance and Minimization Measures (**Handout #1**)
4. Admin. Draft Species Conservation Measures (**Handouts #2a and #2b**)
5. Meeting Notes from December 2009 Stakeholder Meeting (**Handout #3**)
6. USFWS/DFG/NMFS Items for Discussion
7. Action Items and Next Meeting Agenda

Draft Avoidance and Minimization Measures

[Note to Reviewers: Avoidance and minimization measures will be included in the Butte Regional HCP/NCCP document as part of Chapter 5, Conservation Strategy.]

Avoidance/minimization measures are designed to reduce direct impacts and avoid or minimize take of covered species. This is typically accomplished by postponing construction activities in the immediate vicinity of occupied habitat to times of year when the species is not present, or by avoiding breeding periods. Avoidance and minimization measures may also avoid or minimize the potential for take by reducing potential effects on vegetation or wildlife habitat by altering construction plans or activities (e.g., modify construction footprints, cover open trenches, using materials to reduce runoff from construction sites, etc.); or by modifying design elements of projects to reduce operational effects (e.g., noise, lighting, reducing urban runoff, etc).

Avoidance and Minimization Measures are presented in a step-down approach beginning with planning surveys to identify potentially-occupied habitat; preconstruction surveys to identify presence or absence of covered species; the establishment of Activity Exclusion Zones to protect occupied sites during specified periods; construction and design measures to minimize the effects of the Covered Activity; and additional species-specific measures.

Surveys

AMM1: Conduct Planning Surveys. Planning surveys are reconnaissance-level surveys conducted prior to or during project design for purposes of identifying, documenting, and assessing habitats and habitat conditions and the potential for the presence of covered species. Results of planning surveys will be used during project design to avoid sensitive habitats, including those that potentially support covered species, such as vernal pools, riparian woodlands, wetlands, and oak woodlands; or if unavoidable, will be used to potentially trigger the need for additional preconstruction surveys (see Avoidance and Minimization Measure [AMM] 2). Planning Surveys may be conducted at any time of the year.

AMM2: Conduct Preconstruction Surveys. Where planning surveys indicate the presence of habitat that potentially supports covered species, preconstruction surveys will be conducted to identify the presence or absence of covered species within and adjacent to project sites prior to implementation of project-related activities that could result in take of covered species or affect sensitive habitats. Surveys will be conducted for each covered species for which potentially-occupied habitat falls within the distance radii of a project site as indicated in Table 1. This distance indicates the survey area as measured from the edge of project boundaries for each potentially-occurring covered species. No surveys are required for potentially-occupied habitat that occurs beyond the specified distance. All surveys will be conducted during the construction year prior to any ground disturbance and during the specified breeding or wintering season as indicated in Table 1.

All preconstruction surveys will be conducted by qualified and permitted biologists following state or federal protocols or other accepted protocols as indicated in Table 1. If presence is assumed and set-backs from potentially-occupied habitat are established as described under AMM3, then preconstruction surveys are not required.

Table 1. Survey Area and Timing of Preconstruction Surveys

Covered Species	Activity Footprint Survey Area and Survey Distance from the Footprint Boundary (feet)	Survey Period for Determining Species Presence/Absence	Potential Survey Protocol
California black rail	1,320	March 15 to June 15	Richmond et al. 2009
Bald eagle	2,600	March 1 to June 30	Jackman and Jenkins 2004
Swainson's hawk	1,320	March 15 to August 15	SWHTAC 2000
White-tailed kite	1,320	March 15 to August 15	SWHTAC 2000
Peregrine falcon	2,600	March 15 to August 15	Standard visual surveys
Greater sandhill crane	5,200	October 15 to February 15	Standard visual surveys
Western burrowing owl	500	February 1 to July 30 (breeding season) September 1 through January 30 (non-breeding season)	DFG 1995
Western yellow-billed cuckoo	2,600	June 15 to August 10	Laymon 1998
Yellow-breasted chat	1,320	April 15 to July 31	Standard area search technique
Tricolored blackbird	2,600	March 15 to June 15	Kelsey 2008
Foothill yellow-legged frog	500	April 1 through September 30	Seltenrich and Pool 2002
California red-legged frog	500	April 1 through September 30	USFWS 2005
Western spadefoot toad	500	October through May	Standard transect/vocalization, and aquatic surveys
Western pond turtle	200	April 1 through September 30	Bury et al. in prep.
Giant garter snake	200	May 1 through September 30	USFWS 1997
Valley elderberry longhorn beetle	200	All year	USFWS 1999
Vernal pool invertebrates	500	Wet season – winter/spring Dry season – summer/fall	USFWS 1996
Ferris' milk vetch	To come.	To come.	To come.
Lesser saltscare	To come.	To come.	To come.
Hoover's spurge	To come.	To come.	To come.
Ahart's dwarf rush	To come.	To come.	To come.
Red Bluff dwarf rush	To come.	To come.	To come.
Butte County meadowfoam	To come.	To come.	To come.
Hairy orcutt grass	To come.	To come.	To come.

Covered Species	Activity Footprint Survey Area and Survey Distance from the Footprint Boundary (feet)	Survey Period for Determining Species Presence/Absence	Potential Survey Protocol
Slender orcutt grass	To come.	To come.	To come.
Ahart's paronychia	To come.	To come.	To come.
California beaked rush	To come.	To come.	To come.
Butte County checkerbloom	400	To come.	To come.
Veiny monardella	200	To come.	To come.
Butte County golden clover	To come.	To come.	To come.
Greene's tuctoria	To come.	To come.	To come.

Activity Exclusion Zones

The presence of covered species within a survey area as indicated in Table 1 will result in the establishment of an Activity Exclusion Zone. Activity Exclusion Zones are designed to avoid or minimize take of covered species by maintaining a buffer between construction-related actions and breeding sites or key wintering sites, and to minimize disturbances (e.g., noise, light) to covered species associated with subsequent human uses of developments or during operations of covered activities.

AMM3: Establish Activity Exclusion Zones. Where preconstruction surveys indicate the presence of covered species (or where presence is assumed based on results of planning surveys), direct impacts of construction- and maintenance-related activities to occupied covered species' habitats will be avoided through the creation of Activity Exclusion Zones. An exclusion zone will be established around each occupied site according to the distances indicated in Table 2. The size of Activity Exclusion Zones can be reduced through consultation with a qualified biologist and with concurrence from USFWS/DFG based on line-of-sight, topography, land uses, type of disturbance, ambient noise and disturbance levels, and other issues. No project activities will be permitted within Activity Exclusion Zones during the time periods specified in Table 2 or until a qualified biologist determines that the risk of take is sufficiently avoided or minimized (e.g., young have fledged and are capable of independent survival and nests sites are no longer active, lack of vernal pool inundation, key wintering sites are unoccupied, etc.).

Table 2. Activity Exclusion Zones

Covered species	Habitat Type Avoided	Activity Exclusion Zone Distance (feet)	Exclusion Period
California black rail	Emergent marsh	1,320	March 1 to July 30
Bald eagle	Nest Sites	2,600	February 15 to July 30
Swainson's hawk	Nest Sites	1,320	March 15 to August 30
White-tailed kite	Nest Sites	1,320	March 15 to August 30
American peregrine falcon	Nest Sites	2,600	March 15 to August 30

Covered species	Habitat Type Avoided	Activity Exclusion Zone Distance (feet)	Exclusion Period
Greater sandhill crane	Winter roosts	5,200	October 15 to February 28
Western burrowing owl	Nest sites	250	February 1 to July 30
Western yellow-billed cuckoo	Occupied riparian habitat	2,600	June 1 to August 30
Yellow-breasted chat	Occupied riparian habitat	1,320	April 1 to July 30
Tricolored blackbird	Breeding colonies	2,600	March 15 to July 30
Foothill yellow-legged frog	Occupied watercourses	100	Yearround
California red-legged frog	Occupied breeding ponds	500	November 1 to April 30
Western spadefoot toad	Occupied vernal pool grasslands, and other occupied aquatic and adjacent grasslands	500	Yearround
Western pond turtle	Occupied watercourses and ponds	200	March 1 to November 30
Giant garter snake	Occupied watercourses	200 (from the edge of aquatic habitat)	October 1 to May 15
Valley elderberry longhorn beetle	Elderberry shrubs with >1 inch stems at base	20	Yearround
Vernal pool invertebrates	Inundated vernal pools	250	During periods of inundation – approximately November 1 to April 30
Ferris' milk vetch	To come.	To come.	To come.
Lesser saltscale	To come.	To come.	To come.
Hoover's spurge	To come.	To come.	To come.
Ahart's dwarf rush	To come.	To come.	To come.
Red Bluff dwarf rush	To come.	To come.	To come.
Butte County meadowfoam	To come.	To come.	To come.
Hairy orcutt grass	To come.	To come.	To come.
Slender orcutt grass	To come.	To come.	To come.
Ahart's paronychia	To come.	To come.	To come.
California beaked rush	To come.	To come.	To come.
Butte County checkerbloom	To come.	To come.	To come.
Veiny monardella	To come.	To come.	To come.
Butte County golden clover	To come.	To come.	To come.
Greene's tuctoria	To come.	To come.	To come.

Construction and Project Design Measures

Construction measures are on-site activities (e.g., best management practices) implemented during the construction phase to avoid or minimize construction-related effects on covered species. Project design measures are used to adjust project footprints

or to incorporate habitat elements into project design that further avoid or reduce effects on covered species.

AMM4. Avoid Covered Species Habitat During Siting of Construction Staging Areas and Temporary Work Areas. Using the habitat information gathered from results of Planning Surveys (AMM1), the siting of construction staging and other temporary work areas will avoid habitats that are potentially occupied by covered species. Staging areas, temporary work areas and related construction facilities will be located in existing open degraded areas that do not require tree removal; avoid impacts to wetlands, vernal pools, oak woodlands, and riparian habitats; require little to no recontouring of land; and in sites that are easily restored.

AMM5: Avoid Occupied Covered Species Habitat. Avoid disturbance to occupied covered species habitat to the extent practicable (e.g., Swainson's hawk nest trees, vernal pools) through adjustments in project boundaries or designs to avoid direct disturbance to the occupied habitat.

AMM6: Confine and Delineate Work Area. Confine clearing to the minimal area necessary to facilitate construction activities. Clearly identify the boundaries of work areas using temporary fencing or staking and flagging. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.

AMM7. Install Exclusion Fencing or Staking and Flagging. Standard orange plastic construction exclusion fencing or staking and flagging will be installed at the perimeter of Activity Exclusion Zones to prevent access during construction activities.

AMM8: Restrict Work Hours to Daytime. Construction activities will be permitted only during daylight hours.

AMM9: Establish Permanent Buffers along Stream Corridors. With the exception of road and infrastructure crossings, a 200-foot buffer will be established along all natural stream corridors within which all construction-related activities will be avoided.

AMM10: Remove Occupied Covered Species Habitats Outside of Active Periods. If removal of occupied covered species habitats is unavoidable, habitat will be removed during periods that minimize disturbance to breeding activity or minimize the risk of take of individual animals as indicted in Table 3. Additional species-specific avoidance and minimization measures described below may also apply.

Table 3. Covered Species Habitat Removal Periods

Covered Species	Period During which Habitat May be Removed
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California black rail	September 1 to January 31
Bald eagle	September 1 to January 31
Swainson's hawk	October 1 to February 28
White-tailed kite	October 1 to February 28
Greater sandhill crane	March 1 to September 30
Western burrowing owl	September 1 to January 15
Western yellow-billed cuckoo	October 1 to April 30
Yellow-breasted chat	September 1 to February 28
Tricolored blackbird	September 1 to February 28
Foothill yellow-legged frog	June 1 to February 28
California red-legged frog	June 1 to September 30
Western spadefoot toad	November 1 to February 28
Western pond turtle	December 1 to February 28
Giant garter snake	June 1 to September 30
Valley elderberry longhorn beetle	November 1 to February 15
Vernal pool invertebrates	June 1 to September 30

AMM11: Retain Covered Species Habitat in Project Designs. To the extent practicable, retain covered species habitat (e.g., riparian, woodland, wetlands, grasslands, isolated valley oak trees, etc.) within project areas through adjustments in boundaries, design configurations, locations of staging areas, and incorporation of native trees and greenbelts into project designs.

AMM12: Cover Trenches and Holes During Construction. To prevent injury and mortality of covered and other native wildlife, all open trenches and holes associated with implementation of covered activities will be covered or designed with escape ramps during non-working hours.

AMM13: Conduct Surveys of Trenches and Holes Prior to Filling. To prevent mortality of covered and other native wildlife, all open trenches and holes will be inspected immediately prior to filling to remove any trapped wildlife.

AMM14. Conduct Worker Training. All construction personnel will participate in a worker environmental training program that will educate workers regarding covered species and their habitats, the need to avoid impacts due to their state and/or federal status, and the legal implications of violating environmental laws and regulations.

AMM15. Install Erosion Control Barriers. Where ground disturbing activities will potentially result in runoff of sediment or other materials into wetland, riparian, or vernal

pool habitats, erosion control barriers will be installed as needed to prevent sedimentation or contamination of these habitats. Suitable erosion control materials include coir (coconut husks), jute (fibers from the plant genus *Chorchorus*), straw or excelsior (fine wood fibers, usually aspen), or other combinations of these products.

AMM16: Install Temporary Cofferdams to Contain Work Areas in Streams Occupied by Covered Species. Following the capture and relocation of foothill yellow-legged frogs, California red-legged frogs, and western pond turtles from work areas (see Species-Specific Avoidance and Minimization Measures), temporary coffer dams will be installed to prevent animals from re-inhabiting the site during implementation of construction activities. Dewatering of work areas following installation of temporary coffer dams will occur prior to any ground-disturbing activities. Work areas will be slowly dewatered in coordination with follow-up capture and relocation activities. Immediately following construction activities, temporary coffer dams will be removed. This measure may be modified through consultation with a qualified biologist and with concurrence from USFWS/DFG to address site-specific constraints associated with placement of coffer dams.

Urban-Habitat Interface Design Measures

In addition to removing habitat or reducing habitat value within the footprint of an urban development, the placement of urban development within a natural or managed open landscape also may reduce the habitat value of immediately adjacent lands as a result of increased human activities and disturbances. Implementing certain design elements can minimize the effects of these disturbances at the urban-habitat interface.

AMM17: Design Developments to Minimize Indirect Impacts at Urban-Habitat Interfaces. Planned developments to be implemented adjacent to covered species habitats will incorporate design elements to minimize the indirect impacts of development on adjacent habitat areas. Indirect impacts include human activities that can result in noise and visual disturbances at urban-habitat interfaces that diminish the ability of covered and other native wildlife to use the habitat, increased numbers of pets (e.g., dogs, cats) in habitats that can result in harassment and mortality of covered and other native wildlife species, and increased levels of direct habitat disturbances associated with increased human access to habitats (e.g., destruction of vegetation and injury or mortality of wildlife associated with use of off-road vehicles in habitat).

Example urban-habitat design elements to be considered and incorporated, if appropriate, into development designs include the following.

- To reduce the incidence of pets entering habitats, placing roads at the edge of development, rather than abutting front-loaded lots against the preserve boundary.
- Placing development roads, bike paths, and trails such that they minimize the likelihood for human access into adjacent habitat areas.
- Placement of access barriers that preclude entry of humans and pets into adjacent habitat areas.

- Designing backyard fences that prevent pets from escaping yards into adjacent habitats, that preclude gates to minimize entry into and dumping of trash into adjacent habitats, and that are tall enough to shield adjacent habitat areas from visual disturbances.
- New public roads associated with developments may be fenced to prevent unauthorized public access into habitat areas.
- Designing development footprints to minimize the extent of urban-habitat interface.
- Designing development drainage systems to avoid discharges of urban runoff into habitat areas, including stream courses.
- Designing development lighting to avoid projecting light into adjacent habitat areas or using low-glare lighting to minimize lighting impacts on habitat.
- Restricting landscaping to use of non-invasive plants to avoid the escape of undesired plants into adjacent habitat areas.

Other Species-Specific Avoidance and Minimization Measures

Additional measures may be required if direct impacts on covered species cannot be fully avoided. Some of these measures are based on state or federal guidance (e.g, western burrowing owl and giant garter snake); others are standard practices that involve relocating animals out of impact areas in order to avoid mortality. [*Note to Reviewers: Species-specific avoidance and minimization measures will be added for covered plant species in subsequent iterations of this chapter section.*]

Western Burrowing Owl

AMM18: Passively Relocate Wintering Western Burrowing Owls. If occupied western burrowing owl burrows cannot be avoided during the nonbreeding season, owls will be passively relocated according to DFG guidelines (California Department of Fish and Game 1995) or comparable methods by installing one-way doors in occupied or potentially occupied burrows, and monitoring the one-way doors during ground disturbance activities. Passive relocation of western burrowing owls will be conducted by qualified biologists.

Western Spadefoot Toad

AMM19: Prepare Relocation Plan for Western Spadefoot Toad. If preconstruction surveys indicate that western spadefoot toad are present within a project site, a relocation plan will be prepared and approved by DFG and USFWS. The plan will include a description of the relocation site, methods of capture and transport, and timing of activities.

AMM20: Conduct Preconstruction Surveys and Relocate Western Spadefoot Toads out of Work Areas. Within 24 hours of ground-disturbance, a preconstruction survey

will be conducted in suitable grassland/vernal pool habitats for western spadefoot toad. Toads found within the work area will be captured and relocated to approved offsite suitable habitat as indicated in the relocation plan (AMM18). Handling and relocation of western spadefoot toads will be conducted by qualified biologists.

Foothill Yellow-legged Frog

AMM21: Prepare Relocation Plan for Foothill Yellow-legged Frog. If preconstruction surveys indicate the presence of foothill yellow-legged frog and impacts to occupied habitat cannot be avoided, a relocation plan will be prepared and approved by DFG and USFWS. The plan will include a description of the relocation site, methods of capture and transport, and timing of activities.

AMM22: Conduct Preconstruction Surveys and Relocate Foothill Yellow-legged Frog out of Work Areas. Where preconstruction surveys indicated the presence of foothill yellow-legged frog, a survey will be conducted within the work area within 24 hours of in-stream construction activities. Foothill yellow-legged frogs found within the work area will be captured and relocated at least 500 feet upstream or downstream of the work area according to the provisions in the work plan (AMM20). Where temporary coffer dams are constructed (AMM16), capture and relocation activities will continue during dewatering of work areas. Handling and relocation of foothill yellow-legged frogs will be conducted by qualified biologists.

California Red-legged Frog

AMM23: Prepare Relocation Plan for California Red-legged Frog. If preconstruction surveys indicate that California red-legged frog is present within a project site, a relocation plan will be prepared and approved by DFG and USFWS. The plan will include a description of the relocation site, methods of capture and transport, and timing of activities.

AMM24: Conduct Preconstruction Surveys and Relocate California Red-legged Frog out of Work Areas. Where preconstruction surveys indicated the presence of California red-legged frog, a survey will be conducted within the work area within 24 hours of in-stream construction activities. California red-legged frogs found within the work area will be captured and relocated to approved offsite suitable habitat according to the provisions in the relocation plan (AMM22). Where temporary coffer dams are constructed (AMM16), capture and relocation activities will continue during dewatering of work areas. Handling and relocation of California red-legged frogs will be conducted by qualified biologists.

Western Pond Turtle

AMM25: Prepare Relocation Plan for Western Pond Turtle. If preconstruction surveys indicate the presence of western pond turtle and impacts to occupied habitat

cannot be avoided, a relocation plan will be prepared and approved by DFG and USFWS. The plan will include a description of the relocation site, methods of capture and transport, and timing of activities.

AMM26: Conduct Preconstruction Surveys and Relocate Western Pond Turtles out of Work Areas. Where preconstruction surveys indicated the presence of western pond turtle, within 24 hours of in-stream construction activities a survey will be conducted within the work area and individuals found within the work area will be captured and relocated at least 500 feet upstream or downstream of the work area according to provisions in the relocation plan (AMM24). Where temporary coffer dams are constructed (AMM16), capture and relocation activities will continue during dewatering of work areas. Handling and relocation of western pond turtles will be conducted by qualified biologists.

California Horned Lizard

AMM27: Prepare Relocation Plan for California Horned Lizard. If preconstruction surveys indicate the presence of California horned lizard and impacts to occupied habitat cannot be avoided, a relocation plan will be prepared and approved by DFG and USFWS. The plan will include a description of the relocation site, methods of capture and transport, and timing of activities.

AMM28: Conduct Clearance Surveys and Relocate California Horned Lizard. Where preconstruction surveys indicate the presence of California horned lizard, clearance surveys will be conducted within 24 hours of ground disturbance. Individuals found during the survey will be captured and relocated according to the provisions in the relocation plan (AMM26). Handling and relocation of California horned lizard will be conducted by qualified biologists.

Giant Garter Snake

AMM29: Implement USFWS Avoidance and Minimization Measures for Giant Garter Snake. Where planning and preconstruction surveys indicate the presence of suitable habitat for giant garter snake, the USFWS avoidance and minimization measures <http://www.fws.gov/sacramento/es/documents/ggs%20appendix%20c.PDF> will be implemented. Avoidance/minimization measures include:

- For complete avoidance of giant garter snake impacts: no in-channel activity and maintain a permanent 200-foot no-disturbance buffer from the outer edge of potentially-occupied aquatic habitat.

If complete avoidance is not feasible, then the following measures apply:

Handout #1

- Restrict all construction activity involving the disturbance to giant garter snake habitat to the snake's active season, May 1 through October 1. This is the active period for the snake during which time direct mortality is lessened because snakes are expected to actively move and avoid danger;
- In areas where construction is to take place, allow giant garter snakes to leave the site on their own by dewatering all irrigation ditches, canals, or other aquatic habitat between April 15 and September 30 to remove habitat of giant garter snakes. Dewatered habitat must remain dry, with no puddled water remaining for at least 15 consecutive days prior to excavating or filling of the dewatered habitat. If a site cannot be completely dewatered, netting and salvage of prey items may be necessary.
- Conduct preconstruction clearance surveys within 24 hours of construction activities within designated giant garter snake aquatic and adjacent upland habitat. If construction activities stop for a period of two weeks or more, conduct another preconstruction clearance survey within 24 hours of resuming construction activity.
- Avoid ground disturbances in adjacent upland habitats that are within 200 feet from the banks of potentially occupied giant garter snake aquatic habitat;
- Confine movement of heavy equipment to existing roadways and beyond 200 feet from the banks of aquatic habitat.
- Confine clearing to the minimal area necessary to facilitate construction activities. Flag and designate avoided giant garter snake habitat within or adjacent to the project as Environmentally Sensitive Areas. This area shall be avoided by all construction personnel.
- Provide USFWS-approved environmental awareness training to construction personnel.
- If a live giant garter snake is encountered during construction activities, immediately notify the USFWS and the project's biological monitor. The monitor shall stop construction in the vicinity of the snake and monitor the snake and allow it to leave on its own. The monitor shall remain in the area for the remainder of the work day to ensure the snake is not harmed or if it leaves the site, does not return. If the snake does not leave on its own within 1 working day, further consultation with USFWS is required.
- Following construction, restore the project area to pre-project conditions.

- Employ best management practices to further avoid disturbances to habitat including:
 - Install temporary fencing to identify and protect adjacent marshes, wetlands, and ditches;
 - Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted practices. However, no plastic, monofilament, jute, or similar erosion control matting that could entangle snakes will be permitted on the project site within 200 feet of snake aquatic or rice habitat.

Valley Elderberry Longhorn Beetle

AMM30: Implement USFWS Guidelines for Valley Elderberry Longhorn Beetle.

Implement valley elderberry longhorn beetle avoidance measures according to USFWS (1999) guidelines:

http://www.fws.gov/sacramento/es/documents/velb_conservation.PDF. Avoidance measures include:

- Establishment and maintenance of an activity exclusion zone (AMM3).
- Fence and flag and the exclusion zone.
- Signage: Erect signs every 50-feet of the exclusion area with the following information: This area is habitat of the valley elderberry longhorn beetle, a threatened species and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment". The signs should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction.
- Contractor education: brief contractors on the need to avoid damaging elderberry plants and the penalties for not complying with requirements.

DRAFT

Conservation Measures for Selected Covered Species

This handout presents draft conservation measures for selected covered species. Conservation measures for the remaining covered species will be developed and presented at subsequent Stakeholder Committee meetings. The draft of conservation measures are presented at three ecological scales (i.e., landscape-, natural community-, and species-levels). To provide context, conservation measures are preceded by the draft biological goals and objectives for each ecological scale. Draft conservation measures for landscape- and natural community-level biological goals and objectives are incomplete—only those conservation measures that support achieving the biological objectives for the covered species addressed in this handout are presented. Consequently, additional landscape- and natural community-level conservation measures are expected to be added as conservation measures are developed for the remaining covered species.

The biological goals and objectives and conservation measures are draft and are expected to undergo revisions as Butte Regional HCP/NCCP planning progresses.

Landscape-Level Goals, Objectives, and Conservation Measures

Goals and Objectives

Goal LAND1: Preserve large landscapes with the range of physical and biological attributes necessary to sustain covered species abundance and habitat, to preserve native biodiversity, and to provide a sufficient range of conditions to accommodate future anticipated shifts in distributions of covered species and natural communities with climate change.

Objective LAND1.1: Establish a preserve system of protected lands in the Planning Area that brings protected status to an additional extent of covered natural communities in the minimum patch sizes indicated in Table 5.X.

Table 5.X. Objectives and Minimum Patch Sizes for Preserved Natural Communities

Natural Community	Extent to Preserve (acres)	Minimum Patch Size (acres)
Oak woodland	To come	300 ¹
Oak Savanna	To come	300 ²
Grassland	To come	400 ³
Swale complex and vernal pools	To come	400 ⁴
Riparian forest and scrub	To come	25
Riparian scrub	To come	10

Natural Community	Extent to Preserve (acres)	Minimum Patch Size (acres)
Agricultural land (irrigated crop and pasture)	To come	160
Agricultural land (rice)	To come	160
Emergent wetlands	To come	No minimum.
Aquatic	To come	
¹ Comprised of oak woodland or combined oak woodland and oak savanna patches. ² Comprised of oak savanna or combined oak savanna and oak woodland patches. ³ Comprised of grassland or combined grassland and swale complex and vernal pools. ⁴ Comprised of swale complex and vernal pools or combined swale complex and vernal pools and grassland.		

Objective LAND1.2: Preserve [] acres of suiTable 5.X [to come] sites to provide for the potential future upslope migration of oak woodland and savanna communities in response to climate change.

Objective LAND1.3: Maintain and enhance the habitat functions of preserved lands for covered and other native species over the term of the BDCP.

Goal LAND2: Preserve continuous corridors of habitat along the east-west elevation gradient extending from the eastern boundary of the Planning Area to the major stream corridors in the valley bottom and along north-south corridor within the valley basin habitats.

Objective LAND2.1: In the Planning Area north of the City of Chico, preserve a contiguous habitat corridor at least [] feet wide along the east-west elevation gradient between the foothills at the eastern boundary of the Planning Area and the Sacramento River at the western boundary of the Planning Area (across the Northern Cascade CAZ and Northern Orchard CAZ).

Objective LAND2.2: In the Planning Area south of the City of Chico and north of the City of Oroville, preserve a contiguous habitat corridor at least [] feet wide along the east-west elevation gradient between the foothills at the eastern boundary of the Planning Area and Butte Creek at the western boundary of the Planning Area (across the Southern Cascade CAZ and Northern Rice CAZ).

Objective LAND2.3: In the Planning Area south of the City of Oroville, preserve a contiguous habitat corridor at least [] feet wide along the east-west elevation gradient between the foothills at the eastern boundary of the Planning Area and the Feather River (across the Southern Sierra CAZ and eastern part of the Southern Orchard CAZ).

Objective LAND2.4: Preserve a contiguous habitat corridor suiTable 5.X [to come] for Giant Garter Snake movement at least █ feet wide along the north-south gradient between the Llano Seco Unit of the Upper Butte Basin Wildlife Area (in the Sacramento River CAZ), across the Northern Rice CAZ, to the Little Dry Creek Unit of the Upper Butte Basin Wildlife Area, and to Gray Lodge Wildlife Area (in the Southern Rice CAZ).

Goal LAND3: Maintain and enhance connectivity among preserves to provide for the movement of native organisms among habitat areas and to facilitate genetic exchange among populations.

Objective LAND3.1: Preserve corridors of habitat that provide linkages among preserved habitat areas within and adjacent to the Planning Area.

Objective LAND3.2: Improve habitat corridors that allow covered species and other native species to move into preserved habitats from adjacent lands and among habitat areas within preserved lands.

Objective LAND3.3: Maintain or improve upstream and downstream passage for covered and other native fish in Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo channel, Little Chico Creek, Butte Creek, Little Dry Creek, and Feather River.

Goal LAND4: Maintain and rehabilitate ecosystem processes that support covered species and their habitats.

Objective LAND4.1: Preserve watersheds and subwatersheds to the greatest extent possible to protect the quantity and quality of runoff to streams and wetlands.

Objective LAND4.2: Support implementation of water quality improvement programs that serve to reduce the loads of toxic contaminants into waters that support covered plants, amphibians, and fish and foodweb processes.

Objective LAND4.3: Restore floodplain processes along rivers and streams.

Conservation Measures

LAND CM1: Conduct pre-land acquisition surveys. The Implementing Entity will develop and implement protocols for assessing physical and biological resources and infrastructure present on lands being considered for acquisition to determine the degree to which the lands would likely contribute to achieving natural community- and species-level biological goals and objectives. Pre-land acquisition surveys would be conducted

by qualified biologists under agreements with willing landowners. Surveys would assess the physical and biological attributes of the lands, including:

- The extent and quality of existing covered species habitats;
- connectivity with other habitat areas;
- presence of covered species;
- infrastructure supporting existing habitats or necessary to restore habitats;
- potential constraints to long-term management and maintenance of habitats; and
- other conservation-related opportunities and constraints.

Results of the surveys will help the Implementing Entity prioritize preserve land acquisitions relative to achieving the biological goals and objectives.

LAND CM2: Purchase in-fee or enter into conservation easements for the preservation of oak woodland and savanna, grassland, wetland, and aquatic natural communities. The Implementing Entity will preserve the extent existing oak woodland and savanna, grassland, wetland, and aquatic natural communities identified in Table 5.X [to come] 5.1 through purchase in-fee title or through in-perpetuity conservation easements with willing landowners. In-perpetuity conservation easements must include provisions that:

- protect preserved habitats and covered species from land uses that could preclude achieving the intended biological objectives for the parcel;
- identify the range of management actions that may be implemented by the Implementing Entity to maintain and enhance preserved habitat functions;
- maintenance obligations for water and other infrastructure supporting preserved habitats;
- allow access for monitoring, maintenance, and management activities.

LAND CM3: Develop and implement a non-native predator and competitor control program for the preserve system. The Implementing Entity will develop and implement a preserve-wide plan for control non-native predators (e.g., feral cats) and competitors (e.g., brown-headed cowbird) on preserved lands. Elements of the plan will include:

- protocols for periodically surveying for and assessing the abundance of non-native predators and competitors on preserve lands;
- methods for assessing degree of biological effect they have on covered and other native species within contiguous preserve parcels;
- methods for assessing threats for establishment of non-native predators and competitors from adjacent lands;
- a decision-making process for determining the need for implementing management actions to control non-native predators and competitors;

- a description of potential non-native predator and competitor control methods; and
- a process for developing and implementing monitoring necessary to assess the effectiveness of implemented control methods.

Monitoring and control requirements that may be developed for specific preserve lands will be incorporated into preserve-specific management plans (see LAND CM6)

LAND CM4: Develop and implement a non-native plant species control program for the preserve system. The Implementing Entity will develop and implement a preserve-wide plan for control of invasive non-native plant species on preserved lands. The program will consider the potential negative as well as the positive effects on covered species. Invasive non-native plant species to be considered should include but are not limited to barbed goatgrass, medusahead grass, and yellow starthistle.

Elements of the plan will include:

- protocols for periodically surveying for and assessing the occurrence and abundance of invasive non-native plants on preserve lands;
- methods for assessing degree of biological effect they have on covered and other native species within contiguous preserve parcels;
- methods for assessing threats for establishment of invasive non-native plants from adjacent lands;
- a decision-making process for determining the need for implementing management actions to control invasive non-native plants;
- a description of potential invasive non-native plant control methods; and
- a process for developing and implementing monitoring necessary to assess the effectiveness of implemented control methods.

Monitoring and control requirements that may be developed for specific preserve lands will be incorporated into preserve-specific management plans (see LAND CM6)

LAND CM5: Conduct post-acquisition ecological surveys of preserved habitats to identify habitat enhancement and management requirements. Following acquisition of preserve parcels, conduct surveys to assess the level of ecological condition of preserved species habitats and supporting ecosystem processes. If appropriate based on results of the assessment, identify actions to be implemented to enhance habitat functions for the target covered species and any subsequent ongoing management actions that necessary to maintain habitat functions over time. Identified habitat and enhancement actions will be incorporated into preserve-specific management plans (see LAND CM6).

LAND CM6: Develop and implement preserve-specific management plans. The Implementing Entity will develop preserve-specific management plans for preserved parcels or multiple parcels that share similar characteristics and objectives. At a minimum, management plans will describe:

- the biological goals and objectives to be achieved with the preservation and management of the parcels;

- infrastructure;
- existing land uses and management practices;
- terms and conditions conservation easements when applicable;
- management actions and schedules;
- monitoring requirements and schedules; and
- any other information relevant to management of the preserved parcels.

Management plans will be periodically updated to incorporate changes in maintenance, management, and monitoring requirements as they may occur over the term of the HCP/NCCP.

Natural Community-level Goals, Objectives, and Conservation Measures

Oak Woodland and Savanna Natural Community

Goals and Objectives

Goal OWSA1: Maintain and enhance functional oak woodland and savanna community to benefit covered species and biodiversity.

Objective OWSA1.1: Preserve █ acres of existing unprotected blue oak savanna of minimum patch size of 300 acres in combination with other oak habitats that are distributed within the Planning Area as indicated in Table 5.X [to come] (includes acres of protected blue oak savanna that support seeps protected under Objective WETL1.2).

Objective OWSA1.2: Preserve █ acres of existing unprotected blue oak, interior live oak, and mixed oak woodlands of minimum patch size of 300 acres distributed within the Planning Area as indicated in Table 5.X [to come] (includes acres of protected oak woodlands that support seeps protected under Objective WETL1.2).

Objective OWSA1.3: Enhance patches of preserved oak woodland and savanna in which habitat functions for covered and other native species are degraded.

Conservation Measures

A total of 59,908 acres of blue oak savanna and woodland, interior live oak woodland, and mixed oak woodland are present in the Planning Area, representing 10.5 percent of all natural communities present in the Planning Area.

The strategy for preservation of oak woodland and savanna is specifically directed towards meeting the conservation needs of the bald eagle, white-tailed kite, Swainson's hawk, northwestern pond turtle, western spadefoot toad, and foothill yellow-legged frog. Preservation of this natural community will also serve to conserve other native species whose habitats are supported by the oak woodland and savannah community.

OWSA CM1: Conduct surveys in preserved oak woodland and savanna to establish base ecological conditions. Within 2 years of acquisition, The Implementing Entity will conduct surveys of preserved oak woodland and savanna to determine existing environmental conditions, including structure, composition, and cover of understory, midstory, and overstory vegetation and habitat functions for covered and other native species. Results of analyses of survey data will be used to guide development and implementation of habitat enhancement and management measures and provide the basis for assessing the effectiveness of enhancement and management measures based on effectiveness monitoring.

OWSA CM2: Manage livestock grazing in preserved oak woodland and savanna habitats. Where the lands brought into the preservation program are to be grazed either to continue an existing land use, to initiate a new land use, for habitat enhancement actions for covered species, or to control exotic species such as medusahead grass both the negative and positive effects of grazing on each site will be assessed prior to implementing the grazing land use. Proposed changes in existing grazing levels will also be evaluated for effects on covered species and the community. Base conditions will be established as either no grazing if that has been the current land use on the site for more than 5 years or based on existing grazing practices present on the site. Changes to the base grazing condition will be based on site specific conditions, the possible negative and positive effects on covered communities, and on existing practices on sites that are equivalent in these characteristics. Potential changes to existing practices that meet the requirements will be implemented as planned studies on a representative portion of the site that represents the minimum manageable pasture size.

OWSA CM3: Enhance the habitat functions for covered and other native species on up to [] acres of preserved oak woodland and savanna. Based on results of post-acquisition ecological and base conditions surveys (see LAND CM5 and OWSA CM1), the Implementing Entity will identify patches of preserved oak woodland and savanna that support habitats for which the function for covered and other native species can be substantially enhanced. The Implementing Entity will identify enhancement actions to be undertaken and monitor the ecological results of the actions. Based on analysis of monitoring results, the Implementing Entity may adjust enhancement actions to improve their effectiveness through the adaptive management decision making process (see Section 5.X).

OWSA CM4: Manage Preserved Oak Woodland and Savanna Habitats. Oak woodland and savanna habitats will be managed to maintain and enhance functions for

Swainson's hawk, white-tailed kite, and bald eagle. Depending on site-specific conditions, appropriate management actions may include:

- retention of snags and down wood,
- discontinuance of tree harvest for firewood and other uses,
- managing grazing to enhance tree survival and recruitment, and
- protecting seedlings from herbivory.

Grassland Natural Community, including Vernal Pool and Swale Complexes

Goals and Objectives

Goal GRLA1: Maintain and enhance functional grassland communities, including grassland with swale complexes, to benefit covered species and biodiversity.

Objective GRLA1.1: Preserve [] acres of unprotected grassland (including grassland with swale complexes and vernal pools) comprised of a minimum patch size of 400 acres located within the same watershed distributed within the Planning Area as indicated in Table 5.X [to come].

Objective GRLA1.2: Preserve at least [] acres of existing unprotected grassland swale complexes that are within vernal pool species recovery core areas inclusive of those that may also be protected under Objective GRLA1.1 distributed within the Planning Area as indicated in Table 5.X [to come].

Objective GRLA1.3: Preserve [] acres of existing unprotected grassland with swale complexes outside of vernal pool species recovery core areas distributed within the Planning Area inclusive of those that may also be protected under Objective GRLA1.1 distributed within the Planning Area as indicated in Table 5.X [to come].

Objective GRLA1.4: Enhance the habitat functions of [] acres of degraded (i.e., disked, tire-rutted, or otherwise disturbed) vernal pools and swales and contributing watershed grassland within vernal pool species recovery core areas distributed within the Planning Area as indicated in Table 5.X [to come] that are protected under Objective GRLA1.2 by at least [] percent.

Objective GRLA1.5: Enhance the habitat functions of [] acres of degraded (i.e., disked, tire-rutted, or otherwise disturbed) vernal pools and swales and contributing watershed grassland outside of vernal pool species recovery core areas distributed within the Planning Area as indicated in Table 5.X [to come] that are protected under Objective GRLA1.3 by at least [] percent.

Objective GRLA1.6: Preserve grassland with swale complexes under Objectives GRLA1.1-1.3 across all major geologic landform types on which they occur in the Planning Area at the minimum acreage as follows on:

- Riverbank Formation, [] acres;
- Red Bluff Formation, [] acres;
- Laguna Formation, [] acres;
- Tuscan Formation Members A and B on Strath Terraces, [] acres;
- Tuffs of Oroville, [] acres;
- Lovejoy Basalt Formation, [] acres.

Objective GRLA1.7: Restore [] acres of swales that function as habitat for covered species for every acre of swales removed as a result of implementing covered activities (i.e., compensatory ratio of X:1) on the same geologic landform as the impact.

Goal GRLA2: Preserve, enhance, and restore functional vernal pools within grassland communities to benefit covered species and biodiversity.

Objective GRLA2.1: Preserve vernal pools across all major geologic formations types on which they occur in the Planning Area at a minimum extent as follows on:

- Riverbank Formation [] percent of pools over 400sq ft and [] percent of all other pool sizes;
- Red Bluff Formation [] percent of pools over 400sq ft and [] percent of all other pool sizes;
- Laguna Formation [] percent of pools over 400sq ft and [] percent of all other pool sizes;
- Tuscan Formation [] percent of pools over 400sq ft and [] percent of all other pool sizes;
- Tuffs of Oroville [] percent of pools over 400sq ft and [] percent of all other pool sizes;
- Lovejoy Basalt [] percent of pools over 400sq ft and [] percent of all other pool sizes.

Amounts are inclusive of those that may also be protected under Objectives GRLA1.1-GRLA1.3.

Objective GRLA2.2: Restore [] acres of functional vernal pools within vernal pool species recovery core areas.

Objective GRLA2.3: Restore [] acres of functional vernal pools outside of vernal pool species recovery core areas.

Objective GRLA2.4: Restore [] acres and protect [] acres of vernal pools that function as habitat for covered species for every acre of vernal pool removed as a result of implementing covered activities (i.e., compensatory ratio of X:1 and preservation ratio of X:1) on the same geologic landform as the impact.

Conservation Measures

GRLA CM1: Conduct surveys to establish base ecological conditions. Within 2 years of acquisition, the Implementing Entity will conduct surveys of preserved grasslands, vernal pool, and swale complexes to determine existing environmental conditions, including vegetative structure, composition, and cover and habitat functions for covered and other native species. Results of analyses of survey data will be used to guide development and implementation of habitat enhancement and management measures and provide the basis for assessing the effectiveness of enhancement and management measures based on effectiveness monitoring.

GRALA CM2: Establish a livestock grazing program for preserved grasslands, including vernal pool and swale complexes. Where the lands brought into the preservation program are to be grazed either to continue an existing land use, to initiate a new land use, for habitat enhancement actions for covered species, or to control exotic species such as medusahead grass both the negative and positive effects of grazing on each site will be assessed prior to implementing the grazing land use. Proposed changes in existing grazing levels will also be evaluated for effects on covered species and the community. Base conditions will be established as either no grazing if that has been the current land use on the site for more than 5 years or based on existing grazing practices present on the site. Changes to the base grazing condition will be based on site specific conditions, the possible negative and positive effects on covered communities, and on existing practices on sites that are equivalent in these characteristics. Potential changes to existing practices that meet the requirements will be implemented as planned studies on a representative portion of the site that represents the minimum manageable pasture size.

GRLA CM3: Enhance the habitat functions for covered and other native species on up to [] acres of preserved vernal pool and swale complex and contiguous grassland. Based on results of post-acquisition ecological and base conditions surveys (see LAND CM5 and GRLA CM1), the Implementing Entity will identify preserved vernal pool and swale complexes that support habitats for which the function for covered and other native species can be substantially enhanced. The Implementing Entity will identify enhancement actions to be undertaken and monitor the ecological results of the actions. Based on analysis of monitoring results, the Implementing Entity may adjust enhancement actions to improve their effectiveness through the adaptive management decision making process (see Section 5.X).

GRLA CM4: Enhance the habitat functions for covered and other native species on up to █ acres of preserved grassland without vernal pools. Based on results of post-acquisition ecological and base conditions surveys (see LAND CM5 and GRLA CM1), the Implementing Entity will identify preserved vernal pool and swale complexes that support habitats for which the function for covered and other native species can be substantially enhanced. The Implementing Entity will identify enhancement actions to be undertaken and monitor the ecological results of the actions. Based on analysis of monitoring results, the Implementing Entity may adjust enhancement actions to improve their effectiveness through the adaptive management decision making process (see Section 5.X).

GRLA CM5: Manage Grasslands to Increase Burrow and Rodent Prey Availability. Grassland preserves will be managed to increase the abundance of fossorial mammals (e.g., ground squirrels) to increase the abundance of prey species of covered raptor species and other native predators and to increase burrow availability for western burrowing owl and western spadefoot toad. Surveys conducted under LAND CM5 will identify the potential for burrow management/enhancement actions. Depending on site-specific conditions, appropriate management actions may include:

- prohibiting rodent control activities on preserves,
- creating debris piles,
- installing artificial western burrowing owl burrows, and
- managing grazing to improve the abundance of fossorial mammals.

Riparian Natural Community

Goals and Objectives

Goal RIPA1: Maintain and enhance functional riparian communities to benefit covered species and biodiversity.

Objective RIPA1.1: Preserve █ acres of existing unprotected cottonwood-willow riparian forest in minimum patch sizes of 25 acres (minimum patch size may be achieved in combination with valley oak riparian forest) along rivers and streams distributed within the Planning Area as indicated in Table 5.X [to come].

Objective RIPA1.2: Preserve at least █ small stands (under 25 acres) of riparian trees dominated by native tree species that could support nesting Swainson's hawk and other raptors.

Objective RIPA1.3: Preserve █ acres of existing unprotected valley oak riparian forest in minimum patch sizes of 25 acres (minimum patch size may be achieved in combination with cottonwood-willow riparian forest) within the Planning Area as indicated in Table 5.X [to come].

Objective RIPA1.4: Enhance █ acres of degraded cottonwood-willow riparian forest along rivers and streams that are protected under Objective RIPA1.1 distributed within the Planning Area as indicated in Table 5.X [to come].

Objective RIPA1.5: Restore █ acres of cottonwood-willow riparian forest along rivers and streams distributed within the Planning Area as indicated in Table 5.X [to come].

Objective RIPA1.6: For every acre of cottonwood-willow riparian forest removed as a result of implementing covered activities, restore █ acres of cottonwood-willow riparian forest on landscapes that can provide for the natural regeneration of riparian vegetation distributed within the Planning Area as indicated in Table 5.X [to come] (i.e., a X:1 compensation ratio).

Objective RIPA1.7: For every acre of valley oak riparian forest removed as a result of implementing covered activities, restore █ acres of valley oak riparian forest on landscapes that can provide for the natural regeneration of riparian vegetation distributed within the Planning Area as indicated in Table 5.X [to come] (i.e., a X:1 compensation ratio).

Objective RIPA1.8: For every acre of willow scrub removed as a result of implementing covered activities, restore █ acres of willow scrub on landscapes that can provide for the natural regeneration of riparian vegetation distributed within the Planning Area as indicated in Table 5.X [to come] (i.e., a X:1 compensation ratio).

Conservation Measures

A total of 19,376 acres of riparian land cover types are present in the Planning Area, representing 3.4 percent of all natural communities present in the Planning Area.

The strategy for preservation of riparian communities is specifically directed towards meeting the conservation needs of the yellow-breasted chat, bald eagle, white-tailed kite, Swainson's hawk, western yellow-billed cuckoo, northwestern pond turtle, and foothill yellow-legged frog. Preservation of this natural community will also serve to conserve other native species whose habitats are supported by the riparian community.

RIPA CM1: Conduct surveys in preserved riparian forest and scrub habitats to establish baseline ecological conditions. Within 2 years of acquisition, The Implementing Entity will conduct surveys of preserved riparian forest and scrub to determine existing environmental conditions, including structure, composition, and cover of understory, midstory, and overstory vegetation and habitat functions for covered and other native species. Results of analyses of survey data will be used to guide development and implementation of habitat enhancement and management measures and

provide the basis for assessing the effectiveness of enhancement and management measures based on effectiveness monitoring.

RIPA CM2: Enhance the habitat functions for covered and other native species on up to █ acres of preserved riparian habitat. Based on results of post-acquisition ecological and base conditions surveys (see LAND CM5 and RIPA CM1), the Implementing Entity will identify patches of preserved riparian habitat that support habitats for which the function for covered and other native species can be substantially enhanced. The Implementing Entity will identify enhancement actions to be undertaken and monitor the ecological results of the actions. Based on analysis of monitoring results, the Implementing Entity may adjust enhancement actions to improve their effectiveness through the adaptive management decision making process (see Section 5.X).

RIPA CM3: Restore riparian habitat. Based on results of post-acquisition ecological surveys (see LAND CM5), the Implementing Entity will identify potential locations within preserve lands that support site conditions suitable for restoration of riparian forest and scrub habitats and that support hydrologic conditions that will sustain restored riparian forest and scrub habitats over time. Restored riparian habitats will be designed to develop as habitat for riparian-dependent covered species over time. Effectiveness monitoring will be conducted as described in Section 5.X, *Monitoring and Research Plan*, to collect the information necessary to evaluate the effectiveness of restoration methods and species use of restored habitats. Based on analyses of monitoring results, the Implementing Entity may adjust riparian restoration methods through the adaptive management decision making process.

RIPA CM4: Manage Preserved Riparian Habitats. Riparian habitats will be managed to maintain and enhance habitat functions for Swainson's hawk, white-tailed kite, yellow-breasted chat, yellow-billed cuckoo, foothill yellow-legged frog, western pond turtle, and valley elderberry longhorn beetle. Depending on site-specific conditions, appropriate management practices may include:

- excluding livestock from riparian habitats;
- controlling non-native predators and invasive plant species;
- planting native species to improve habitat structure and species composition;
- installing woody debris in stream channels to create pools to increase the diversity of micro-habitats; and
- enhancing stream channel profiles to improve hydrologic conditions that support the regeneration of riparian vegetation.

Wetland Natural Community

Goals and Objectives

Goal WETL1: Maintain and enhance functional wetland communities to benefit covered species and biodiversity. *[Note: Goals and objectives for vernal pools and swale complexes are provided in the goals and objectives for grassland communities.]*

Objective WETL1.1: Preserve [] acres of existing unprotected emergent wetlands distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WETL1.2: Preserve seeps and emergent wetlands by protecting [] acres of unprotected grassland, oak savanna and oak woodland communities that support seeps and small patches of emergent wetland.

Objective WETL1.3: Maintain [] acres of existing managed wetlands as wetlands distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WETL1.4: Enhance [] acres of emergent wetland distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WETL1.6: Restore [] acres of high quality emergent wetland for every acre of emergent wetland removed as a result of implementing covered activities.

Objective WETL1.7: Restore [] acres of high quality seasonal or perennial wetland distributed for every acre of managed wetland removed as a result of implementing covered activities (i.e., a X:1 compensation ratio).

Conservation Measures

A total of 31,996 acres of emergent wetland and managed wetland are present in the Planning Area, representing 5.7 percent of all natural communities present in the Planning Area.

The strategy for preservation of wetlands is aimed at meeting the conservation needs of the western spadefoot toad, northwestern pond turtle, giant garter snake, bald eagle, American peregrine falcon, greater sandhill crane, and tricolored blackbird.

WETL CM1: Enter into Conservation Easements with Water and Irrigation Districts to Preserve and Enhance Wetland Habitats along Canals. The Implementing Entity would purchase in-perpetuity conservation easements from local water and irrigation districts that own and operate water conveyance facilities to allow for and maintain emergent wetland habitats along the periphery of permanent water

conveyance canals. The easement would specify the extent to which wetland vegetation can persist along canals while not interrupting water conveyance requirements.

The network of canals and irrigation channels throughout the rice-growing region of the Butte Basin comprises the primary breeding, cover, and dispersal habitat for giant garter snakes in that area. Permanent water flows and emergent wetland vegetation along the perimeter of these canals are essential in maintaining suitable habitat (e.g., cover, basking, prey base, etc.) for giant garter snakes. These canals represent the primary avenues for dispersal and the most important breeding and foraging habitats for giant garter snakes within an agricultural landscape. Conservation easements that provide protection and opportunities for wetland enhancement along large permanent water conveyance canals (without affecting water conveyance capability) will be an important tool in managing and maintaining this population.

WETLCM2: Restore wetland habitats. Wetland restoration actions are designed to increase the habitat area for wetland-dependent covered species by either improving the habitat functions of severely degraded wetlands or creating wetlands. Based on results of post-acquisition ecological surveys (see LAND CM5), the Implementing Entity will identify potential locations within preserve lands that support site conditions suitable for restoration of wetland habitats and that support hydrologic conditions that will sustain restored wetland habitats over time. Restored wetland habitats will be designed to develop as habitat for wetland-dependent covered species over time. Effectiveness monitoring will be conducted as described in Section 5.X, *Monitoring and Research Plan*, to collect the information necessary to evaluate the effectiveness of restoration methods and species use of restored habitats. Based on analyses of monitoring results, the Implementing Entity may adjust riparian restoration methods through the adaptive management decision making process.

WETL CM3: Manage Wetland Habitats. Preserved wetlands will be managed to maintain and enhance wetland function and hydrogeomorphic processes through site-specific management practices. Depending on site-specific conditions, management practices could include:

- controlling nonnative species,
- establishing appropriate grazing regimes,
- increasing extent of native vegetation,
- fencing wetlands to exclude livestock and other activities,
- controlling water sources supporting wetlands,
- increasing or decreasing ponding capacity,
- erosion control, and
- maintaining or enhancing adjacent upland habitats.

WETL CM4: Manage Seasonal Wetlands to Provide Shallow-flooded Habitat during Winter Months. Selected preserves established within the greater sandhill crane conservation area will be managed to provide shallow-flooded winter roosting habitat for cranes. Management actions will include:

- establishing appropriate seasonal wetland vegetation that supports crane roosting habitat;
- incorporating upland berms situated throughout the seasonal wetland; and
- maintaining water levels that support crane roosting habitat during the crane winter season.

WETL CM5: Restore and Manage Emergent Wetland. Patches of emergent wetland will be restored on selected preserved tricolored blackbird habitat areas. Emergent wetlands will be developed and maintained to provide breeding habitat for tricolored blackbird colonies, but can also provide habitat value to giant garter snakes and other wetland species. Parameters for restoring tricolored blackbird habitat will include:

- proximity to disturbances that could preclude or disrupt nesting,
- proximity to suitable foraging habitat,
- availability of water to support emergent vegetation, and
- proximity to known black-crowned night heron roosts.

The Implementing Entity will also evaluate the need for predator control to improve nesting success and implement appropriate control measures if necessary.

WETL CM6: Create and Manage Ponds. To provide habitat for and increase populations of western pond turtle and western spadefoot toad, artificial ponds will be created on selected preserved habitat areas within the range of these species. Ponds will be managed specifically to promote the development of habitat for covered species with management actions designed to enhance habitat value including:

- maintaining appropriate water depth,
- establishing emergent vegetation in shallow areas,
- fencing to exclude livestock, and
- control of non-native predators.

Aquatic Natural Community

Goals and Objectives

Goal AQUA1: Maintain and enhance functional aquatic communities to benefit covered species and biodiversity.

Objective AQUA1.1: Preserve [] acres of existing unprotected grassland and oak savanna and woodland communities that support stock ponds suitable for native amphibian breeding.

Objective AQUA1.2: Preserve [] linear miles of existing unprotected reaches of Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little Chico Creek, Butte Creek, Little Dry Creek, and Feather River.

Objective AQUA1.3: Restore ponds and associated emergent wetlands within the Basin Landform (Southern Rice, Northern Rice, Sacramento River CAZs) suitable for giant garter snake habitat on preserved lands.

Objective AQUA1.4: Reduce loads of contaminants in protected streams that may be toxic to aquatic biota.

Objective AQUA1.5: Improve water temperature and overhead and instream cover conditions along [] linear miles of protected streams.

Objective AQUA1.6: Remove or modify in-stream structures that pose a barrier to the upstream and downstream movement of covered and other native fish species to provide for the passage of fish.

Objective AQUA1.7: Remove [] linear feet of armored channel banks along Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little Chico Creek, Butte Creek, Little Dry Creek, and Feather River to restore erosional and depositional processes and improve the supply of spawning gravels.

Objective AQUA1.8: Enhance protected stock ponds to improve habitat structure and hydrologic conditions for covered species.

Conservation Measures

A total of 2,506 miles of stream channels, 487 stock ponds, and 8,307 acres of open water provide aquatic habitat for covered species. The strategy for preservation of aquatic communities is aimed at meeting the conservation needs of the Chinook salmon, Central Valley steelhead, Sacramento splittail, green sturgeon, river lamprey, foothill yellow-legged frog, western spadefoot toad, northwestern pond turtle, giant garter snake, bald eagle, and American peregrine falcon.

AQUA CM1: Establish Agreements with Water and Irrigation Districts to Maintain Appropriate Water Flows in Permanent Water Conveyance Canals. The Implementing Entity would work with water and irrigation districts that own, operate, and maintain water conveyance facilities to ensure that appropriate flows are present to support the requirements of covered species.

To maintain giant garter snake use, water flows in water conveyance canals must be maintained at appropriate levels. Reducing flows can restrict movement and isolate individuals and populations. Over time, this limits reproductive potential and reduces dispersal capabilities. Maintaining suitable water flows during the active period of the year will facilitate movement and with implementation of habitat protection and enhancement measures will potentially expand the distribution and population of giant garter snakes within the Basin CAZs.

Agricultural Lands

Goals and Objectives

Goal AGLA1: Maintain agricultural land cover types that support habitat for covered species and other wildlife, including migratory waterfowl, shorebirds, other waterbirds, and raptors.

Objective AGLA1.1: Annually maintain at least acres of land in rice production distributed within the Planning Area as indicated in Table 5.X [to come].

Objective AGLA1.2: Annually maintain at least acres of irrigated pasture distributed within the Planning Area as indicated in Table 5.X [to come].

Objective AGLA1.3: Annually maintain at least acres of irrigated hayfields and corn/grain crops distributed within the Planning Area as indicated in Table 5.X [to come].

Objective AGLA1.4: Implement farming practices on conserved agricultural lands to increase their value as habitat for covered species (e.g., temporary fallowing; plant tree borders or other hedge rows along field borders and roadsides, etc).

Conservation Measures

The Planning Area is dominated by agricultural land use practices with irrigated agriculture accounting for 250,434 acres or 44% of the total Planning Area. Non-irrigated rangeland is addressed under conservation measures for the grassland natural community. Rice and orchards (mostly almonds and walnuts) dominate the irrigated agricultural land use. Orchards and vineyards do not provide important habitat for any of the covered species or for wildlife in general and are not a focus of the conservation strategy. In contrast, rice lands provide habitat for an array of wildlife, including several covered species. A key component of the conservation strategy is to provide incentives to growers/landowners to maintain a substantial portion of the Butte Basin agricultural lands in continued use for rice growing.

Preservation of the working landscape of rice in the Basin CAZs is a focus of the conservation strategy particularly for conservation of giant garter snake, bald eagle, American peregrine falcon, greater sandhill crane, and tricolored blackbird.

Preservation of the working landscape of non-rice/orchards/vineyards irrigated crops (e.g., hay, row, grain crops) is a focus of the conservation strategy for Swainson's hawk, greater sandhill crane, giant garter snake, white-tailed kite, and western burrowing owl.

AGLA CM1: Establish a Rice Lands Preservation Program. The Implementing Entity will establish, fund, and operate a Rice Lands Preservation Program. The goal of the Program will be to ensure that specified amounts of land are in rice production in any given year that support habitat for giant garter snake, bald eagle, American peregrine falcon, greater sandhill crane, and tricolored blackbird. Rice land would be preserved within the following CAZs: Southern Rice, Northern Rice, Sacramento River, Northern Orchards, Southern Orchards, Southern Sierra, Thermalito, and Southern Cascade. Minimum requirements for rice land preservation in each of these CAZs are provided in Table 5.X [to come] 5. Under the Program, the Implementing Entity will monitor planned rice production each year. Should monitoring indicate that rice lands might fall below the target for any given CAZ, the Implementing Entity would use funds to provide economic incentives to meet land use targets. For example, the Implementing Entity may enter into annual contracts with growers considering switching to another crop and pay the difference in anticipated crop value if the grower keeps the field in rice production. If sufficient conservation easements (in-perpetuity) and fee title protection of rice lands and other lands suitable for giant garter snake within a given CAZ meet the target for that CAZ, then this Program would no longer be necessary for the CAZ.

AGLA CM2: Enter into In-Perpetuity Conservation Easements for Rice Lands. The Implementing Entity would purchase in-perpetuity conservation easements with willing landowners to maintain their lands in rice production, including associated water conveyance and drainage infrastructure, to provide habitat for covered species. The minimum contiguous extent of rice land brought under easement with one or more landowners (or contiguous with existing preserves) must be at least 320 acres. Conservation easements should specify the range of rice farming and other land management practices (e.g., canal/drain maintenance activities) permitted on easement lands. The easement would allow only for changes in land use that resulted in restoration of a mosaic of open water, wetland, and upland habitat suitable for giant garter snake.

AGLA CM3: Enter into Short-Term Conservation Easements for Rice Lands. The Implementing Entity would purchase conservation easements for terms of not less than 5 years with willing landowners to maintain their land in rice production, including associated water conveyance and drainage infrastructure, to provide habitat for covered species. The minimum contiguous extent of rice land brought under easement with one or more landowners (or contiguous with existing preserves) must be at least 320 acres. Conservation easements should specify the range of rice farming and other land

management practices (e.g., canal/drain maintenance activities) permitted on easement lands over the term of easements.

AGLA CM4: Enter into In-Perpetuity Conservation Easements for non-rice/orchard/vineyard irrigated crops. The Implementing Entity would purchase in – perpetuity conservation easements with willing landowners to maintain their lands in hay, grain, or row crops to provide habitat for covered species. The minimum contiguous extent of irrigated cropland brought under easement with one or more landowners (or contiguous with existing preserves) must be at least 300 acres. Conservation easements should specify the range of crop types permitted on easement lands as well as restrictions on pesticide use and other land management practices. The easement will also specify the requirement for and timing of a land management plan.

AGLA CM5: Coordinate with State and Federal Agencies to Ensure Appropriate Agricultural Land Use Management on Protected Lands. A total of ___ acres of non-rice irrigated cropland are protected on state and federal refuges. The Implementing Entity would coordinate with the applicable state or federal wildlife agencies to assess land use practices and ensure that goals and objectives are compatible and oriented toward managing the land for covered species.

Overall, 87.6 percent of this agricultural type is currently protected under state or federal ownership or through existing conservation easements with private landowners. To meet Objective GGSN2, these protected lands should be maintained in cover types suitable for giant garter snake upland aestivation and movement habitat. The Implementing Entity should coordinate with the applicable state and federal agencies to review land use practices and compatibility with existing goals and objectives for wildlife conservation.

AGLA CM6: Enter into Conservation Easements to Protect Remnant Habitats on Farmlands. Farmlands support valuable remnant natural habitats for covered species, including isolated valley oak trees, tree rows, hedgerows, ponds, and other habitats. Conservation easements will protect important habitats and provide additional conservation on non-preserve lands. The Implementing Entity would purchase in-perpetuity conservation easements from local landowners that conserve habitat elements necessary for covered species conservation but allow for continued operation of farms and ranches.

Species-Level Goals, Objectives, and Conservation Measures

Tricolored Blackbird

Goals and Objectives

Goal TRBL1: Maintain or increase the extent of tricolored blackbird habitats to potentially increase the abundance and distribution of breeding and wintering tricolored blackbirds in the Planning Area.

The following natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective TRBL1.1: Identify and preserve active tricolored blackbird breeding colonies and identified patches of suiTable 5.X [to come] breeding habitat with minimum patch size of 0.5 acres on lands preserved under the Plan.

Objective TRBL1.2: Enhance a total of [] acres of emergent wetland and willow scrub vegetation with minimum patch sizes of 0.5 acre that provide tricolored blackbird nesting habitat distributed within the Planning Area as indicated in Table 5.X [to come].

Objective TRBL1.3: Annually provide a minimum of [] acres of tricolored blackbird agricultural foraging habitat distributed within the Planning Area as indicated in Table 5.X [to come].

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for tricolored blackbird incorporates preservation of agricultural and grassland foraging habitats and preserving/restoring emergent wetland breeding habitats within the species' range in the Planning Area.

Tricolored blackbirds occur throughout most of the low elevation portions of the Planning Area, with the exception of areas dominated by orchards and woodlands. Reported breeding occurrences are uncommon and widely distributed throughout this area. However, the species forages widely year round in cultivated, pasture, and grassland habitats.

Tricolored blackbird habitat occurs mainly in the Basin, Sacramento River, Cascades, and Sierra CAZs, and to a lesser extent in the Northern Orchard and Southern Orchard CAZs due to the predominance of unsuitable orchard-dominated agriculture. While the Basin CAZ supports the largest extent of agricultural foraging habitat, the rice-dominated agriculture provides less value during the spring and summer months when the rice fields are flooded than do the seasonal wetland, pasture, and grassland habitats that are found

primarily in the Sacramento River, Cascades, and Sierra CAZs. This may also explain, in part, why there are no reported occurrences of breeding colonies within the Basin CAZ. However, the southern end of the Basin CAZ supports primarily wetland habitats, much of which may be available as both breeding and foraging habitat for tricolored blackbirds. Thus, the tricolored blackbird conservation strategy will focus on preserving and managing suitable foraging habitats in the Basin, Sacramento River, Cascades, and Sierra CAZs, and emphasizing breeding habitat protection and restoration in the Sacramento River, Cascades, and Sierra CAZs.

The general conservation approach for tricolored blackbird involves implementing landscape and natural community-level conservation measures that preserve agricultural and grassland landscapes and wetland habitats that are essential for tricolored blackbird conservation. The strategy involves maintaining suitable agricultural, grassland, and seasonal wetland foraging habitats and nesting habitats through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

TRBL CM1: Enhance emergent wetland habitats on preserve lands (WETL CM3) to provide breeding habitat for tricolored blackbirds. Up to the minimum levels indicated in Table 5.X [to come], for each 300-acres of contiguous preserve that includes suitable tricolored blackbird foraging habitat, at least one patch (minimum 0.5 acre) of emergent wetland will be restored or enhanced to provide suitable tricolored blackbird nesting habitat. To reduce disturbance and/or predation risk, created or enhanced wetlands that potentially support tricolored blackbird breeding colonies will be located at least 1 mile from urban areas and known black-crowned night heron colonies.

Greater Sandhill Crane

Goals and Objectives

Goal SACR1: Provide habitat of sufficient extent and quality to maintain or increase the abundance of greater sandhill cranes wintering within the Planning Area.

The following natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective GSCR1.1: Annually provide a minimum of ■ acres of high value greater sandhill crane foraging habitat (based on type and seasonal use patterns as described in Littlefield [2002]) with minimum patch size of 160 acres distributed within core sandhill crane use areas as indicated in Table 5.X [to come].

Objective GSCR1.2: Annually provide a minimum of [] acres of greater sandhill crane roosting habitat with minimum patch size of 100 acres in at least [] locations distributed within core sandhill crane use areas (and within 2 miles of suiTable 5.X [to come] foraging habitat) as indicated in Table 5.X [to come] by preserving existing habitat or restoring habitat.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for greater sandhill crane incorporates preservation of agricultural foraging habitats and seasonal wetland roosting habitats within the species' winter range in the southwestern portion of the Planning Area.

Greater sandhill cranes occur in the Planning Area only during the winter non-breeding months where they roost along the edges of flooded agricultural fields and in shallowly-flooded seasonal wetlands, and forage primarily in harvested rice and seasonal wetland habitats. While traditional to their Butte Basin wintering grounds, they respond to annual changes in the distribution of suitable roosting and foraging habitat, and thus can potentially range over a fairly broad area. Both foraging and roosting habitats are required. Large, open agricultural fields and seasonal wetlands provide suitable foraging and daytime roosting habitat, and shallowly-flooded seasonal wetlands of at least 100-acres are required for nighttime roosting.

Greater sandhill crane habitat exists predominantly within two CAZs: Basin CAZ and the Sacramento River CAZ. These contiguous areas include 90.1 percent of the rice lands (108,291.8 acres) and 87.3 percent of the managed and emergent wetland habitats (30,180.4 acres) in the Planning Area. These two CAZs also incorporate over 90 percent of the lands described by Pogsdon and Lindstadt (1991) as crane winter area. Thus, the greater sandhill crane conservation strategy includes establishing conservation goals primarily within the Basin and Sacramento CAZs, and to a lesser extent the Northern Orchards, Cascade, Sierra, and Southern Orchard CAZs.

A large portion of the greater sandhill crane conservation area is currently protected as DFG or USFWS refuges or through conservation easements on private lands. Of the 22,477.5 acres of managed and emergent wetland within the Basin CAZ, 15,734.6 acres (70.0 percent) are currently protected and are expected to be maintained as wetland habitat and managed for the benefit of wildlife and wetland conservation. Of the 7,702.9 acres of managed and emergent wetland habitat in the Sacramento River CAZ, 7,290.4 acres (94.6%) is protected. Rice lands are mostly privately held lands; however, there are some lands that are protected through conservation easement or are state or federal refuge lands.

Because a significant amount of existing wetland habitat is currently protected within the conservation area, the focus of wetlands conservation related to greater sandhill crane

will include the preservation and enhancement of remaining unprotected wetland habitats.

The general conservation approach for greater sandhill crane involves maintaining rice-dominated agriculture within the Basin CAZ and preservation of managed wetlands through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

GSCR CM1: Through implementation of LAND CM2, acquire lands that have documented greater sandhill crane roosting activity or that include seasonal wetland habitats suitable for crane roosting.

Bald Eagle

Goals and Objectives

Goal BAEA1: Maintain or increase the extent of bald eagle habitats to provide for potential increases in the abundance and distribution of breeding bald eagles and for maintaining the abundance of bald eagles that winter in the Planning Area.

The following natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective BAEA1.1: Preserve all unprotected existing nest sites from activities that could result in nest site abandonment and from disturbances that could reduce nesting success.

Objective BAEA1.2: Preserve a total of [] acres of bald eagle nesting/roosting habitat distributed within the Planning Area with minimum patch size of 30 acres as indicated in Table 5.X [to come].

Objective BAEA1.3: Restore native riparian trees along at least [] linear miles of the Feather River, [] linear miles along the Sacramento River, and along at least [] percent of the Thermilto Afterbay shoreline with minimum patch size of 30 acres to provide bald eagle nesting/roosting habitat when trees have matured.

Objective BAEA1.4: Preserve a total of [] acres of bald eagle winter foraging habitat (primarily wetlands and flooded agricultural habitats managed for winter waterfowl) with minimum patch size of 500 acres distributed within the Planning Area as indicated in Table 5.X [to come].

Objective BAEA1.5: Compensate losses of occupied bald eagle breeding habitat (removal of woodland habitat within 600 feet of active nest trees) through acquisition and permanent protection of breeding habitat at a ratio of 3:1.

**Conservation Strategy and Relationship to Landscape- and Natural Community-
Level Conservation Measures**

The strategy for bald eagle incorporates preservation of managed wetland, open water, and agricultural foraging habitats with preservation of oak woodland and riparian forest communities that support nesting habitat throughout the Planning Area.

Bald eagles occur in the Planning Area as permanent residents and winter migrants. Bald eagles have been documented as nesting in riparian forest along the Feather River downstream of Oroville Dam within the Planning Area and are known to outside of the Planning near reservoirs and rivers that support nesting habitat. In Butte County, bald eagles are considered a permanent resident, an uncommon winter migrant, and a known, but uncommon, breeder in Butte County. Bald eagles regularly winter around the Planning Area, including at Lake Oroville, Thermalito Forebay and Afterbay, along the Feather and Sacramento Rivers, and in the wetlands associated with Llano Seco and the Gray Lodge Wildlife Area. A winter roost site supporting at least 60 individuals has been documented near Lake Oroville. Foraging habitat for bald eagles includes open water (Thermalito Forebay and Afterbay), open water associated with cottonwood-willow riparian forest and valley oak riparian forest along the Sacramento and Feather Rivers, managed wetland, grassland, grassland with vernal swale complex, vernal pool, altered vernal pool, blue oak savanna with vernal swale complex, and flooded rice. During the breeding season (February through August), eagles that nest along the Feather River likely hunt primarily for fish along the Feather River and in the Thermalito Forebay and Afterbay. However, given that bald eagles initiate breeding relatively early (February), wintering or migratory waterfowl populations may still be present and some use of managed wetlands and flooded rice fields may occur. During the winter non-breeding season, eagles likely expand their hunting efforts into managed wetlands and flooded rice fields when waterfowl populations are at their peak. Vernal pool habitats may also be used during periods of inundation (November through April) when they attract waterfowl.

Bald eagle nesting habitat is present in the all the CAZs with nesting having been documented in the Sierra Foothills and Southern Orchards CAZ (see Appendix A, *Covered Species Accounts*). Primary year-round foraging habitat used by nesting eagles is supported by Thermalito Forebay and Afterbay, the Feather River, and Lake Oroville and the Sacramento River that border the Planning Area. Consequently, the conservation strategy for nesting bald eagles focuses on conserving habitat areas that currently are known to support nesting bald eagles and that have a high potential for supporting nesting bald eagles in the future because of their proximity to year-round foraging habitat. Year-round foraging habitat is currently preserved under existing laws and regulations (e.g., operating criteria that maintain flows in the Feather River). Additionally, the conservation strategy provides for preserving 30 percent the existing seasonal foraging habitat present in the Planning Area for use by wintering, migrant, and breeding bald eagles. This extent of preserved habitat is expected to be sufficient because it would be sufficient to support approximately 100 breeding pairs based on a mean territory size of

500 acres (see Table 5.X [to come]). Approximately 24 percent of nesting habitat and 16 percent of seasonal foraging habitats are currently in protected status.

The general conservation approach for bald eagle involves implementing landscape and natural community-level conservation measures that preserve grassland (with and without vernal pools and swales), agricultural and oak woodland and savanna landscapes, and riparian and wetland habitats that are essential for bald eagle conservation. The strategy involves maintaining suitable agricultural, grassland, and wetland foraging habitats and nesting habitat through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

BAEA CM1: Through implementation of LAND CM2, acquire lands that support documented active bald eagle nest sites.

BAEA CM2: Through implementation of LAND CM2, acquire lands that support documented active bald eagle roost sites.

White-Tailed Kite

Goals and Objectives

Goal WTKI1: Maintain or increase the extent of white-tailed kite habitats to provide for maintaining or potentially increasing the abundance and distribution of resident of white-tailed kites in the Planning Area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective WTKI1.1: Annually provide at least [] acres of white-tailed kite agricultural foraging habitat with minimum patch size of 150 acres distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WTKI1.2: Preserve at least [] acres of white-tailed kite non-agricultural foraging habitat with minimum patch size of 150 acres distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WTKI1.3: Preserve at least [] acres of unprotected white-tailed kite nesting habitat from loss or degradation distributed within the Planning Area as indicated in Table 5.X [to come].

Objective WTKI1.4: Restore at least acres of cottonwood-willow forest distributed within the Planning Area as indicated in Table 5.X [to come] to provide white-tailed kite riparian nesting habitat when trees have matured.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for white-tailed kite incorporates preservation of agricultural, seasonal wetland, and grassland foraging habitats and preserving/restoring riparian nesting habitat within the species' range in the Planning Area.

The white-tailed kite ranges widely throughout the Planning Area where it forages in grasslands, seasonal wetland, and most agricultural habitats except orchards and vineyards, and nests in riparian and oak woodland habitats. Rice stubble is also used following fall harvest and prior to spring flood-up. It relies on open landscapes, but is also found nesting in mid-elevation oak woodlands that are adjacent to open grassland habitats. There are few reported occurrences of white-tailed kites from the Planning Area, and while uncommon, the species is likely underreported.

White-tailed kite habitat occurs mainly in the Basin, Sacramento River, Cascades, and Sierra CAZs and to a lesser extent in the Northern Orchards and Southern Orchard CAZ due to the predominance of unsuiTable 5.X [to come] orchard-dominated agriculture. The rice-dominated agriculture in the Basin CAZ is likely used primarily during the winter non-breeding season; however, the seasonal wetland habitats in the southern portion of the Basin CAZ are available year-round. Seasonal wetland and agricultural habitats also dominate the Sacramento River CAZ. Nesting habitat in these areas, as well as the Southern Orchard CAZ (Feather River) consists primarily of riparian woodland. Grassland foraging habitat and oak woodland nesting habitat form the primary white-tailed kite habitats in the Cascade and Sierra CAZs.

The primary focus of white-tailed conservation is the preservation of riparian and oak woodland nesting habitats and seasonal wetland, non-rice agriculture, and grassland foraging habitats; and the secondary focus is preservation of rice-dominated agricultural lands.

The Planning Area includes 34,578 acres of wetland communities, much of which is considered suitable for white-tailed kite (i.e., managed wetland, willow scrub). Of this total, 30,180 acres (87.3 percent) occurs within the Sacramento River and Basin CAZs. Of this, 23,025 acres (76.3 percent [and a total of 67 percent of wetland habitats within the Planning Area]) is currently protected under state or federal ownership or under conservation easements on private land and is managed for the benefit of wildlife and wetland conservation. Because a significant amount of existing wetland habitat is currently protected in the Basin and Sacramento River CAZs, the focus of seasonal wetland conservation for white-tailed kite will include the preservation and enhancement of remaining unprotected wetland habitats in the Basin, Sacramento River, and Sierra

CAZs. Grassland and agricultural lands are largely privately owned and will be the focus of white-tailed kite conservation efforts in the Sacramento River, Cascade, and Sierra CAZs. Core preserve lands will be sufficiently large to support nesting and foraging of multiple nesting white-tailed kite pairs and be enhanced to increase foraging habitat value and the availability of nest sites. Several core preserves will be strategically situated throughout the Planning Area to facilitate dispersal and movement and use of other non-preserve habitats.

The general conservation approach for white-tailed kite involves implementing landscape and natural community-level conservation measures that preserve agricultural and grassland landscapes and seasonal wetland habitats that are essential for white-tailed kite conservation. The strategy involves maintaining suitable agricultural, grassland, and seasonal wetland foraging habitats and riparian nesting habitats through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

WTKI CM1: Through implementation of LAND CM2, AGLA CM4, and AGLA CM6, acquire lands that have documented white-tailed kite nesting activity or that support white-tailed kite nesting habitat. Surveys conducted to assess potential preserve lands as required under natural community conservation measures will document nesting activity and/or nesting habitat and the results used to guide and prioritize acquisitions.

Swainson's Hawk

Goals and Objectives

Goal SWHA1: Maintain or increase the extent of Swainson's hawk habitats to provide for maintaining or potentially increasing the distribution and abundance of Swainson's hawks nesting in the Planning Area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective SWHA1.1: Annually provide a minimum of ■ acres of primary foraging habitat (e.g., alfalfa, irrigated pasture, certain row crops) and a minimum of ■ acres of secondary foraging habitat (grassland, other row and grain crops) with a minimum patch size of 830 acres for Swainson's hawk distributed within the Planning Area as indicated in Table 5.X [to come].

Objective SWHA1.2: Preserve ■ acres of unprotected nesting habitat from loss or degradation distributed within the Planning Area as indicated in Table 5.X [to come].

Objective SWHA1.3: Restore a total of [] acres of Swainson's hawk riparian nesting habitat distributed within the Planning Area as indicated in Table 5.X [to come].

Objective SWHA1.4: Restore a total of [] acres of nesting habitat (riparian, small groves, tree rows, etc.) on preserves.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for Swainson's hawk incorporates preservation of agricultural and grassland foraging habitats and preserving/restoring riparian nesting habitat within the species' range in the Planning Area.

Nesting Swainson's hawks are distributed in the Planning Area primarily along larger riparian corridors such as the Sacramento River, Feather River, and Butte Creek. The species is relatively uncommon in Butte County because of the prevalence of rice- and orchard-dominated agriculture, neither of which provide suitable foraging habitat for Swainson's hawks. Distribution and nesting density are largely a function of the availability of suitable nest trees (including riparian woodlands, roadside trees, tree rows, and isolated trees) and agricultural crop patterns that provide suitable foraging habitat (generally defined as cover types that provide access to abundant microtine prey). In particular, the occurrence and distribution of alfalfa is key to maintaining or enhancing nesting populations; whereas the expansion of orchards, vineyards, and other unsuitable cover types reduces available habitat and results in local population declines. Thus, through restoration of nesting habitats and manipulation of crop patterns, there is potential to enhance nesting populations in some areas. Grassland and seasonal wetland preservation/enhancement actions may also contribute to increased foraging opportunities and expansion of nesting populations in some areas.

Swainson's hawk habitat occurs mainly in the grassland and irrigated agricultural lands of the Cascade and Sierra CAZs, and the seasonal wetland and irrigated agricultural habitats Sacramento CAZ and the southwestern portion of the Basin CAZ. Patches of suitable agricultural foraging habitat also occur in the Northern Orchards, Southern Orchards and Basin CAZs, but they are generally interspersed within the rice- or orchard-dominated landscape. Riparian woodland along the Sacramento River, Feather River, and Butte Creek provide the majority of available nesting habitat, along with other narrow riparian corridors and other woodland habitats.

Because a significant portion of the managed wetland habitats in the southern Basin and Sacramento River CAZs are currently protected under state or federal ownership, Swainson's hawk conservation will rely mainly on the preservation and management of irrigated agriculture and grassland foraging habitats in the Sacramento River, Cascades, Sierra, and Southern Orchards CAZs. Core preserve lands will be sufficiently large to

support nesting and foraging of multiple nesting Swainson's hawks and be enhanced to increase foraging habitat value and the availability of nest sites. Several core preserves will be strategically situated throughout the Planning Area to facilitate dispersal and movement and use of other non-preserve habitats.

The general conservation approach for Swainson's hawk involves implementing landscape and natural community-level conservation measures that preserve agricultural and grassland landscapes that are essential for Swainson's hawk conservation. Conservation will be directed toward the acquisition, protection, and enhancement of agricultural and grassland preserve lands to sustain existing nesting populations and increase local populations in low nesting density areas. The strategy involves maintaining suitable agricultural and grassland foraging habitats and riparian nesting habitats through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

SWHA CM1: Through implementation of LAND CM2, AGLA CM4 and AGLA CM6, acquire lands that have documented Swainson's hawk nesting activity or that include high value Swainson's hawk nesting habitat. Surveys conducted to assess potential preserve lands as required under natural community conservation measures will document nesting activity and/or nesting habitat and the results used to guide and prioritize acquisitions.

Giant Garter Snake

Goals and Objectives

Goal GGSN1: Maintain or increase the extent of giant garter snake habitats to potentially increase the abundance and distribution of giant garter snakes within the Planning Area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective GGSN1.1: Maintain ■ acres of existing rice lands with a minimum patch size of 320 acres and associated water conveyance ditches in rice production distributed within the Planning Area as described in Table 5.X [to come].

Objective GGSN1.2: Maintain ■ acres of existing irrigated croplands with a minimum patch size of 320 acres that support giant garter snake habitat in land cover types that support habitat distributed within the Planning Area as described in Table 5.X [to come].

Objective GGSN1.3: Preserve [] acres of existing unprotected managed wetlands, emergent wetlands, and willow scrub that support giant garter snake habitat with a minimum patch size of 320 acres, including when combined with preserved giant garter snake aquatic and agricultural habitats, distributed within the Planning Area as described in Table 5.X [to come].

Objective GGSN1.4: Maintain the hydrological connectivity among [] linear miles of waterways that are currently connected to rice lands and patches of managed wetlands, emergent wetlands, willow scrub, and irrigated cropland that support giant garter snake habitat distributed within the Planning Area as described in Table 5.X [to come].

Objective GGSN1.5: Enhance [] acres of emergent wetlands and willow scrub that support giant garter snake habitat with a minimum patch size of 320 acres, including when combined with preserved giant garter snake aquatic and agricultural habitats, within 8 km of existing giant garter snake habitat distributed within the Planning Area as described in Table 5.X [to come].

Objective GGSN1.6: Maintain aquatic connectivity between preserves and other protected areas known or with potential to support giant garter snake.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The general strategy for giant garter snake conservation is to establish a system of preserves linked to existing protected lands to form a network of protected areas outside the area where new urban growth will be covered under the HCP/NCCP.

Giant garter snake is one of the primary influences in the design of agricultural and wetland-associated preserves. Associated primarily with emergent wetland habitats along natural and artificial watercourses, the species also uses managed wetlands and flooded rice fields as well as adjacent upland habitats. Within Butte County, optimal habitat includes perennial creeks with emergent vegetation but lacking a dense riparian overstory and artificial water conveyance channels that support emergent vegetation within a landscape dominated by managed wetland or rice farming. Other irrigated cropland types, such as irrigated pastures and grain fields, may also provide cover and dispersal habitat, particularly when near suitable aquatic habitat. Within the Planning Area, this condition exists primarily in the Butte Basin in the southwest corner of the Planning Area.

The giant garter snake is known to occur in the Planning Area, with nearly all reported occurrences in the southwestern corner of the Planning Area. While few recent surveys have been conducted, the species is considered extent throughout most of southwestern Butte County.

Giant garter snake habitat exists predominantly within two CAZs: Sacramento River and Basin. These contiguous areas include 90.1 percent of the rice lands (108,291.8 acres) and 87.3 percent of the managed and emergent wetland habitats (30,180.4 acres) in the Planning Area. In addition, all but one of the reported GGS sightings in CNDDDB occurs within these CAZs. Eric Hansen (pers. comm.) notes that few if any records occur east of Highway 99 in Butte County and that no definitive records occur east of Highway 70. Thus, the giant garter snake conservation strategy includes establishing conservation goals within the Sacramento River and Rice CAZs.

The giant garter snake conservation area (as defined above) represents the northernmost and northeastern-most extent of giant garter snake habitat east of the Sacramento River. North of the Basin CAZ, the landscape is dominated by orchard farming along with urbanization and grassland habitats. While watercourses extended into this area, because there is no connectivity with any other suitable landscape, this area was excluded from the conservation strategy. Vegetation types (e.g., rice, managed wetlands) considered suitable for giant garter snake also occur east of Highway 99 and east of Highway 70 in the Southern Orchards CAZ. However, there are no records of giant garter snake occurrence in these areas, they are considered isolated from the Butte Basin population, and/or were relatively small patches of habitat separated by either Highway 99 or Highway 70, both potential barriers to movement. Thus, these areas were also excluded from the conservation strategy.

On the south and west, the conservation area is contiguous with other giant garter snake habitats, mainly rice fields and managed wetland landscapes, and known extant giant garter snake populations. Thus, the conservation area is contiguous with the giant garter snake range to the south and west and represents the northeastern-most extent of the species' range.

While maintaining large rice land and managed wetland landscapes are important to sustain populations, connectivity of suitable aquatic habitats (e.g., natural streams and water conveyance channels) is essential to link protected areas, provide connectivity with unprotected agricultural areas and facilitate movement of snakes within the Planning Area and contiguous suitable habitats outside of the Planning Area. Butte Basin rice farming is supported by a network of permanent water delivery canals (e.g., Cherokee Canal, Ashley Lateral Canal, Western Canal, Watt Lateral Canal, etc.) and natural drainages (e.g., Butte Creek, Little Dry Creek, etc.). Smaller irrigation channels feed off of these permanent canals.

As noted, the general conservation approach for giant garter snake involves establishing a network of preserves throughout the Sacramento River and Basin CAZs (i.e., giant garter snake conservation area), maintaining connectivity between the preserves with natural or permanent artificial watercourses, maintaining suitable aquatic and wetland habitat along these watercourses, and establishing a program to maintain target acreages of active rice, other irrigated cropland, and managed wetland throughout the conservation area.

A large portion of the conservation area is currently protected as DFG or USFWS refuges or through conservation easements on private lands. Of the 22,477.5 acres of managed and emergent wetland within the Basin CAZ, 15,734.6 acres (70.0 percent) are currently protected and are expected to be maintained as wetland habitat. Of the 7,702.9 acres of managed and emergent wetland habitat in the Sacramento River CAZ, 7,290.4 acres (94.6%) is protected. Rice lands are mostly privately held lands; however, there are some lands that are protected through conservation easement or are state or federal refuge lands.

Preservation of rice lands in the Butte Basin is a focus of the conservation strategy for giant garter snake. As indicated, the conservation area for giant garter snake includes the Sacramento River and Basin CAZs, which incorporate 90.1 percent of the rice-growing land with the Planning Area. Preservation of other irrigated cropland (e.g., hay, row, and grain cropland) that is adjacent to managed wetlands is a secondary focus of the conservation strategy for giant garter snake. Within the giant garter snake conservation area (e.g., Sacramento River, Basin CAZs), the majority of this type occurs in the Sacramento River CAZ.

The Planning Area includes 34,578.3 acres of wetland communities considered suitable for giant garter snake (i.e., managed wetland, emergent wetland, willow scrub). Of this total, 30,180 acres (87.3 percent) occurs within the giant garter snake conservation area (Sacramento River and Basin CAZs). Of this, 23,025 acres (76.3 percent [and a total of 67 percent of wetland habitats within the Planning Area]) is currently protected under state or federal ownership or under conservation easements on private land and is managed for the benefit of wildlife and wetland conservation.

Because a significant amount of existing wetland habitat is currently protected within the conservation area, the focus of wetlands conservation related to giant garter snake will include the preservation and enhancement of remaining unprotected wetland habitats and the protection, enhancement, and restoration of wetland habitats along drainages.

The giant garter snake conservation area includes 94.6 linear miles of connected waterways, much of which is currently or has potential to support giant garter snake breeding, foraging, and movement habitat. These waterways provide the necessary connectivity between occupied areas and are essential for dispersal and genetic exchange.

As described in conservation measures AGLA CM 1-CM5, WETL CM 1 and 2, and AQUA CM1, the conservation strategy for giant garter snake includes preservation of a total of [redacted] acres of rice lands, other irrigated croplands, emergent wetlands, managed wetlands, and aquatic communities that support giant garter snake habitat. As described under LAND CM X, preserved giant garter snake habitats will be configured to provide for the preservation of movement corridors to provide connectivity among habitat areas and dispersal pathways.

Additional Conservation Measures

No additional conservation measures are proposed at this time.

California Horned Lizard

Goals and Objectives

Goal HOLI1: Maintain or increase the extent of California horned lizard habitat to maintain the abundance and distribution of California horned lizard.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective HOLI1.1: Preserve ■ acres of any combination of existing unprotected grassland, oak woodland and savanna, and riparian habitats in minimum patch sizes of 40 acres that support California horned lizard habitat distributed within the Planning Area as described in Table 5.X [to come].

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for coast horned lizard conservation focuses on the preservation of grassland, chaparral, and associated riparian and woodland habitats within the species' range in the Planning Area.

The only reported occurrence of coast horned lizard from the Planning Area is at Table Mountain; however, the species likely occurs in similar habitats along the eastern foothill plateaus, and potentially occurs in the lower elevation chaparral and grassland habitats along the eastern edge of the Planning Area. It's distribution is likely restricted to grassland, chaparral, and associated woodland and riparian habitats within the Cascade and Sierra CAZs.

The general conservation approach for coast horned lizard involves implementing landscape and natural community-level conservation measures that preserve grassland, chaparral, oak woodland and riparian habitats that are essential for coast horned lizard conservation. Conservation will be directed toward the acquisition, protection, and enhancement of grassland, chaparral, and oak woodland preserve lands within the Cascade and Sierra CAZs to sustain existing populations, increase populations in low density areas, and facilitate movement and dispersal of coast horned lizards throughout the eastern foothills and plateaus. The strategy involves maintaining grassland, chaparral,

oak woodland and savannah, and riparian habitats through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

HOLI CM1: Through implementation of LAND CM2, acquire lands that include suitable habitat for coast horned lizard. Surveys conducted under LAND CM1 will include an assessment of the presence of California horned lizard habitat that will be used for prioritizing preservation of California horned lizard habitat.

Western Pond Turtle

Goals and Objectives

Goal WPTU1: Maintain or increase the extent of northwestern pond turtle habitat to potentially increase the abundance and distribution of western pond turtle in the Planning Area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective WPTU1.1: Preserve [] linear miles of perennial stream with minimum patch size of 2.5 acres (including Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little Chico Creek, Butte Creek, Little Dry Creek, Feather River, and Cherokee Canal) and adjacent upland nesting habitat extending a minimum of 200 feet from the streams distributed within the Planning Area as described in Table 5.X [to come].

Objective WPTU1.2: Preserve [] stock ponds that support western pond turtle aquatic habitat and adjacent upland nesting habitat (i.e., grassland and oak savanna, and woodland communities) extending a minimum of 200 feet from the ponds distributed within the Planning Area as described in Table 5.X [to come].

Objective WPTU1.3: Preserve [] acres of existing unprotected managed wetlands and emergent wetlands with minimum patch sizes of 2.5 acres that support western pond turtle habitat distributed within the Planning Area as described in Table 5.X [to come].

Objective WPTU1.4: Enhance [] acres of riparian and emergent wetland habitat adjacent to existing western pond turtle aquatic habitat areas distributed within the Planning Area as described in Table 5.X [to come].

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The strategy for western pond turtle incorporates preservation and restoration of wetland habitats, streams and channels, and adjacent upland habitats within the species' range in the Planning Area.

Western pond turtles are distributed throughout most of the Planning Area, but are largely restricted to aquatic habitats (e.g., wetlands, ponds, and stream/channels) and adjacent upland habitats that are used for nesting. There are few reported occurrences in the Planning Area, but it is likely that this species is widely underreported. Reported occurrences include three of the small foothill streams west of State Route 99 and the wetland habitats of the Butte Basin. The species may occur along streams and constructed water conveyance corridors (e.g., Cherokee Canal), ponds, and other wetland areas (e.g., Llano Seco) in the Planning Area. However, because adjacent upland habitat (e.g., steep banks, terraces, grassland) is required for nesting, many agricultural landscapes, including rice- and orchard-dominated lands may not provide sufficient habitat to support this species.

Western pond turtle habitat occurs mainly along streams and in wetlands within the Cascade, Sierra, and Sacramento River CAZs, and the southwestern corner of the Basin CAZ. While the Northern Orchard and Southern Orchard CAZs and the rice-dominated portion of the Basin CAZ support suitable aquatic habitats, they generally lack adjacent uplands. However, there are possible exceptions including Butte Creek, Feather River, Cherokee Canal, and other larger watercourses that support steep banks or grassy terraces or a broader basin that may provide potential nesting habitat for western pond turtles.

Because a significant portion of the wetland habitats in the southern Basin and Sacramento River CAZs are currently protected under state or federal ownership, western pond turtle conservation will rely mainly on the preservation and management of remaining unprotected wetland habitats in the Sacramento River and Basin CAZs; the protection of foothill streams and adjacent grassland habitat in the Cascade and Sierra CAZs; and the protection and enhancement of natural streams and large water conveyance canals in the Basin, Southern Orchard, and Northern Orchard CAZs that potentially support western pond turtle. Core preserves located in each CAZ will be connected by the network of streams and water conveyance channels, link the different geographic regions of the Planning Area and facilitate movement and dispersal of western pond turtles.

The general conservation approach for western pond turtle involves implementing landscape and natural community-level conservation measures that preserve aquatic and adjacent upland habitats that are essential for western pond turtle conservation. Conservation will be directed toward the acquisition, protection, and enhancement of wetland complexes to provide additional aquatic and upland habitat, and the protection and enhancement of streams and other water conveyance channels. The strategy involves

maintaining suitable aquatic and upland habitats through the implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

WPTU CM1: Enhance preserved western pond turtle habitats by installing logs and artificial basking platforms in ponds and streams where these habitat elements are lacking. Artificial platforms, constructed according to Alvarez (2006), will be anchored to the pond or stream bottom and will float on the water's surface.

Butte County Checkerbloom

Goals and Objectives

Goal BCCH1: Maintain the area, size and number of occurrences of Butte County checkerbloom within the Planning Area as described in the following objectives.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective BCCH1.1: Preserve 50 % of the known extant occurrences of Butte County checkerbloom that are currently unprotected and the associated communities.

Objective BDDH1.2: Preserve 50 % of unprotected newly discovered occurrences that are located along drainages north of Butte Creek and the associated communities.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

The general conservation approach for Butte County checkerbloom involves implementing landscape and natural community-level conservation measures that preserve oak woodland/savanna and grassland habitats that are essential for Butte County checkerbloom conservation. Conservation will be directed towards the acquisition, protection, and enhancement of oak woodland savanna and grassland communities that are located in the areas described in Table 5.X [to come] through implementation of applicable natural community-level conservation measures.

Butte County checkerbloom is known to be widely distributed across the foothills of the Plan Area from Butte Creek south. It is generally associated with stream corridors that cut through the Tuscan Geological formation. In the Butte Creek area the streams have higher flow capacities, flow down steeper gradients, and as a result have cut relatively

narrow canyons with steep slopes and narrow bottoms lined with trees. In contrast, from about the Neal Road area south the watersheds of the streams are smaller, the gradients less steep, and the entire area consists of an ancient erosional strath terrace surface. The habitat in these areas can sometimes be directly on gravels along the bottom of the stream channels among California junipers. There are no reported occurrences in the Plan Area north of Butte Creek but habitat similar to that present in Butte Creek is present there and Butte County checkerbloom is likely to be discovered when surveys are conducted.

Because a significant portion of the Butte County checkerbloom habitat falls on private land and is currently not protected, Butte County checkerbloom conservation will rely mainly on the preservation and management of oak woodland savanna and grassland habitats in the Cascade Foothills CAZ that potentially support Butte County checkerbloom.

Additional Conservation Measures

BCCB CM1: Through implementation of LAND CM2, acquire lands that include suitable habitat for Butte County checkerbloom. Surveys conducted under LAND CM1 will include an assessment of the presence of Butte County checkerbloom habitat that will be used for prioritizing preservation of Butte County checkerbloom habitat.

BCCB CM2: Conduct focused surveys during the appropriate time of year to determine if additional occurrences of Butte County checkerbloom are present in Butte County north of Butte Creek. Based on the results of the surveys, adjust applicable natural community-level objectives to preserve at least 50 percent of newly known occurrences through the adaptive management decision making process (see Section 5.X, *Adaptive Management*).

Veiny Monardella

Goals and Objectives

Goal VEMO1: Maintain or increase the size and number of occurrences of veiny monardella within the Planning Area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: [to come].

Objective VEMO1.1: Preserve 100% known extant occurrences of veiny monardella that are currently unprotected within the Planning Area.

Objective VEMO1.2: Preserve 90% of newly documented occurrences of veiny monardella within the Planning Area.

Conservation Strategy and Relationship to Landscape- and Community-Level Conservation Measures

Because there are only two extant occurrences in California and a single occurrence in Butte County, the initial conservation strategy will be to preserve the single known occurrence in the Neal Road area and any newly documented occurrences, to conduct focused studies to identify its biological and ecological requirements, and to preserve the landscape in which veiny monardella is found in Butte County.

Additional Conservation Measures

VEMO CM1: Through implementation of LAND CM2, acquire lands that include suitable habitat for veiny monardella. Surveys conducted under LAND CM1 will include an assessment of the presence of veiny monardella habitat that will be used for prioritizing preservation of veiny monardella habitat.

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Habitat Conservation Objectives for Selected Species Habitats by Conservation Acquisition Zone

Covered Species Habitat	Conservation Acquisition Zone																		Total (Acres except as noted)	Total Conserved (acres)
	Sierra Foothills			Cascade Foothills			Northern Orchards			Southern Orchards			Basin			Sacramento River				
	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)		
Tricolored Blackbird	<p>Rationale for CAZ Distribution: Tricolored blackbird habitat occurs mainly in the Basin, Sacramento River, Cascades, and Sierra CAZs, and to a lesser extent in the Northern Orchard and Southern Orchard CAZs due to the predominance of unsuitable orchard-dominated agriculture. While the Basin CAZ supports the largest extent of agricultural foraging habitat, the rice-dominated agriculture provides less value during the spring and summer months when the rice fields are flooded than do the seasonal wetland, pasture, and grassland habitats that are found primarily in the Sacramento River, Cascades, and Sierra CAZs. This may also explain, in part, why there are no reported occurrences of breeding colonies within the Basin CAZ. However, the southern end of the Basin CAZ supports primarily wetland habitats, much of which may be available as both breeding and foraging habitat for tricolored blackbirds. Thus, tricolored blackbird conservation emphasizes the Cascade, Sierra, and Sacramento River CAZs where the majority of reported breeding colonies have been documented. Conservation within the Basin CAZ, which includes the largest number of conservation acres (although proportionately less) will focus on the managed wetland habitats in the southern portion of the Planning Area.</p>																			
<i>Breeding and Foraging Habitat</i>	54,549	50	27,275	47,517	50	23,759	12,457	30	3,737	9,854	40	3,942	131,909	30	39,573	15,274	50	7,637	271,560	105,923
Greater Sandhill Crane	<p>Rationale for CAZ Distribution: Greater sandhill crane habitat exists predominantly within two CAZs: Basin CAZ and the Sacramento River CAZ. These contiguous areas include 90.1 percent of the rice lands (108,291.8 acres) and 87.3 percent of the managed and emergent wetland habitats (30,180.4 acres) in the Plan Area. These two CAZs also incorporate over 90 percent of the lands described by Pogsdon and Lindstadt (1991) as crane winter area. Thus, the greater sandhill crane conservation strategy includes establishing conservation goals within the Basin and Sacramento CAZs, and while there are relatively small amounts of habitat in the Northern Orchards, Cascade, Sierra, and Southern Orchard CAZs, conservation targets are not established for these areas.</p>																			
<i>Winter Foraging/Roosting Habitat</i>	5,853	0	0	2,092	0	0	3,072	0	0	3,052	0	0	130,298	60	78,179	6,222	60	3,733	150,590	81,912
Bald Eagle	<p>Rationale for CAZ Distribution: Current bald eagle nesting distribution is restricted to the Feather River and Lake Oroville in the eastern portion of the Planning Area. Other suitable nesting habitat occurs along the Sacramento River and foothill drainages. It is assumed that most breeding season foraging occurs in relatively close proximity to nesting habitats along the Feather River, Lake Oroville, and the forebay and afterbay. There also may be some use of flooded rice fields that are near nesting habitats. Potential breeding pairs along the Sacramento River would likely use the Sacramento River as primary foraging habitat. During winter, seasonal wetland and flooded rice habitats that support waterfowl are assumed to increase in use. Due to their current use and potential for future use, targets for nesting habitat protection emphasize the Feather River and Sacramento River within the Sacramento River and Feather River CAZs. Targets are also relatively high in the Sierra Foothills CAZ due to proximity to Lake Oroville and the afterbay/forebay foraging habitats and in the Basin CAZ to provide roosting habitat for wintering eagles. Targets are relatively lower in the Cascade CAZ due to an abundance of potential nesting habitat but limited potential for nesting due to minimal foraging opportunities, and in the Northern Orchard CAZ due to lack of nesting and foraging habitat. Year-round foraging habitat is defined as open water lakes, reservoirs, and large rivers and creeks that are not subject to change from existing conditions. Thus, it is anticipated that 100 percent of this habitat type will be retained in all CAZs. Seasonal foraging habitat is defined as wetlands, vernal pools, and ricelands that are available only when these habitats are inundated. Total acreages reflect the habitat acres mapped, but not acres that are actually suitable for bald eagle foraging in any given year. Conserved acres represent the number of acres of annually suitable habitat (inundated and with potential to support wintering waterfowl) assumed to be sufficient to support the existing and potentially expanding bald eagle population.</p>																			
<i>Nesting/Roosting Habitat</i>	8,738	60	5,242	6,619	50	3,310	1,258	30	377	831	90	748	265	60	159	3,211	90	2,890	20,921	12,727
<i>Foraging Habitat – Year-round</i>	5,289	100	5,289	139	100	139	430	100	430	567	100	567	48	100	48	886	100	886	7,358	7,358
<i>Foraging Habitat - Seasonal</i>	13,425	30	4,027	24,344	30	7,303	5,563	30	1,669	3,052	30	916	129,429	30	38,828	6,222	30	1,867	182,035	54,610

Covered Species Habitat	Conservation Acquisition Zone																		Total (Acres except as noted)	Total Con-served (acres)
	Sierra Foothills			Cascade Foothills			Northern Orchards			Southern Orchards			Basin			Sacramento River				
	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)		
White-tailed Kite	<p>Rationale for CAZ Distribution: White-tailed kite habitat occurs mainly in the Basin, Sacramento River, Cascades, and Sierra CAZs and to a lesser extent in the Northern Orchards and Southern Orchard CAZ due to the predominance of unsuitable orchard-dominated agriculture. The rice-dominated agriculture in the Basin CAZ is likely used primarily during the winter non-breeding season; however, the seasonal wetland habitats in the southern portion of the Basin CAZ are available year-round. Seasonal wetland and agricultural habitats also dominate the Sacramento River CAZ. Nesting habitat in these areas, as well as the Southern Orchard CAZ (Feather River) consists primarily of riparian woodland. Grassland foraging habitat and oak woodland nesting habitat form the primary white-tailed kite habitats in the Cascade and Sierra CAZs. Conservation targets for nesting habitat are proportionately higher on the valley floor (Basin, Sacramento River, and Southern Orchards CAZs) due to limited extent and importance of riparian nesting habitat for this species. Nesting habitat conservation targets are lower in the Sierra and Cascade CAZs due to the extent of available oak woodland nesting habitat in these areas. Breeding season foraging habitat is linked to the distribution of available nesting habitat and thus is key to sustaining nesting populations. Conservation targets are again higher in valley floor CAZs (Basin, Sacramento River, and Southern Orchard) to reflect the importance of nesting/foraging habitats associated with riparian systems, and lower in the foothill CAZs (Sierra and Cascade) to reflect the greater abundance of available habitat in those areas. Year-round foraging habitat includes all other suitable foraging habitat that is not linked with available nesting habitat. These areas provide foraging value for both nesting and wintering kites. Conservation targets for this type reflect the relative abundance in each CAZ.</p>																			
<i>Nesting Habitat</i>	7,560	50	3,780	8,752	50	4,376	993	60	596	758	70	531	1,553	70	1,087	3,983	70	2,788	23,599	13,158
<i>Breeding Season Foraging Habitat</i>	33,775	60	20,265	29,104	60	17,462	4,048	60	2,429	682	70	478	22,548	70	15,783	11,031	70	7,722	101,188	64,139
<i>Year-round Foraging Habitat</i>	22,426	50	11,213	19,752	50	9,876	8,132	50	4,066	9,084	60	5,450	108,858	40	43,543	2,983	60	1,790	171,235	75,938
Swainson's Hawk	<p>Rationale for CAZ Distribution: The known and predicted distribution of nesting Swainson's hawks in the planning area indicates that most nests will occur in the western and central portions of the planning area. Of the 13 reported nest sites, six are along the Sacramento River, two along the Feather River, two along Butte Creek, and the remaining three are along smaller drainages. All are west of State Route 70/99. This is generally consistent with the predicted nesting distribution of the species in Butte County based on habitat associations and species preferences. Fewer are expected to occur in the open grassland and vernal pool grassland landscape east of State Route 70/99, which is consistent with known use patterns in grassland landscapes and the distribution of the species throughout the Central Valley. Significantly higher nesting densities occur in areas of irrigated cropland, particularly in association with riparian and other woodland nesting habitats. The preservation targets for Swainson's hawk habitat reflect these differences in predicted use patterns in the planning area. Planning units that occur in the western or central portions of the planning area (e.g., Southern Orchards, Rice, and particularly Sacramento River) have higher preservation targets than do planning units in areas that are known and are predicted to support fewer nesting and foraging Swainson's hawks (e.g., Cascade Foothills, Sierra Foothills, and Northern Orchards). Thus, while the combined total reflects the overall preservation target, the targets at the planning unit level are designed to ensure preservation occurs according to predicted relative use patterns. This ensures preservation of the highest value areas while spreading conservation across the planning area.</p>																			
<i>Nesting Habitat</i>	1,197	60	718	1,793	60	1,076	2,586	70	1,810	887	80	710	827	80	661	5,294	80	4,235	12,584	9,210
<i>Nesting and Foraging Habitat</i>	829	60	497	1,737	60	1,042	0	0	0	0	0	0	0	0	0	0	0	0	2,565	1,539
<i>Foraging Habitat</i>	36,384	50	18,192	41,558	50	20,779	9,243	60	5,546	6,714	70	4,700	23,824	70	16,677	13,240	80	10,592	130,962	76,485
Giant Garter Snake	<p>Rationale for CAZ Distribution: Giant garter snake occurrences in the Planning Area are closely associated with the riceland and wetland communities of the Butte Basin. GGS occur in stream and channel habitats, wetlands, and rice fields, and use upland grassland, agricultural land, and stream and levee banks as aestivation habitat. Giant garter snake habitat exists predominantly within two CAZs: Sacramento River and Basin. These contiguous areas include 90.1 percent of the rice lands (108,291.8 acres) and 87.3 percent of the managed and emergent wetland habitats (30,180.4 acres) in the Plan Area. In addition, all but one of the reported GGS sightings in CNDDDB occurs within these CAZs. Eric Hansen (pers. comm.) notes that few if any records occur east of Highway 99 in Butte County and that no definitive records occur east of Highway 70. Thus, conservation of GGS habitat emphasizes the Basin and Sacramento River CAZs and to a lesser extent the Northern Orchard CAZ. While some suitable GGS habitat exists in the Southern Orchard, Cascade, and Sierra CAZs, these areas support a relatively small percentage of available habitat, have no documented occurrences, and separated from the primary Butte Basin population by Highway 99/70. These areas are therefore excluded from the conservation strategy.</p>																			

Covered Species Habitat	Conservation Acquisition Zone																		Total (Acres except as noted)	Total Conserved (acres)
	Sierra Foothills			Cascade Foothills			Northern Orchards			Southern Orchards			Basin			Sacramento River				
	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Conserved (acres)		
<i>Breeding and Movement Habitat - Rice</i>	3,801	0	0	2,092	0	0	2,928	70	2,050	3,052	0	0	109,564	70	75,295	774	70	542	120,211	77,887
<i>Breeding and Movement Habitat - Managed and Emergent Wetlands</i>	2,536	0	0	99	0	0	903	80	722	864	0	0	22,561	80	18,049	7,734	80	6,188	34,697	24,959
<i>Breeding and Movement Habitat - Adjoining Cropland</i>	2,709	0	0	65	0	0	437	50	219	4,420	0	0	447	50	224	5,385	50	2,693	13,464	3,136
<i>Movement Habitat - Connected Waterways - miles</i>	219	0	0	94	0	0	644	20	129	343	0	0	1,969	50	984	354	50	177	3,623	1,290
California horned lizard	Rationale for CAZ Distribution: Sufficient information is not available to estimate the distribution of California horned lizard habitat within the Planning Area. The conservation approach for California horned lizard is to preserve its habitat where it is found through preacquisition surveys on lands being considered for acquisition by the Implementing Entity. The California horned lizard is known to occur in the Sierra Foothills CAZ and likely is also present in the Cascade Foothills CAZ.																			
<i>Habitat</i>	Species occurs.			Species occurs.																
Western Pond Turtle	Rationale for CAZ Distribution: Western pond turtles are distributed throughout most of the Plan Area, but are largely restricted to aquatic habitats (e.g., wetlands, ponds, and stream/channels) and adjacent upland habitats that are used for nesting. There are few reported occurrences in the Plan Area, but it is likely that this species is widely underreported. Reported occurrences include three of the small foothill streams west of State Route 99 and the wetland habitats of the Butte Basin. The species may occur along streams and constructed water conveyance corridors (e.g., Cherokee Canal), ponds, and other wetland areas (e.g., Llano Seco) in the Plan Area. However, because adjacent upland habitat (e.g., steep banks, terraces, grassland) is required for nesting, many agricultural landscapes, including rice- and orchard-dominated lands may not provide sufficient habitat to support this species. Western pond turtle habitat occurs mainly along streams and in wetlands within the Cascade, Sierra, and Sacramento River CAZs, and the southwestern corner of the Basin CAZ and thus conservation emphasizes these areas. While the Northern Orchard and Southern Orchard CAZs and the rice-dominated portion of the Basin CAZ support suitable aquatic habitats, they generally lack adjacent uplands. However, there are possible exceptions including Butte Creek, Feather River, Cherokee Canal, and other larger watercourses that support steep banks or grassy terraces or a broader basin that may provide potential nesting habitat for western pond turtles. Aquatic habitat is defined as perennial streams and ponds. Aquatic, Nesting, and Movement Habitat is defined as wetland habitats that provide all necessary life requisites, and Upland Nesting and Movement Habitat is defined as grassland or agricultural edges of suitable aquatic habitat that is used for nesting and dispersal.																			
<i>Aquatic habitat</i>	700	70	469	328	70	230	582	70	408	680	70	476	654	70	458	1,514	70	1,060	4,458	3,099
<i>Aquatic, Nesting and Movement Habitat (wetlands)</i>	2,052	60	1,231	0	0	0	0	0	0	0	0	0	20,038	60	12,023	5,448	60	3,268	27,539	16,523
<i>Upland Nesting and Movement Habitat</i>	20,650	50	10,325	23,591	50	11,796	4,051	50	2,026	333	50	167	2,175	50	1,088	4,767	50	2,382	55,568	27,784

Covered Species Habitat	Conservation Acquisition Zone																		Total (Acres except as noted)	Total Con-served (acres)
	Sierra Foothills			Cascade Foothills			Northern Orchards			Southern Orchards			Basin			Sacramento River				
	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)	Total (Acres except as noted)	Target (Percent of Total Acres)	Total Con-served (acres)		
Butte County Checkerbloom	<p>Rationale for CAZ Distribution: The conservation approach for Butte County Checkerbloom is to protect 50% of known extant occurrences in the Planning Area and 50% of newly documented occurrences in the Planning Area located north of Butte Creek. The extent of each protected occurrence will include a 400 foot habitat zone extending from each plant in the occurrence and the zone may be circumscribed by changes in hydrological connections, substrate, or other clear changes in the environmental characteristics of its modeled habitat. The occurrences and modeled habitat of this species are generally on or adjacent to the Tuscan geological formation in and along stream cut canyons and drainages in the Cascade Foothills CAZ.</p>																			
<i>Habitat</i>	0	0	0	Species occurs	Species occurs	Species occurs	0	0	0	0	0	0	0	0	0	0	0	0	Species occurs	Species occurs
Veiny Monardella	<p>Rationale for CAZ Distribution: The conservation approach for veiny monardella is to protect 100% of known extant occurrences and 90% of newly documented occurrences in the Planning Area. The extent of each protected occurrence will include a 400 foot habitat zone extending from each plant in the occurrence and the zone may be circumscribed by changes in hydrological connections, substrate, or other clear changes in the environmental characteristics. The occurrences of this species are generally on or adjacent to the Tuscan geological formation which is found in the Cascade Foothills and northern most Cascade Foothills CAZs.</p>																			
<i>Habitat</i>	Species occurs	Species occurs	Species occurs	Species occurs	Species occurs	Species occurs	0	0	0	0	0	0	0	0	0	0	0	0	Species occurs	Species occurs



Meeting #24 Summary

Butte Regional HCP/NCCP

Stakeholder Committee Meeting

December 2, 2009, 11:00 a.m. to 3:00 p.m.

BCAG Conference Room

Stakeholder Committee Attendees

Scott McNall (CSU Chico)	Carolyn Brown (Caltrans)
Richard Price (Butte Co. Ag. Comm.)	Virginia Getz (Ducks Unlimited)
Suellen Rowilson (CNPS)	Woody Elliot (CNPS)
Mary Watters (Sierra Club)	

Resource Agencies Attendees

Nina Bicknese (USFWS)

Steering Committee and Staff Attendees

Jane Dolan (BCAG/ Supervisor)

Pete Rawlings (SAIC)

Jon Clark (BCAG)

Monica Hood (SAIC)

Chris Devine (BCAG)

Interested Public Attendees

Greg McKenzie (Dove Ridge)

Jamison Watts (NCRLT)

Associated Documents/Handouts

Agenda packet including:

1. Revised Draft Impact Assessment Chapter (Handouts #1a - #1j)
2. Meeting Notes from October 2009 Stakeholder Meeting (Handout #2)

Meeting Agenda:

1. Introductions and Agenda Review
2. Revised Draft Impact Assessment Chapter (Handouts #1a-1j)
3. Meeting Notes from October 2009 Stakeholder Meeting (Handout #2)
4. USFWS/DFG/NMFS Items for Discussion
5. Action Items and Next Meeting Agenda

Revised Draft Impact Assessment Chapter (Handouts #1a – 1j)

The chapter is a work in progress. An overview of the handouts was provided including identifying changes made to the text and tables. For example, the assumptions used for calculations have been augmented and a table has been included that provides the assumptions used in the assessment of indirect effects. The reorganization of the impact assessment was described; the assessment includes descriptions of impacts inside and outside of the UPAs and the construction and operational impacts are broken out as well. A section for impacts associated with maintenance activities has also been added.

Pending issues include: Butte County Meadowfoam analysis; getting NMFS reengaged in the process and determining how to address the indirect effects on water quality; and assessing impacts associated with Western Canal Water District's (WCWD) covered activities (they will be a participant). Also, Caltrans may opt to have maintenance activities covered by the Plan.

This will be the last full iteration of the chapter until the Administrative Draft is provided later next spring. In the interim, WCWD's covered activities will continue to be better described and associated impacts assessed. The existing impact analysis provided in the chapter is sufficient to begin preparing the conservation strategy now that we have an understanding of the level of impacts.

The question of who is currently involved in addressing vernal pools and fairy shrimp issues was raised. Currently the assessment is being done via an internal process but ultimately there will be agency meetings and FWS and DFG will be engaged as the process moves forward. The issues will then come back to the Stakeholder Committee. In addition, consistency with the vernal pool recovery plan and not interfering with the plan is being factored in. The biological goals and objectives from the recovery plan were also incorporated into those developed for the Butte Plan.

The relationship between the Butte Plan and the updated County General Plan was discussed such as the issue of changes in zoning and how this may affect the implementation of the Plan. It was pointed out that the land use assumptions about agricultural land, etc. have been completed and the UPA area has been completed even if the density changes. It was also pointed out that the zoning ties in with the covered activities and as long as there is not a deviation from the covered activities there should not be an issue. The zoning should be consistent with the covered activities. Our assumption is that the zoning will be consistent with the Land Use Alternative. If there was a new area where growth was identified, this may be problematic but this is not likely to occur. In addition, since we are moving into developing the conservation strategy this will help to inform those involved in making zoning changes, etc.

Operational vs. maintenance related impacts were discussed.

The chapter and tables were discussed in more detail. Line 32 on page 4 should read 250 feet – this correction will be made. Table 4-1 was previously provided and has been revised. The species methods for assessing impacts on covered species have been updated. Table 4-2 provides assumptions regarding area of impacts extending beyond covered activity work sites and shows the distances that were applied to the species models. The degraded area/footprint

was discussed – if permanent development would occur then permanent degradation of bordering habitats was identified as a result of ongoing human disturbances associated with occupation of urban developments. It was asked if the sources for the distances could be discussed and whether they are typically used. It was identified that the rationale used is footnoted at the end of the table and they are average assumptions applied through a model. The group was asked to provide feedback/thoughts regarding these assumptions as needed. It was asked if the assumptions are supported by the species accounts. It was indicated that the assumptions are based primarily on the opinion of species experts and the specific bases for the assumptions are lacking in the literature. SAIC will expand the rationale statements supporting the assumptions. Table 4-2 serves to provide a full picture of the extent of impacts on habitat availability beyond the direct loss of habitat. Urban Wildland Interface design guidelines/measures, low impact development (LIDs), and best management practices (BMPs) will be included in the Plan to minimize indirect effects of permanent developments.

There was a general discussion about “hyperintegration of ecosystems”, climate change, modeling to account for multiple, interrelated variables, implementation and monitoring that accounts for the entire system, and cumulative impact analysis. The group was advised that in the next couple of months the preserve assembly criteria will be worked on which will provide guidance to the Implementing Entity (IE). The criteria will identify factors to be considered when parcels of land are pulled together. The issue of needing willing sellers was discussed. The Plan will also have an adaptive management component.

Corrections to Table 4-2 were identified: Need to check why there is no ‘x’ for Peregrine falcon and correct “Coast horned lizard” to “California horned lizard”.

Table 4-4 was discussed. This table includes the covered activity impact assessment assumptions and will be updated with WCWD assumptions going forward. Examples from the table were discussed and include quantitative assumptions and other activity related assumptions. It was noted that due to the importance of these assumptions the County should review and agency feedback should be obtained. It was also noted that regarding the flood control activities, Cherokee Creek may need to be addressed – more information will be provided regarding this. The group was asked to provide any additional feedback as needed.

Table 4-1 was discussed further including questions regarding the activity and associated assumptions for the construction of docks and piers. There was discussion about possibly numbering the covered activities to coincide with numbering in Chapter 4 (such as P2, etc. found in Table 4-1). There was discussion regarding the inclusion of covered activities that may not have impacts and assumptions about these activities. It was also identified that there needs to be confirmation if activities related to boat ramps should be a covered activity.

The section of the chapter on impacts on covered natural communities was discussed. The discussion includes physical habitat removal and disturbance area. The related tables were also discussed and it was noted that the decimal point issue raised at a prior meeting was corrected, i.e., to avoid stating there is 100% habitat remaining due to rounding when some habitat is in fact removed. A correction needed in Table 1c was noted – the second column should represent the area outside the UPAs vs. the entire planning area. The column will be changed and the percent

remaining will change to reflect what is outside of UPAs. It was also noted that on Table 1b the “Percent Remaining” column should say “Percent remaining inside UPAs”. It was indicated that adjustments to impacts to natural communities will be made with the incorporation of avoidance and minimization measures.

The assessment of impacts on covered species was discussed. The chapter has been updated and impacts disaggregated into construction, operations and maintenance related impacts. This discussion will also be updated with the incorporation of avoidance and minimization measures. It was requested to indicate the impact first and then identify the avoidance and minimization measures and the associated reduction in the impact. The approach will be further discussed and considered.

The status on the Black Rail was discussed. Information from a recent paper on the species was reviewed and will be used but much of the information is at a level of detail that will not be useful to update the species account. In absence of that, an overestimate of take was included in the analysis by assuming that all emergent wetland that could be removed could support habitat but this may not actually be the case.

Impacts to the fish species were discussed and the intent to work through the water quality related impacts with NMFS.

The potential impacts associated with groundwater pumping were discussed and if and how this should be dealt with in the Plan including whether this is a covered activity and what process/entity would/should assess this impact, i.e., as part of future development approval, the Plan, the water agency that may serve the development, if it is a General Plan issue, etc.

The issues related to Butte County Meadowfoam were discussed and it was indicated that more will be provided on this in January.

The group was informed that the Impacts chapter is available on the web page in both clean and tracked changes versions and was reminded that comments may be submitted later as the chapter and handouts are reviewed if they are not provided at the meeting.

Meeting Notes from October 2009 (Handout #2)

Meeting notes from October 2009 were approved.

USFWS/DFG/NMFS Items for Discussion

No additional items were discussed.

Action Items and Next Meeting Agenda

- The next Stakeholder meeting will be held on Feb 3, 2009 from 11:00 to 3:00 pm, at BCAG.
- For the next meeting, conservation strategy examples will be prepared and biological goals and objectives will also be revisited.

Additional Discussion

The Newsletter was discussed; it has been completed. Copies are available in hardcopy and on the website. It was suggested to have more graphically displayed concepts of the Plan in future Newsletters.

DRAFT