

Agenda

**Stakeholder Committee Meeting
Butte Regional HCP/NCCP
Wednesday, March 4, 2009
11:00 am - 3:00 pm
BCAG Conference Room**

Agenda Items:

1. Introductions
2. General Plan Updates
3. Approach to Impact Analysis
4. Draft Newsletter
5. Meeting Notes from December 3, 2008 and January 7, 2009 Stakeholder Meetings
6. Action Items and Next Meetings

Butte Regional HCP/NCCP Impact Assessment Outline

[[**Note to Reviewers:** *This document provides an outline of the impacts chapter of the Butte Regional HCP/NCCP. Sections 4.1 through 4.2.3 include completed draft text for the introduction and approach to conducting the impact assessment. Draft example impact assessments for implementation of covered activities are provided for greater sandhill crane and Swainson’s hawk in Sections 4.4.6 and 4.4.11, respectively. The remaining sections are annotated to identify their content that is to come. Initially, the impact assessment will be conducted for the covered activities. An assessment of the impacts of implementing conservation measures will be added to this Chapter following development of the Conservation Strategy chapter.]]*

CHAPTER 4. ASSESSMENT OF IMPACTS AND LEVEL OF TAKE

4.1 INTRODUCTION

The Butte Regional HCP/NCCP impact assessment describes the impacts of implementing the covered activities described in Chapter 2, “Covered Activities,” and implementing the Butte Regional HCP/NCCP conservation measures described in Chapter 5, “Conservation Strategy,” on covered natural communities and covered species. The likely effects of covered activities and conservation measures over the duration of the permit are assessed for each covered natural community and species. The analysis of the impacts reflects changes relative to the existing conditions described in Chapter 3, “Ecological Baseline”.

The assessment of impacts on each covered natural community identifies the potential extent of the community that could be removed or degraded as a result of implementing covered activities and conservation measures as well as impacts on associated vegetation, wildlife, and ecosystem functions. The assessment of impacts on each covered species identifies the estimated level of incidental take (take) and, if applicable, potential affects on designated critical habitat. Take is defined under ESA regulations as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct” as it applies to Federally listed species (ESA 3[9] and 50 C.F.R. §17.31[a]). The USFWS defines “harm” to include significant modification or degradation of a Federally listed species habitat that results in the death or injury of an individual of a species by significantly impairing behavioral patterns, such as breeding, feeding, or sheltering (50 C.F.R. §17.3). USFWS defines “harass” as implementing actions that create the likelihood of injury to a Federally listed species to an extent that significantly disrupts normal behavior patterns, which include breeding, feeding, or sheltering (50 C.F.R. §17.3). Take is defined under the California ESA as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (California Fish & Game Code §86).

The quantification of effects on covered species habitats is limited by the information available for each covered species. Where information on a covered species’ occupied habitat is not available, the estimated impact is the degradation or loss of areas assumed to provide habitat for

1 the species based on the species habitat models presented in Appendix A, “Covered Species
2 Accounts”.

3 **4.2 IMPACT ASSESSMENT APPROACH**

4
5 The approach to the impact assessment relies on application of the best available information
6 regarding implementation of the covered activities, the distribution and extent of covered natural
7 communities and covered species and their habitats, and the ecological requirements and
8 behaviors of covered species. Impacts are assessed based on an evaluation of the likely responses
9 of covered natural communities and species to impact mechanisms associated with implementing
10 covered activities and conservation measures. Impacts on natural communities and covered
11 species are characterized as direct or indirect and temporary or permanent.

12 **4.2.1 Impact Mechanisms**

13
14 Impact mechanisms are defined as actions or results of actions that are undertaken to implement a
15 covered activity or conservation measure that result in adverse effects on covered natural
16 communities and covered species. The impacts of covered activities and conservation measures
17 are determined based on the likely response of covered natural communities and species to impact
18 mechanisms using the best available information. Impact mechanisms associated with the
19 covered activities and conservation measures are listed in Table 4-1.
20

21 **4.2.2 Assessment of Impacts on Covered Natural Communities**

22
23 Potential impacts on covered natural communities are assessed quantitatively and qualitatively.
24 The extent of each natural community that could be removed by covered activities for which
25 development footprints are defined was determined using the Butte Regional HCP/NCCP GIS
26 database by overlaying the distribution and extent of each natural community with the boundaries
27 of Urban Permit Areas. For covered activities outside of Urban Permit Areas that could result in
28 removal of natural communities, but for which the location of a specific construction footprint is
29 not defined is determined using one of two methods:
30

31 1) the potential extent for removal or degradation of each natural community is estimated
32 based on a weighted average of the natural communities and their constituent land cover
33 types that are present within the general location that the covered activity (e.g., utility
34 corridor, channel maintenance) or conservation measure (e.g., habitat restoration) could
35 be implemented (see Section 4.2.4 Key Assumptions for a description activity location
36 assumptions) or
37

38 2) the potential extent for removal or degradation of each natural community is estimated
39 based on an assumed footprint area and location where the covered activity or
40 conservation measure would be implemented.
41

42 Activities that could degrade ecosystem functions of natural communities are assessed
43 qualitatively based on the best available information and understanding of how natural
44 communities can be affected by the impact mechanisms associated with specific covered
45 activities and conservation measures.

1

2 **4.2.3 Assessment of Impacts on Covered Species**

3

4 The magnitude and extent of impacts on species-specific habitat is quantitatively assessed for 34
5 of the covered species as indicated in Table 4-2 using the species habitat models described in
6 Appendix A, “Covered Species Accounts”. For the remaining three covered species, impacts on
7 habitat are qualitatively described based on the known distribution and habitat requirements of
8 the species (see Table 4-2). Direct impacts on individuals of covered species are assessed
9 qualitatively based on the likely effects of impact mechanisms on individuals using the best
10 available information regarding response behaviors. The impact assessment assumes that direct
11 mortality of DFG designated fully protected species and species for which a biological objective
12 of “no take” has been established will be avoided with implementation of the avoidance and
13 minimization measures described for those species in Chapter 5, *Conservation Strategy*. These
14 species include: *[[To come]]*.
15

16 **4.2.3.1 Impacts on Covered Species Habitats**

17

18 **Species Habitat Models**

19

20 Species habitat models estimate the distribution and extent of occupied covered species habitats
21 within the planning area. Habitat models have been developed for covered species for which
22 there is a sufficient understanding of each species behaviors and the physical and biological
23 elements that constitute their habitat (see Table 4-2) to support development of a model. These
24 models are used to conduct the assessment of impacts on species habitats and have been
25 developed because information regarding the distribution of habitat areas occupied by these
26 species is not available and nor feasible to collect. The models are based on various
27 combinations of parameters of vegetation, soils, water features, geology, and topography used
28 circumscribe habitat for each of the species and species-specific requirements and behaviors (e.g.,
29 maximum typical distance between patches of nesting and foraging habitats that a species will
30 travel) that can be spatially modeled using available and specifically developed GIS databases.
31 Results of applying the species habitat models include the likely extent of covered species habitat
32 that could be removed or degraded as a result implementing covered activities and conservation
33 measures and provides the estimated level of take (e.g., harm). Species habitat models have been
34 reviewed by the Butte Regional HCP/NCCP Stakeholder Committee and DFG, USFWS, and
35 NMFS representatives as appropriate tools for conducting this impact assessment. Descriptions
36 of the species habitat models are presented in Appendix A, *Covered Species Accounts*, for each of
37 the applicable covered species.

38

39 The extent of each species’ habitat that could be removed or degraded by covered activities for
40 which development footprints are defined was determined by overlaying the distribution and
41 extent of each species’ modeled habitat with the footprints of the Urban Permit Areas. For
42 covered activities and conservation measures outside of Urban Permit Areas that could result in
43 removal of species’ habitat, but for which the location of a specific construction footprint is not
44 defined is determined using one of two methods:
45

1 1) the potential extent of habitat removal is estimated based on a weighted average of the
2 species' habitat that is present within the general location that the covered activity or
3 conservation measure could be implemented (see Section 4.2.4 Key Assumptions for a
4 description activity location assumptions) or

5
6 2) the potential extent of habitat removal is estimated based on an assumed footprint area
7 and location where the covered activity or conservation measure would be implemented.
8

9 Specific assumptions used to conduct the impact assessment for covered activities and
10 conservation measures for which a specific footprint is not defined are described in Section 4.2.4,
11 *Key Assumptions*.

12 **Species without Habitat Models**

13 For the three covered species indicated in Table 4-2, occurrence data is used to conduct the
14 impact assessment. These are species with very narrowly defined habitats that cannot be
15 reasonably modeled with the available data. This impact assessment assumes that covered
16 activities and conservation measures conducted within the known range of these species in the
17 planning area would affect these species. A summary description of the habitat requirements,
18 known occurrences, and assumed distribution of these species is described in Appendix A,
19 "Covered Species Accounts".
20
21
22

23 **4.2.3.2 Impacts on Individuals**

24 The assessment of direct impacts on individuals of covered species is based on the best available
25 information regarding the known sensitivities and susceptibilities of each of the covered species
26 to the impact mechanisms listed in Table 4-1. These impacts are the result of such impact
27 mechanisms as increased noise or human activity that could result in harassment of individuals or
28 mortality or injury of individuals resulting from such impact mechanisms as operation of
29 construction equipment.
30

31 **4.2.3.3 Impacts on Designated Critical Habitat**

32 Potential impacts on designated critical habitat in the planning area are assessed. This assessment
33 is included because section 7 of the ESA requires that USFWS and NMFS evaluate the impacts of
34 implementing the Butte Regional HCP/NCCP on ESA designated critical habitats. Critical
35 habitat has been designated within the planning area for the following species and is described in
36 Appendix A, "Covered Species Accounts".
37
38

- | | |
|--|----------------------------|
| ▪ Sacramento River winter-run Chinook Salmon | ▪ Conservancy fairy shrimp |
| ▪ Central Valley spring-run Chinook salmon | ▪ Hoover's spurge |
| ▪ Central Valley steelhead | ▪ Butte County meadowfoam |
| ▪ Vernal pool tadpole shrimp | ▪ Hairy Orcutt grass |
| ▪ Vernal pool fairy shrimp | ▪ Greene's tuctoria |

39
40 Methods used to conduct the assessment of impacts on designated critical habitats are the same as
41 described for covered natural communities (see Section 4.2.2, "Assessment of Impacts on

1 Covered Natural Communities”). Sites supporting critical habitat are evaluated for affects that
2 covered activities could have on primary constituent elements of critical habitat.
3

4 **4.2.4 Key Assumptions**

5
6 *[[This section will describe important assumptions regarding implementation of covered*
7 *activities and conservation measures that, if changed, could change the outcome of the impact*
8 *assessment.]]*
9

10 **4.3 IMPACTS ON COVERED NATURAL COMMUNITIES**

11
12 *[[This section will introduce the assessment of impacts on covered natural communities and will*
13 *summarize the planning area-wide results of the assessment for each of the communities in Table*
14 *4-3. The extent of impacts on each natural community and constituent land cover types by Urban*
15 *Permit Area and Conservation Acquisition Zone will be presented in Tables 4-4 and 4-5.]]*

16 **4.3.1 Oak Woodland and Savanna**

17 *[[For each natural community, this section will describe the types and anticipated levels of*
18 *impact on general (i.e., not covered species) vegetation, fish, and wildlife associated with the*
19 *community and the ecosystem functions provided by the community.]]*

20 **4.3.1.1 Vegetation**

21 **4.3.1.2 Wildlife**

22 *[[For each community, this section will also describe impacts on the species of local*
23 *concern.]]*

24 **4.3.1.3 Ecosystem Functions**

26 **4.3.2 Grasslands**

27 **4.3.2.1 Vegetation**

28 **4.3.2.2 Wildlife**

29 **4.3.2.3 Ecosystem Functions**

31 **4.3.3 Riparian**

32 **4.3.3.1 Vegetation**

33 **4.3.3.2 Wildlife**

1 **4.3.3.3 Ecosystem Functions**

2

3 **4.3.4 Wetlands**

4 **4.3.4.1 Vegetation**

5 **4.3.4.2 Wildlife**

6 **4.3.4.3 Ecosystem Functions**

7

8 **4.3.5 Aquatic**

9 **4.3.5.1 Vegetation**

10 **4.3.5.2 Wildlife**

11 **4.3.5.3 Ecosystem Functions**

12

13 **4.3.6 Agriculture**

14 **4.3.6.1 Vegetation**

15 **4.3.6.2 Wildlife**

16 **4.3.6.3 Ecosystem Functions**

17

18 **4.4 IMPACTS ON COVERED SPECIES**

19 *[[This section will introduce the assessment of impacts on covered species and will summarize the*
20 *planning area-wide results of the assessment for species, including estimated level of take, in*
21 *Table 4-6. The extent of impacts on and estimated level of take for each covered species by*
22 *Urban Permit Area and Conservation Acquisition Zone will be presented in Tables 4-7 and 4-*
23 *8.]]*

24 **4.4.1 Tricolored Blackbird**

25 *[[For each species, this section will describe the types and anticipated levels of impact and take*
26 *on covered species. For applicable species, this section will also describe impacts on designated*
27 *critical habitat. The section will address direct removal of habitat and individuals, degradation of*
28 *habitat, impacts on movement/migration corridors, and impacts on individuals (e.g.*
29 *harassment)]]*

30 **4.4.1.1 Impacts of Covered Activities**

31 **4.4.1.2 Impacts of HCP/NCCP Implementation**

1 **4.4.1.3 Summary of Species Impact**

2

3 [[This section will summarize the likely impact of implementing the covered activities and
4 conservation measures on the species populations at regional and range wide scales.]]

5

6 **4.4.2 Yellow-Breasted Chat**

7 **4.4.2.1 Impacts of Covered Activities**

8 **4.4.2.2 Impacts of HCP/NCCP Implementation**

9 **4.4.2.3 Summary of Species Impact**

10

11 **4.4.3 Bank Swallow**

12 **4.4.3.1 Impacts of Covered Activities**

13 **4.4.3.2 Impacts of HCP/NCCP Implementation**

14 **4.4.3.3 Summary of Species Impact**

15

16 **4.4.4 Western Burrowing Owl**

17 **4.4.4.1 Impacts of Covered Activities**

18 **4.4.4.2 Impacts of HCP/NCCP Implementation**

19 **4.4.4.3 Summary of Species Impact**

20

21 **4.4.5 Western Yellow-Billed Cuckoo**

22 **4.4.5.1 Impacts of Covered Activities**

23 **4.4.5.2 Impacts of HCP/NCCP Implementation**

24

25 **4.4.6 Greater Sandhill Crane**

26 **4.4.6.1 Impacts of Covered Activities**

27 Implementation of the covered activities could result in harm and harassment of the
28 greater sandhill crane. Implementation of the avoidance and minimization measures
29 describe in Chapter 5, *Conservation Strategy*, will avoid mortality of individuals.

30 Permanent development activities could result in the loss of up to ■ acres and

1 degradation of up to ■ acres of winter roosting and foraging habitat (see Tables 4-7 and
2 4-8). Loss of traditional roosting sites could result in increased predation risk if displaced
3 cranes move to roost sites that are less protected from predators.
4

5 Implementation of permanent development and ongoing O&M activities in and near
6 occupied roosting sites could result in harassment of individuals as a result of visual and
7 noise disturbances. If such disturbances are severe enough to cause abandonment of a
8 roost site, the risk for predation of individuals could increase. The likelihood for this
9 type of disturbance, however, is considered minimal because cranes typically only
10 occupy roosts from dawn to dusk, whereas disturbances associated with implementing the
11 covered activities would most likely only occur during daylight hours.
12

13 Implementation of permanent development and ongoing O&M activities in and near
14 occupied foraging habitat could result in short-term disturbances to foraging greater
15 sandhill cranes as a result of visual and noise disturbances. These disturbances, however,
16 are not expected to rise to the level of take because individuals would be expected to
17 move to nearby foraging habitats to avoid such temporary disturbances. Increased levels
18 of disturbances that would occur in habitats adjacent to new developments and facilities
19 (e.g., noise, visual, pets) could preclude use of these habitats for foraging. These
20 disturbances, however, are not expected to rise to the level of take because sufficient
21 foraging habitat to support the population is present in the planning area.

22 **4.4.6.2 Impacts of HCP/NCCP Implementation**

23
24 *[[The assessment of impacts associated with implementation of HCP/NCCP conservation*
25 *measures will be conducted following completion of the Butte Regional HCP/NCCP*
26 *Conservation Strategy.]]*

27 **4.4.6.3 Summary of Species Impact**

28
29 *[[This section will summarize the likely impact of implementing the covered activities and*
30 *conservation measures on the species populations at regional and range wide scales.]]*

31 **4.4.7 California Black Rail**

32 **4.4.7.1 Impacts of Covered Activities**

33 **4.4.7.2 Impacts of HCP/NCCP Implementation**

34 **4.4.7.3 Summary of Species Impact**

35 **4.4.8 American Peregrine Falcon**

36 **4.4.8.1 Impacts of Covered Activities**

37 **4.4.8.2 Impacts of HCP/NCCP Implementation**

1

2 **4.4.8.3 Summary of Species Impact**

3

4 **4.4.9 Bald Eagle**

5 **4.4.9.1 Impacts of Covered Activities**

6 **4.4.9.2 Impacts of HCP/NCCP Implementation**

7

8 **4.4.9.3 Summary of Species Impact**

9

10 **4.4.10 White-Tailed Kite**

11 **4.4.10.1 Impacts of Covered Activities**

12 **4.4.10.2 Impacts of HCP/NCCP Implementation**

13

14 **4.4.10.3 Summary of Species Impact**

15

16 **4.4.11 Swainson's Hawk**

17 **4.4.11.1 Impacts of Covered Activities**

18 Implementation of the covered activities could result in take of the Swainson's hawks.
19 Permanent development activities could result in the loss and degradation of up to ■
20 acres of breeding habitat and loss of up to ■ acres of foraging habitat (see Tables 4-7
21 and 4-8). Permanent development activities would not result in the removal of known
22 nesting trees (see Appendix A, Figure A.4).

23

24 Implementation of permanent development and ongoing O&M activities in and near
25 occupied nesting habitat during the breeding season could result in temporary harassment
26 of individuals as a result of visual and noise disturbances. These disturbances could
27 result in take of eggs and nestlings if they are of sufficient magnitude to cause
28 abandonment of nest sites. Increased levels of disturbances that would occur in habitats
29 adjacent to new developments and facilities (e.g., noise, visual, pets) could preclude use
30 of these habitats for nesting or result in reduced reproductive success if nesting occurs
31 near these developments and facilities. Similar impacts would be expected in locations
32 where construction of new recreational facilities or access points result in increased levels
33 of disturbance in and near nesting habitat during the breeding season.

34

35 Implementation of covered permanent development and ongoing O&M activities in and
36 near occupied foraging habitat could result in short-term disturbance to foraging
37 Swainson's hawks as a result of visual and noise disturbances. These disturbances,

1 however, are not expected to rise to the level of take because individuals would be
2 expected to move to nearby foraging habitats to avoid such temporary disturbances.
3

4 **4.4.11.2 Impacts of HCP/NCCP Implementation**

5 [[The assessment of impacts associated with implementation of HCP/NCCP conservation
6 measures will be conducted following completion of the Butte Regional HCP/NCCP
7 Conservation Strategy.]]
8

9 **4.4.11.3 Summary of Species Impact**

10
11 [[This section will summarize the likely impact of implementing the covered activities and
12 conservation measures on the species populations at regional and range wide scales.]]
13

14 **4.4.12 Giant Garter Snake**

15 **4.4.12.1 Impacts of Covered Activities**

16 **4.4.12.2 Impacts of HCP/NCCP Implementation**

17 **4.4.12.3 Summary of Species Impact**

18
19

20 **4.4.13 California Horned Lizard**

21 **4.4.13.1 Impacts of Covered Activities**

22 **4.4.13.2 Impacts of HCP/NCCP Implementation**

23 **4.4.13.3 Summary of Species Impact**

24
25

26 **4.4.14 Northwestern Pond Turtle**

27 **4.4.14.1 Impacts of Covered Activities**

28 **4.4.14.2 Impacts of HCP/NCCP Implementation**

29 **4.4.14.3 Summary of Species Impact**

30
31

32 **4.4.15 Foothill Yellow-Legged Frog**

33 **4.4.15.1 Impacts of Covered Activities**

34 **4.4.15.2 Impacts of HCP/NCCP Implementation**

- 1 **4.4.15.3 Summary of Species Impact**
2
- 3 **4.4.16 Western Spadefoot**
- 4 **4.4.16.1 Impacts of Covered Activities**
- 5 **4.4.16.2 Impacts of HCP/NCCP Implementation**
6
- 7 **4.4.16.3 Summary of Species Impact**
8
- 9 **4.4.17 Sacramento Splittail**
- 10 **4.4.17.1 Impacts of Covered Activities**
- 11 **4.4.17.2 Impacts of HCP/NCCP Implementation**
12
- 13 **4.4.17.3 Summary of Species Impact**
14
- 15 **4.4.18 Sacramento River Winter-Run Chinook Salmon**
- 16 **4.4.18.1 Impacts of Covered Activities**
- 17 **4.4.18.2 Impacts of HCP/NCCP Implementation**
- 18 **4.4.18.3 Impacts on Critical Habitat**
19
- 20 **4.4.18.4 Summary of Species Impact**
21
- 22 **4.4.19 Central Valley Spring-Run Chinook Salmon**
- 23 **4.4.19.1 Impacts of Covered Activities**
- 24 **4.4.19.2 Impacts of HCP/NCCP Implementation**
- 25 **4.4.19.3 Impacts on Critical Habitat**
26
- 27 **4.4.19.4 Summary of Species Impact**
28
- 29 **4.4.20 Central Valley Fall-/Late Fall-Run Chinook Salmon**
- 30 **4.4.20.1 Impacts of Covered Activities**
- 31 **4.4.20.2 Impacts of HCP/NCCP Implementation**

- 1 *4.4.20.3 Summary of Species Impact*
2
- 3 **4.4.21 Central Valley Steelhead**
- 4 *4.4.21.1 Impacts of Covered Activities*
- 5 *4.4.21.2 Impacts of HCP/NCCP Implementation*
- 6 *4.4.21.3 Impacts on Critical Habitat*
7
- 8 *4.4.21.4 Summary of Species Impact*
9
- 10 **4.4.22 Green Sturgeon**
- 11 *4.4.22.1 Impacts of Covered Activities*
- 12 *4.4.22.2 Impacts of HCP/NCCP Implementation*
13
- 14 *4.4.22.3 Summary of Species Impact*
15
- 16 **4.4.23 River Lamprey**
- 17 *4.4.23.1 Impacts of Covered Activities*
- 18 *4.4.23.2 Impacts of HCP/NCCP Implementation*
19
- 20 *4.4.23.3 Summary of Species Impact*
21
- 22 **4.4.24 Valley Elderberry Longhorn Beetle**
- 23 *4.4.24.1 Impacts of Covered Activities*
- 24 *4.4.24.2 Impacts of HCP/NCCP Implementation*
25
- 26 *4.4.24.3 Summary of Species Impact*
27
- 28 **4.4.25 Vernal Pool Tadpole Shrimp**
- 29 *4.4.25.1 Impacts of Covered Activities*
- 30 *4.4.25.2 Impacts of HCP/NCCP Implementation*

- 1 **4.4.25.3 Impacts on Critical Habitat**
- 2
- 3 **4.4.25.3 Summary of Species Impact**
- 4
- 5 **4.4.26 Vernal Pool Fairy Shrimp**
- 6 **4.4.26.1 Impacts of Covered Activities**
- 7 **4.4.26.2 Impacts of HCP/NCCP Implementation**
- 8 **4.4.26.3 Impacts on Critical Habitat**
- 9
- 10 **4.4.26.4 Summary of Species Impact**
- 11
- 12 **4.4.27 Conservancy Fairy Shrimp**
- 13 **4.4.27.1 Impacts of Covered Activities**
- 14 **4.4.27.2 Impacts of HCP/NCCP Implementation**
- 15 **4.4.27.3 Impacts on Critical Habitat**
- 16
- 17 **4.4.27.4 Summary of Species Impact**
- 18
- 19 **4.4.28 Ferris's Milkvetch**
- 20 **4.4.28.1 Impacts of Covered Activities**
- 21 **4.4.28.2 Impacts of HCP/NCCP Implementation**
- 22
- 23 **4.4.28.3 Summary of Species Impact**
- 24

- 1 **4.4.29 Lesser Saltscale**
- 2 *4.4.29.1 Impacts of Covered Activities*
- 3 *4.4.29.2 Impacts of HCP/NCCP Implementation*
- 4
- 5 *4.4.29.3 Summary of Species Impact*
- 6
- 7 **4.4.30 Hoover's Spurge**
- 8 *4.4.30.1 Impacts of Covered Activities*
- 9 *4.4.30.2 Impacts of HCP/NCCP Implementation*
- 10 *4.4.30.3 Impacts on Critical Habitat*
- 11
- 12 *4.4.30.4 Summary of Species Impact*
- 13
- 14 **4.4.31 Ahart's Dwarf Rush**
- 15 *4.4.31.1 Impacts of Covered Activities*
- 16 *4.4.31.2 Impacts of HCP/NCCP Implementation*
- 17
- 18 *4.4.31.3 Summary of Species Impact*
- 19
- 20 **4.4.32 Butte County Meadowfoam**
- 21 *4.4.32.1 Impacts of Covered Activities*
- 22 *4.4.32.2 Impacts of HCP/NCCP Implementation*
- 23 *4.4.32.3 Impacts on Critical Habitat*
- 24
- 25 *4.4.32.4 Summary of Species Impact*
- 26
- 27 **4.4.35 Hairy Orcutt Grass**
- 28 *4.4.33.1 Impacts of Covered Activities*
- 29 *4.4.33.2 Impacts of HCP/NCCP Implementation*

- 1 *4.4.33.3 Impacts on Critical Habitat*
2
3 *4.4.33.4 Summary of Species Impact*
4
5 **4.4.34 Butte County Checkerbloom**
6 *4.4.34.1 Impacts of Covered Activities*
7 *4.4.34.2 Impacts of HCP/NCCP Implementation*
8
9 *4.4.34.3 Summary of Species Impact*
10
11 **4.4.35 Veiny Monardella**
12 *4.4.35.1 Impacts of Covered Activities*
13 *4.4.35.2 Impacts of HCP/NCCP Implementation*
14
15 *4.4.35.3 Summary of Species Impact*
16
17 **4.4.36 Butte County Golden Clover**
18 *4.4.36.1 Impacts of Covered Activities*
19 *4.4.36.2 Impacts of HCP/NCCP Implementation*
20
21 *4.4.36.3 Summary of Species Impact*
22
23 **4.4.39 Greene's Tuctoria**
24 *4.4.37.1 Impacts of Covered Activities*
25 *4.4.37.2 Impacts of HCP/NCCP Implementation*
26 *4.4.37.3 Impacts on Critical Habitat*
27
28 *4.4.37.4 Summary of Species Impact*
29

1

2 4.5 CUMULATIVE IMPACTS

3

4 *[[This section will address the cumulative impacts of covered activities and the Butte Regional*
5 *HCP/NCCP conservation measures on covered species. Cumulative effects are defined under*
6 *ESA regulations as those effects of future state or private activities, not involving Federal*
7 *activities, that are reasonably certain to occur within the action area of the Federal action*
8 *subject to consultation (50 C.F.R. §402.02). This definition differs from the broader definition*
9 *used under NEPA and other environmental laws. The HCP/NCCP will include this analysis to*
10 *support the USFWS and NMFS section 7 processes. In this section, foreseeable non-Federal*
11 *projects expected to occur in the planning area will be identified and their probable impacts on*
12 *covered species are assessed. Examples of non-Federal activities that could be included in the*
13 *assessment of cumulative impacts include fish stocking, levee maintenance, fuel control*
14 *programs, farming practices, recreational uses, highway maintenance, and other non-federal*
15 *activities that are not covered under the Butte Regional HCP/NCCP.]]*

16

17 4.6 INDIRECT EFFECTS OUTSIDE THE PLANNING AREA

18 *[[ESA regulations define “indirect effects” as effects that are caused by a proposed action and*
19 *are later in time, but still are reasonably certain to occur. The HCP/NCCP will include this*
20 *analysis to support the USFWS and NMFS section 7 processes. This section will address*
21 *indirect effects on listed species outside of the planning area that are the reasonably*
22 *certain to be caused by the covered activities.]]*

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Table 4-1. Impact Mechanisms Associated with Implementation of Covered Activities and Conservation Measures

[[**Note to Reviewers:** *This table will be updated as needed to include any additional covered activities that may be identified by the Permit Applicants. The impact mechanisms listed under each covered activity are also subject to change based on new information regarding specific methods that may be used to implement covered activities and conservation measures.*]]

Covered Activity	Impact Mechanisms on Covered Species and Natural Communities
<i>Permanent Development</i>	
P1. Residential, Commercial, Public Facility, and Industrial Construction	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Ongoing noise and visual disturbances associated with increased human activity near constructed structures 3. Habitat removal within the footprint of constructed structures 4. Direct injury or mortality of covered species associated with construction-related activities 5. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes) 6. Removal of natural communities within the footprint of constructed structures 7. Altered hydrology associated with grading or other modifications to runoff patterns 8. Increased risk for introduction of contaminants associated with construction of and post-construction use of structures (e.g., fuel spills) 9. Introduction of and spread of non-native plants and other organisms associated with construction-related disturbance of soils 10. Erosion and sedimentation associated with construction-related disturbance of soils 11. Increased risk for wildfire associated with increased human activity near constructed structures
P2. Recreational Activity-Related Construction	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Ongoing noise and visual disturbances associated with increased human activity near constructed structures 3. Habitat removal within the footprint of constructed structures 4. Direct injury or mortality of covered species associated with construction-related activities 5. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes) 6. Increased risk for spread of non-native plants from boats coming from different watersheds (from boat ramps) 7. Change in hydrology and modified runoff patterns (from construction and storm facilities) 8. Changes in water quality (sediment load, eutrophication, toxics) (from golf course, ball field construction)

P3. Transportation Facilities Construction	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Ongoing noise and visual disturbances associated with increased human activity near constructed structures 3. Habitat removal within the footprint of constructed structures 4. Direct injury or mortality of covered species associated with construction-related activities 5. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes) 6. Changes in water quality and disturbance of habitat (temporary from construction of bridges)
P4. Pipeline Installation	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related and subsequent maintenance activities 2. Temporary and permanent habitat removal within the footprint of constructed structures 3. Direct injury or mortality of covered species associated with construction-related activities 4. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes) 5. Reduction in water quality (temporary construction of storm drains)
P5. Utility Services	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related and subsequent maintenance activities 2. Temporary and permanent habitat removal within the footprint of constructed structures 3. Direct injury or mortality of covered species associated with construction-related activities 4. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes)
P6. Waste Management Activities	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Ongoing noise and visual disturbances associated with increased human activity near constructed structures 3. Habitat removal within the footprint of constructed structures 4. Direct injury or mortality of covered species associated with construction-related activities 5. Direct injury or mortality of covered species associated with increased human activity near constructed structures (e.g., increased risk for vehicle strikes) 6. Discharge of effluent 7. Treatment effluent may reduce water quality (eutrophication, turbidity, toxics)
P7. Irrigation Canal/Ditch Activities	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Habitat removal within the footprint of constructed structures 3. Direct injury or mortality of covered species associated with construction-related activities 4. Temporary reduction in water quality in and downstream of construction areas during construction 5. Temporary harassment of covered fish species in and near construction areas during construction
P8. Flood Control Activities	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with construction-related activities 2. Habitat removal within the footprint of constructed structures 3. Direct injury or mortality of covered species associated with construction-related activities 4. Reduction in aquatic habitat 5. Altered in-channel hydrology that influences rearing and holding habitat of covered species

P9. Habitat/Land Restoration Activities	<ol style="list-style-type: none"> 1. Temporary noise and visual disturbances associated with restoration-related activities 2. Habitat removal within the restoration footprint in locations where habitat is type converted 3. Direct injury or mortality of covered species associated with restoration-related activities Erosion and sedimentation associated with construction-related disturbance of soils
<i>Ongoing Operations and Maintenance</i>	
O1. Pipeline Maintenance	<ol style="list-style-type: none"> 1. Ongoing noise and visual disturbance associated with maintenance-related activities, equipment, and human activity 2. Direct injury or mortality of covered species associated with maintenance-related activities and equipment (e.g., vehicle strikes during grading, digging, mowing/felling; application of herbicide or other weed and rodent control/abatement actions) 3. Introduction and spread of non-native plants 4. Introduction and spread of pathogens/diseases 5. Ongoing risk for wildfire 6. Ongoing physical disturbance to biotic community and soils associated with maintenance-related activities 7. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from equipment.
O2. Utility Services	<ol style="list-style-type: none"> 1. Ongoing noise and visual disturbance associated with maintenance-related activities, equipment, and human activity 2. Direct injury or mortality of covered species associated with maintenance-related activities 3. Introduction and spread of non-native plants 4. Introduction and spread of pathogens/diseases 5. Ongoing risk for wildfire 6. Ongoing physical disturbance to biotic community and soils associated with maintenance-related activities (e.g., grading, digging, mowing/felling, application of herbicide or other weed and rodent control or abatement actions.) 7. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from equipment.

<p>O3. Recreational Activities</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality to covered species associated with human activity and associated equipment, vehicles, and pets 2. Ongoing noise and visual disturbance to community 3. Temporary reduction in water quality (turbidity, sediment load) in and downstream of maintenance area (from cleaning sediment from boat ramps) 4. Introduction and spread of non-native plants 5. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from recreational equipment and vehicles. 6. Introduction and spread of non-native terrestrial and aquatic organisms 7. Introduction and spread of airborne and waterborne diseases/pathogens 8. Increased risk of wildfire consequent to human activity. 9. Temporary reduction in water quality (turbidity, sediment load) in and downstream of maintenance area (from cleaning sediment from boat ramps) 10. Ongoing physical disturbance to biotic community and soils
<p>O4. Habitat/Land Restoration Activities</p>	<ol style="list-style-type: none"> 1. Take of covered fish species from maintenance and monitoring activities (direct death, injury, and stress) 2. Visual and noise disturbance associated with monitoring and maintenance activities 3. Introduction and spread of non-native plants 4. Introduction and spread of non-native terrestrial and aquatic organisms 5. Introduction and spread of airborne and waterborne diseases/pathogens 6. Physical disturbance to community and soil associated with monitoring and maintenance activities (e.g., grading, planting, dredging and/or filling)
<p>O5. Stormwater Management Activities</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality of covered species due to channel clearing and maintenance activities (e.g., dredging and/or filling; removal of sediment, large woody debris, and aquatic vegetation) and to hydrologic changes 2. Ongoing visual and noise disturbance associated with channel clearing and maintenance activities 3. Introduction and spread of non-native terrestrial and aquatic organisms 4. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles. 5. Physical disturbance to community and removal of habitat associated with channel clearing and maintenance activities and to hydrologic changes

<p>O6. Waste Management Activities</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality of covered species due to maintenance activities (e.g., vehicle strikes, movement of materials) 2. Ongoing visual and noise disturbance from maintenance activities 3. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from waste materials, maintenance equipment and vehicles. 4. Effluent line maintenance will temporarily reduce water quality (turbidity, nutrients, toxics) 5. Physical disturbance to community and removal of habitat due to maintenance activities 6. Introduction and spread of non-native terrestrial and aquatic organisms
<p>O7. Irrigation Canal/Ditch Activities</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality of covered species due to channel clearing and maintenance activities (e.g., dredging and/or filling; removal of sediment, large woody debris, and aquatic vegetation) and consequent temporary increase in turbidity and reduction in water quality. 2. Ongoing visual and noise disturbance to covered species 3. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles. 4. Introduction and spread of non-native terrestrial and aquatic organisms 5. Increased risk for introduction of diseases/pathogens affecting covered species 6. Ongoing risk of wildfire associated with maintenance activities. 7. Physical disturbance to biotic community and soils, habitat removal associated with channel clearing and maintenance activities
<p>O8. Flood Control Activities</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality of covered species due to channel clearing and maintenance activities (e.g., dredging and/or filling; removal of sediment, large woody debris, and aquatic vegetation) and to associated hydrologic changes 2. Ongoing visual and noise disturbance associated with channel clearing and maintenance activities 3. Introduction and spread of non-native terrestrial and aquatic organisms 4. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles. 5. Temporary reduction in water quality (turbidity) in and downstream of maintenance areas 6. Removal of aquatic vegetation and debris removes habitat for covered fish species 7. Removal of aquatic vegetation and debris changes the hydrology upon which covered fish species rely for rearing, foraging, and holding 8. Physical disturbance to biotic community and soils, and consequent temporary or permanent loss of habitat through inundation, desiccation, and other hydrologic and topographic changes 9. Physical disturbance to community due to channel clearing and other maintenance activities, vehicles, and human activity 10. Increased risk for introduction of non-native diseases/pathogens affecting native plant and wildlife populations

<p>O9. Vegetation Management</p>	<ol style="list-style-type: none"> 1. Direct mortality, injury, and stress associated with ongoing maintenance activities (e.g., vehicle strikes, disturbance, and trampling from grazing, grading, planting, mowing, application of herbicide, prescribed fire, vegetation removal and/or weeding) 2. Ongoing visual and noise disturbance to covered species 3. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles. 4. Introduction and spread of non-native terrestrial and aquatic organisms 5. Increased risk for introduction of diseases/pathogens affecting covered species 6. Ongoing risk of wildfire associated with maintenance activities. 7. Temporary reduction in water quality (turbidity) in and downstream of maintenance areas 8. Removal of aquatic vegetation removes habitat for covered fish species 9. Removal of aquatic vegetation changes the hydrology upon which covered fish species rely for rearing, foraging, and holding 10. Physical disturbance to biotic community and soils associated with ongoing maintenance activities
<p>O10. Bridge and Drainage Structure Maintenance</p>	<ol style="list-style-type: none"> 1. Direct injury and mortality of covered species due to maintenance activities (e.g., dredging and/or filling; channel clearing, removal of sediment, large woody debris, and aquatic vegetation; scraping/grading, vegetation maintenance, weed/pest control and abatement) 2. Ongoing visual and noise disturbance to covered species 3. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles. 4. Introduction and spread of non-native plants and other terrestrial and aquatic organisms 5. Introduction of diseases/pathogens affecting covered species 6. Ongoing risk of wildfire associated with maintenance activities. 7. Temporary harassment of covered fish species in and near maintenance areas 8. Temporary reduction in water quality (turbidity, toxics) in and downstream of maintenance areas 9. Removal of aquatic vegetation and debris removes habitat for covered fish species 10. Removal of aquatic vegetation and debris changes the hydrology upon which covered fish species rely for rearing, foraging, and holding 11. Physical disturbance to biotic community and soils due to maintenance activities

<p>O11. Transportation Facilities Maintenance</p>	<ol style="list-style-type: none"> 1. Ongoing noise and visual disturbance associated with maintenance-related activities, equipment, and human activity 2. Direct injury or mortality of covered species associated with maintenance-related activities 3. Introduction and spread of non-native plants and other terrestrial and aquatic organisms 4. Introduction and spread of pathogens/diseases 5. Introduction of contaminants or toxic chemicals due to leaks, spills, or other airborne or effluent emissions from maintenance equipment and vehicles 6. Ongoing risk for wildfire 7. Temporary reduction in water quality (turbidity, toxics) in and downstream of maintenance areas 8. Removal of aquatic vegetation and debris removes habitat for covered fish species 9. Removal of aquatic vegetation and debris changes the hydrology upon which covered fish species rely for rearing, foraging, and holding 10. Ongoing physical disturbance to biotic community and soils associated with maintenance-related activities
<p>C1. <i>[[This table section will list the conservation measures identified in Chapter 5, "Conservation Strategy".]]</i></p>	

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Table 4-2. Habitat Impact Assessment Tools used to Assess Impacts on Covered Species

[[**Note to Reviewers:** Information presented in this table is draft and could change if it is determined that sufficient information is available to develop habitat models for additional species.]]

Covered Species	Habitat Impact Assessment Tools	
	Species Habitat Model	Occurrence Data
Animals		
Tricolored blackbird	X	
Yellow-breasted chat	X	
Bank swallow	X	
Western burrowing owl	X	
Western yellow-billed cuckoo	X	
Greater sandhill crane	X	
California black rail		X
American peregrine falcon	X	
Bald eagle	X	
White-tailed kite	X	
Swainson's hawk	X	
Giant garter snake	X	
California horned lizard		X
Northwestern pond turtle	X	
Foothill yellow-legged frog	X	
Western spadefoot	X	
Sacramento splittail	X	
Sacramento River winter-run Chinook salmon	X	
Central Valley spring-run Chinook salmon	X	
Central Valley fall/late-fall-run Chinook salmon	X	
Central Valley steelhead	X	
Green sturgeon	X	
River lamprey	X	
Valley elderberry longhorn beetle	X	

Covered Species	Habitat Impact Assessment Tools	
	Species Habitat Model	Occurrence Data
Vernal pool tadpole shrimp	X	
Vernal pool fairy shrimp	X	
Conservancy fairy shrimp	X	
Plants		
Ferris's milkvetch	X	
Lesser saltscare	X	
Hoover's spurge	X	
Ahart's dwarf rush	X	
Butte County meadowfoam	X	
Hairy Orcutt grass	X	
Butte County checkerbloom	X	
Veiny monardella		X
Butte County golden clover	X	
Greene's tuctoria	X	

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Table 4-3. Summary of Impacts on NCCP Communities Associated with Implementation of Covered Activities and Butte Regional HCP/NCCP Conservation Measures

Natural Communities	Impacts
Oak Woodland and Savanna	[[For each community, this section will list the types and extent of impacts described in the impact assessment text in Section 4.3 and Tables 4-4 and 4-5.]]
Grassland	
Riparian	
Wetland	
Aquatic	
Agriculture	

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Table 4-6. Summary of Impacts on Covered Species and Estimated Level of Take Associated with Implementation of Covered Activities and Butte Regional HCP/NCCP Conservation Measures

Covered Species	Impacts and Estimated Level of Take
Animals	
Tricolored blackbird	[[For each covered, this section will list the types and extent of impacts and estimated level of take described in the impact assessment text in Section 4.4 and Tables 4-7 and 4-8.]]
Yellow-breasted chat	
Bank swallow	
Western burrowing owl	
Western yellow-billed cuckoo	
Greater sandhill crane	
California black rail	
American peregrine falcon	
Bald eagle	
White-tailed kite	
Swainson’s hawk	
Giant garter snake	
California horned lizard	
Northwestern pond turtle	
Foothill yellow-legged frog	
Western spadefoot	

Covered Species	Impacts and Estimated Level of Take
Sacramento splittail	
Sacramento River winter run Chinook salmon	
Central Valley spring run Chinook salmon	
Central Valley fall/late- fall run Chinook salmon	
Central Valley steelhead	
Green sturgeon	
River lamprey	
Valley elderberry longhorn beetle	
Vernal pool tadpole shrimp	
Vernal pool fairy shrimp	
Conservancy fairy shrimp	
Plants	
Ferris's milkvetch	
Lesser saltscale	
Hoover's spurge	
Ahart's dwarf rush	

Covered Species	Impacts and Estimated Level of Take
Butte County meadowfoam	
Hairy Orcutt grass	
Butte County checkerbloom	
Veiny monardella	
Butte County golden clover	
Greene's tuctoria	
Total	

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Table 4-4a. Estimated Extent of Covered Natural Communities and Land Cover Types Removed by Covered Activities and Butte Regional HCP/NCCP Conservation Measures (acres) in Urban Permit Areas **[FOR ILLUSTRATIVE PURPOSES ONLY—DEVELOPMENT OF TABLE VALUES ARE IN PROGRESS AND SUBJECT TO CHANGE]**

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed															Percent Change ¹			
		Covered Activities in Urban Permit Areas (UPAs)																Covered Activities in CAZs ²	Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Oak Woodland and Savanna</i>																				
Blue oak savanna	10,580	697	0	0	0	340	2	0	16											1,055
Blue oak woodland	34,705	667	0	0	0	722	13	0	19											1,422
Interior live oak woodland	2,382	55	0	0	0	204	0	0	0											259
Mixed oak woodland	44,893	353	0	0	0	2,025	0	0	0											2,378
Subtotal	92,560	1,772	0	0	0	3,291	16	0	35											5,114
<i>Grassland and Vernal Wetland</i>																				0
Grassland	68,667	1,789	0	133	14	3,617	47	0	2											5,601
Grassland with vernal swale complex	33,668	476	0	62	4	1,129	0	0	1											1,672
Vernal pools	425	4	0	0	0	10	0	0	0											14
Altered vernal pools	248	5	0	1	0	13	0	0	0											19
Subtotal	103,007	2,274	0	196	18	4,769	47	0	3											7,306
<i>Riparian</i>																				0
Cottonwood-willow riparian forest	7,613	133	1	0	0	101	0	0	0											235
Valley oak riparian forest	4,328	26	0	0	0	89	1	0	0											116
Willow scrub	2,992	3	3	0	0	46	2	0	0											54
Herbaceous riparian and river bar	1,658	0	0	0	0	16	0	0	0											16
Subtotal	16,590	162	4	0	0	252	2	0	0											419
<i>Wetland</i>		0																		0
Emergent wetland	4,458	9	0	0	0	37	1	0	0											47
Managed wetland	25,486	0	0	0	0	0	0	0	0											0
Managed seasonal wetland	2,052	0	0	0	0	0	0	0	0											0
Subtotal	31,996	9	0	0	0	37	1	0	0											47
<i>Aquatic</i>																				0
Open water	8,307	7	0	0	0	59	0	0	0											66
Major canal	1,897	0	0	0	0	0	0	0	6											6
Subtotal	10,204	7	0	0	0	59	0	6	0											72
<i>Agriculture</i>																				0

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed															Percent Change ¹			
		Covered Activities in Urban Permit Areas (UPAs)																Covered Activities in CAZs ¹	Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
Rice	120,281	42	0	0	0	0	0	984	0							1,026				
Irrigated cropland	20,437	146	0	0	2	96	53	1,379	0							1,676				
Irrigated pasture	1,159	0	0	0	0	43	9	0	0							52				
Orchard/vineyard	108,558	1,267	320	0	0	679	82	1,385	0							3,733				
<i>Subtotal</i>	250,434	1,455	320	0	2	817	145	3,748	0							6,487				
<i>Other Woody Vegetation</i>		0	0	0	0	0	0	0	0							0				
Non-native woodland	48	0	0	0	0	7	0	0	0							7				
Coniferous Dominated Forest	15	0	0	0	0	0	0	0	0							0				
Chaparral	8,317	34	0	0	0	132	0	0	0							166				
<i>Subtotal</i>	8,379	34	0	0	0	139	0	0	0							173				
Total	513,172	5,712	324	196	20	9,364	208	3,753	38							19,615				

¹ From Table 4-4b.

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Table 4-4b. Estimated Extent of Covered Natural Communities and Land Cover Types Removed by Covered Activities and Butte Regional HCP/NCCP Conservation Measures (acres) in Conservation Acquisition Zones **[[FOR ILLUSTRATIVE PURPOSES ONLY—DEVELOPMENT OF TABLE VALUES ARE IN PROGRESS AND SUBJECT TO CHANGE]]**

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed													Percent Change ¹		
		Covered Activities in Conservation Acquisition Areas (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
<i>Oak Woodland and Savanna</i>																	
Blue oak savanna	10,580.4												0				
Blue oak woodland	34,704.6												0				
Interior live oak woodland	2,381.8												0				
Mixed oak woodland	44,893.0												0				
<i>Subtotal</i>	92,559.8												0				
<i>Grassland and Vernal Wetland</i>																	
Grassland	68,667.1												0				
Grassland with vernal swale complex	33,667.9												0				
Vernal pools	424.5												0				
Altered vernal pools	247.7												0				
<i>Subtotal</i>	103,007.2												0				
<i>Riparian</i>																	
Cottonwood-willow riparian forest	7,612.8												0				
Valley oak riparian forest	4,328.0												0				
Willow scrub	2,991.5												0				
Herbaceous riparian and river bar	1,657.8												0				
<i>Subtotal</i>	16,590.1												0				
<i>Wetland</i>																	
Emergent wetland	4,457.6												0				
Managed wetland	25,486.4												0				
Managed seasonal wetland	2,052.1												0				
<i>Subtotal</i>	31,996.1												0				
<i>Aquatic</i>																	
Open water	8,307.1												0				
Major canal	1,896.9												7.7				
<i>Subtotal</i>	10,204.0												7.7				
<i>Agriculture</i>																	

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed													Percent Change ¹		
		Covered Activities in Conservation Acquisition Areas (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
Rice	120,281.1								3.4								
Irrigated cropland	20436.7								0								
Irrigated pasture	1,159.4								0								
Orchard/vineyard	108,557.8								0								
<i>Subtotal</i>	250,434.3								3.4								
<i>Other Woody Vegetation</i>																	
Non-native woodland	47.7								0								
Coniferous Dominated Forest	14.8								0								
Chaparral	8,316.9								0								
<i>Subtotal</i>	8,379.3								0								
Total	513,171.8								11.1								

¹ From Table 4-4a.

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Table 4-5a. Estimated Extent of Covered Natural Communities and Land Cover Types Degraded by Covered Activities and Butte Regional HCP/NCCP Conservation Measures (acres) in Urban Permit Areas

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed																	Percent Change ¹	
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Oak Woodland and Savanna</i>																				
Blue oak savanna	10,580																			
Blue oak woodland	34,705																			
Interior live oak woodland	2,382																			
Mixed oak woodland	44,893																			
<i>Subtotal</i>	92,560																			
<i>Grassland and Vernal Wetland</i>																				
Grassland	68,667																			
Grassland with vernal swale complex	33,668																			
Vernal pools	425																			
Altered vernal pools	248																			
<i>Subtotal</i>	103,007																			
<i>Riparian</i>																				
Cottonwood-willow riparian forest	7,613																			
Valley oak riparian forest	4,328																			
Willow scrub	2,992																			
Herbaceous riparian and river bar	1,658																			
<i>Subtotal</i>	16,590																			
<i>Wetland</i>																				
Emergent wetland	4,458																			
Managed wetland	25,486																			
Managed seasonal wetland	2,052																			
<i>Subtotal</i>	31,996																			
<i>Aquatic</i>																				
Open water	8,307																			
Major canal	1,897																			
<i>Subtotal</i>	10,204																			
<i>Agriculture</i>																				

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Removed																	Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total	
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal					
Rice	120,281																				
Irrigated cropland	20,437																				
Irrigated pasture	1,159																				
Orchard/vineyard	108,558																				
<i>Subtotal</i>	250,434																				
<i>Other Woody Vegetation</i>																					
Non-native woodland	48																				
Coniferous Dominated Forest	15																				
Chaparral	8,317																				
<i>Subtotal</i>	8,379																				
Total	513,172																				

¹ From Table 4-5a.

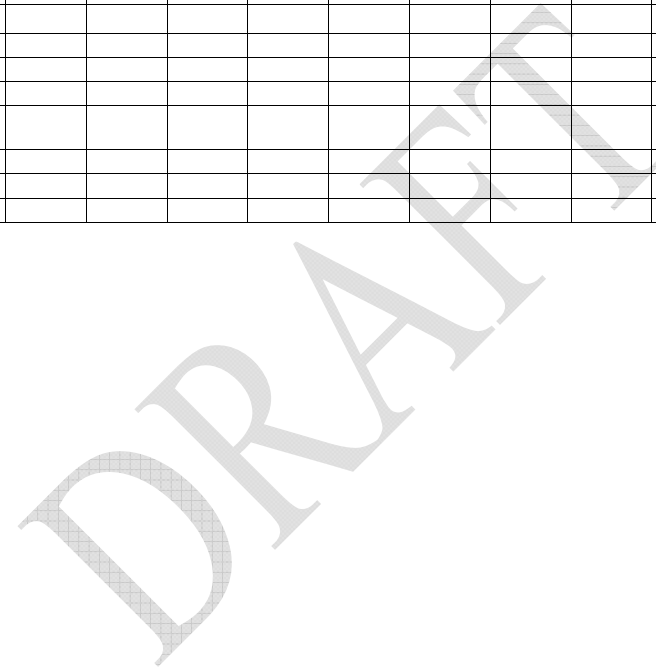


Table 4-5b. Estimated Extent of Covered Natural Communities and Land Cover Types Degraded by Covered Activities and Butte Regional HCP/NCCP Conservation Measures (acres) in Conservation Acquisition Zones

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Degraded													Percent Change ¹		
		Covered Activities in Conservation Acquisition Areas (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
<i>Oak Woodland and Savanna</i>																	
Blue oak savanna	10,580.4																
Blue oak woodland	34,704.6																
Interior live oak woodland	2,381.8																
Mixed oak woodland	44,893.0																
<i>Subtotal</i>	92,559.8																
<i>Grassland and Vernal Wetland</i>																	
Grassland	68,667.1																
Grassland with vernal swale complex	33,667.9																
Vernal pools	424.5																
Altered vernal pools	247.7																
<i>Subtotal</i>	103,007.2																
<i>Riparian</i>																	
Cottonwood-willow riparian forest	7,612.8																
Valley oak riparian forest	4,328.0																
Willow scrub	2,991.5																
Herbaceous riparian and river bar	1,657.8																
<i>Subtotal</i>	16,590.1																
<i>Wetland</i>																	
Emergent wetland	4,457.6																
Managed wetland	25,486.4																
Managed seasonal wetland	2,052.1																
<i>Subtotal</i>	31,996.1																
<i>Aquatic</i>																	
Open water	8,307.1																
Major canal	1,896.9																
<i>Subtotal</i>	10,204.0																
<i>Agriculture</i>																	

Natural Communities and Constituent Land Cover Types	Current Extent in Planning Area	Extent of Natural Communities and Land Cover Types Degraded													Percent Change ¹		
		Covered Activities in Conservation Acquisition Areas (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
Rice	120,281.1																
Irrigated cropland	20436.7																
Irrigated pasture	1,159.4																
Orchard/vineyard	108,557.8																
<i>Subtotal</i>	250,434.3																
<i>Other Woody Vegetation</i>																	
Non-native woodland	47.7																
Coniferous Dominated Forest	14.8																
Chaparral	8,316.9																
<i>Subtotal</i>	8,379.3																
Total	513,171.8																

¹ From Table 4-5a.

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Table 4-7a. Estimated Extent of Covered Species Habitats Removed by Covered Activities and Butte Regional HCP/NCCP Conservation Measures in Urban Permit Areas (in acres unless otherwise noted – fish species and bank swallow habitat is in lineal miles)

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹		Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
Animals																				
Tricolored blackbird <i>(Breeding and foraging habitat)</i>																				
Yellow-breasted chat <i>(Nesting and foraging habitat)</i>																				
Bank swallow <i>(Nesting habitat)</i>																				
Western burrowing owl <i>(Nesting and foraging habitat)</i>																				
Western yellow-billed cuckoo <i>(Nesting habitat)</i>																				
Greater sandhill crane <i>Winter roosting and foraging habitat</i>																				
<i>Traditional upland use areas</i>																				
<i>Subtotal</i>																				
California black rail ²																				
American peregrine falcon <i>Nesting habitat</i>																				
<i>Year-round foraging habitat</i>																				
<i>Seasonal foraging habitat</i>																				
<i>Subtotal</i>																				
Bald eagle <i>Nesting habitat</i>																				
<i>Foraging habitat: Seasonal Habitat</i>																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹		Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Subtotal</i>																				
White-tailed kite																				
<i>Nesting habitat</i>																				
<i>Year-round foraging habitat</i>																				
<i>Breeding season foraging habitat</i>																				
<i>Subtotal</i>																				
Swainson's hawk																				
<i>Nesting habitat</i>																				
<i>Foraging habitat</i>																				
<i>Nesting and Foraging habitat</i>																				
<i>Subtotal</i>																				
Giant garter snake																				
<i>Breeding and movement habitat: rice</i>																				
<i>Breeding and movement habitat: managed and emergent wetlands, willow scrub</i>																				
<i>Breeding and movement habitat: adjoining irrigated cropland</i>																				
<i>Movement habitat: connected waterways</i>																				
California horned lizard ²																				
Northwestern pond turtle																				
<i>Aquatic habitat</i>																				
<i>Nesting and movement habitat</i>																				
<i>Aquatic, nesting and movement habitat</i>																				
<i>Subtotal</i>																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹		Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
Foothill yellow-legged frog																				
<i>Breeding season habitat: perennial</i>																				
<i>Breeding season habitat: intermittent</i>																				
Western spadefoot																				
<i>Breeding habitat</i>																				
<i>Upland habitat</i>																				
<i>Breeding and upland habitat</i>																				
<i>Subtotal</i>																				
Sacramento splittail																				
<i>Rearing, migration, and potential spawning habitat</i>																				
Sacramento River winter run Chinook salmon																				
<i>Adult migration; juvenile rearing and migration habitat</i>																				
Central Valley spring run Chinook salmon																				
<i>Spawning habitat</i>																				
<i>Adult migration and holding habitat</i>																				
<i>Juvenile migration habitat</i>																				
<i>Juvenile rearing habitat</i>																				
<i>Subtotal</i>																				
Central Valley fall/late-fall run Chinook salmon																				
<i>Adult spawning and migration; juvenile rearing and migration</i>																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed															Percent Change ¹			
		Covered Activities in Urban Permit Areas (UPAs)																Covered Activities in CAZs ¹	Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Adult migration; juvenile rearing and migration habitat</i>																				
<i>Non-natal juvenile rearing habitat</i>																				
Central Valley steelhead																				
<i>Adult Spawning and migration habitat; juvenile rearing and migration habitat</i>																				
<i>Adult migration habitat; juvenile rearing and migration habitat</i>																				
<i>Non-natal juvenile rearing and migration habitat</i>																				
<i>Subtotal</i>																				
Green sturgeon																				
<i>Adult upstream migration, spawning, and rearing habitat</i>																				
<i>Adult upstream migration and rearing habitat</i>																				
<i>Adult upstream migration, potential spawning and rearing habitat</i>																				
River lamprey <i>Spawning, rearing, and migration habitat</i>																				
Valley elderberry longhorn beetle																				
Vernal pool tadpole shrimp																				
Vernal pool fairy shrimp																				
Conservancy fairy shrimp																				
Plants																				
Ferris's milkvetch																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹		Conservation Measures	Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
Lesser saltscare																				
Hoover's spurge																				
Ahart's dwarf rush																				
Butte County meadowfoam																				
<i>Occupied habitat</i>																				
<i>Core habitat</i>																				
<i>General habitat</i>																				
Hairy Orcutt grass																				
Butte County checkerbloom																				
Veiny monardella ²																				
Butte County golden clover																				
Greene's tuctoria																				
Total																				

¹ From Table 4-7b.

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Table 4-7b. Estimated Extent of Covered Species Habitats Removed by Covered Activities and Butte Regional HCP/NCCP Conservation Measures in Conservation Acquisition Zones (in acres unless otherwise noted – fish species and bank swallow habitat is in lineal miles)

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed													Percent Change ¹		
		Covered Activities in Conservation Acquisition Zones (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
Animals																	
Tricolored blackbird <i>(Breeding and foraging habitat)</i>																	
Yellow-breasted chat <i>(Nesting and foraging habitat)</i>																	
Bank swallow <i>(Nesting habitat)</i>																	
Western burrowing owl <i>(Nesting and foraging habitat)</i>																	
Western yellow-billed cuckoo <i>(Nesting habitat)</i>																	
Greater sandhill crane <i>Winter roosting and foraging habitat</i>																	
<i>Traditional upland use areas</i>																	
<i>Subtotal</i>																	
California black rail ²																	
American peregrine falcon <i>Nesting habitat</i>																	
<i>Year-round foraging habitat</i>																	
<i>Seasonal foraging habitat</i>																	
<i>Subtotal</i>																	
Bald eagle <i>Nesting habitat</i>																	
<i>Foraging habitat: Year-Round Habitat</i>																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed											Covered Activities in UPAs ¹	Conservation Measures	Total	Percent Change ¹	
		Covered Activities in Conservation Acquisition Zones (CAZs)															
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
<i>Foraging habitat: Seasonal Habitat</i>																	
<i>Subtotal</i>																	
White-tailed kite																	
<i>Nesting habitat</i>																	
<i>Year-round foraging habitat</i>																	
<i>Breeding season foraging habitat</i>																	
<i>Subtotal</i>																	
Swainson's hawk																	
<i>Nesting habitat</i>																	
<i>Foraging habitat</i>																	
<i>Nesting and Foraging habitat</i>																	
<i>Subtotal</i>																	
Giant garter snake																	
<i>Breeding and movement habitat: rice</i>																	
<i>Breeding and movement habitat: managed and emergent wetlands, willow scrub</i>																	
<i>Breeding and movement habitat: adjoining irrigated cropland</i>																	
<i>Movement habitat: connected waterways</i>																	
California horned lizard ²																	
Northwestern pond turtle																	
<i>Aquatic habitat</i>																	
<i>Nesting and movement habitat</i>																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed											Covered Activities in UPAs ¹	Conservation Measures	Total	Percent Change ¹
		Covered Activities in Conservation Acquisition Zones (CAZs)														
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal				
<i>Aquatic, nesting and movement habitat</i>																
<i>Subtotal</i>																
Foothill yellow-legged frog																
<i>Breeding season habitat: perennial</i>																
<i>Breeding season habitat: intermittent</i>																
Western spadefoot																
<i>Breeding habitat</i>																
<i>Upland habitat</i>																
<i>Breeding and upland habitat</i>																
<i>Subtotal</i>																
Sacramento splittail <i>Rearing, migration, and potential spawning habitat</i>																
Sacramento River winter run Chinook salmon <i>Adult migration; juvenile rearing and migration habitat</i>																
Central Valley spring run Chinook salmon																
<i>Spawning habitat</i>																
<i>Adult migration and holding habitat</i>																
<i>Juvenile migration habitat</i>																
<i>Juvenile rearing habitat</i>																
<i>Subtotal</i>																
Central Valley fall/late-fall run Chinook salmon																

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed											Covered Activities in UPAs ¹	Conservation Measures	Total	Percent Change ¹	
		Covered Activities in Conservation Acquisition Zones (CAZs)															
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
<i>Adult spawning and migration; juvenile rearing and migration</i>																	
<i>Adult migration; juvenile rearing and migration habitat</i>																	
<i>Non-natal juvenile rearing habitat</i>																	
Central Valley steelhead																	
<i>Adult Spawning and migration habitat; juvenile rearing and migration habitat</i>																	
<i>Adult migration habitat; juvenile rearing and migration habitat</i>																	
<i>Non-natal juvenile rearing and migration habitat</i>																	
<i>Subtotal</i>																	
Green sturgeon																	
<i>Adult upstream migration, spawning, and rearing habitat</i>																	
<i>Adult upstream migration and rearing habitat</i>																	
<i>Adult upstream migration, potential spawning and rearing habitat</i>																	
River lamprey <i>Spawning, rearing, and migration habitat</i>																	
Valley elderberry longhorn beetle																	
Vernal pool tadpole shrimp																	
Vernal pool fairy shrimp																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed											Covered Activities in UPAs ¹	Conservation Measures	Total	Percent Change ¹
		Covered Activities in Conservation Acquisition Zones (CAZs)														
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal				
Conservancy fairy shrimp																
Plants																
Ferris's milkvetch																
Lesser saltscare																
Hoover's spurge																
Ahart's dwarf rush																
Butte County meadowfoam																
<i>Occupied habitat</i>																
<i>Core habitat</i>																
<i>General habitat</i>																
Hairy Orcutt grass																
Butte County checkerbloom																
Veiny monardella ²																
Butte County golden clover																
Greene's tuctoria																
Total																

¹ From Table 4-7a.



Table 4-8a. Estimated Extent of Covered Species Habitats Degraded by Covered Activities and Butte Regional HCP/NCCP Conservation Measures in Urban Permit Areas (in acres unless otherwise noted – fish species and bank swallow habitat is in lineal miles)

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																	Percent Change ¹		
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total	
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal					
Animals																					
Tricolored blackbird <i>(Breeding and foraging habitat)</i>																					
Yellow-breasted chat <i>(Nesting and foraging habitat)</i>																					
Bank swallow <i>(Nesting habitat)</i>																					
Western burrowing owl <i>(Nesting and foraging habitat)</i>																					
Western yellow-billed cuckoo <i>(Nesting habitat)</i>																					
Greater sandhill crane <i>Winter roosting and foraging habitat</i>																					
<i>Traditional upland use areas</i>																					
<i>Subtotal</i>																					
California black rail ²																					
American peregrine falcon <i>Nesting habitat</i>																					
<i>Year-round foraging habitat</i>																					
<i>Seasonal foraging habitat</i>																					
<i>Subtotal</i>																					
Bald eagle <i>Nesting habitat</i>																					
<i>Foraging habitat: Seasonal Habitat</i>																					
<i>Subtotal</i>																					
White-tailed kite																					

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																	Percent Change ¹	
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Nesting habitat</i>																				
<i>Year-round foraging habitat</i>																				
<i>Breeding season foraging habitat</i>																				
<i>Subtotal</i>																				
Swainson's hawk																				
<i>Nesting habitat</i>																				
<i>Foraging habitat</i>																				
<i>Nesting and Foraging habitat</i>																				
<i>Subtotal</i>																				
Giant garter snake																				
<i>Breeding and movement habitat: rice</i>																				
<i>Breeding and movement habitat: managed and emergent wetlands, willow scrub</i>																				
<i>Breeding and movement habitat: adjoining irrigated cropland</i>																				
<i>Movement habitat: connected waterways</i>																				
California horned lizard ²																				
Northwestern pond turtle																				
<i>Aquatic habitat</i>																				
<i>Nesting and movement habitat</i>																				
<i>Aquatic, nesting and movement habitat</i>																				
<i>Subtotal</i>																				
Foothill yellow-legged frog																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																	Percent Change ¹	
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
<i>Breeding season habitat: perennial</i>																				
<i>Breeding season habitat: intermittent</i>																				
Western spadefoot																				
<i>Breeding habitat</i>																				
<i>Upland habitat</i>																				
<i>Breeding and upland habitat</i>																				
<i>Subtotal</i>																				
Sacramento splittail <i>Rearing, migration, and potential spawning habitat</i>																				
Sacramento River winter run Chinook salmon <i>Adult migration; juvenile rearing and migration habitat</i>																				
Central Valley spring run Chinook salmon																				
<i>Spawning habitat</i>																				
<i>Adult migration and holding habitat</i>																				
<i>Juvenile migration habitat</i>																				
<i>Juvenile rearing habitat</i>																				
<i>Subtotal</i>																				
Central Valley fall/late-fall run Chinook salmon																				
<i>Adult spawning and migration; juvenile rearing and migration</i>																				
<i>Adult migration; juvenile rearing and migration habitat</i>																				

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																	Percent Change ¹					
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total				
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal								
<i>Non-natal juvenile rearing habitat</i>																								
Central Valley steelhead																								
<i>Adult Spawning and migration habitat; juvenile rearing and migration habitat</i>																								
<i>Adult migration habitat; juvenile rearing and migration habitat</i>																								
<i>Non-natal juvenile rearing and migration habitat</i>																								
<i>Subtotal</i>																								
Green sturgeon																								
<i>Adult upstream migration, spawning, and rearing habitat</i>																								
<i>Adult upstream migration and rearing habitat</i>																								
<i>Adult upstream migration, potential spawning and rearing habitat</i>																								
River lamprey <i>Spawning, rearing, and migration habitat</i>																								
Valley elderberry longhorn beetle																								
Vernal pool tadpole shrimp																								
Vernal pool fairy shrimp																								
Conservancy fairy shrimp																								

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Removed																	Percent Change ¹	
		Covered Activities in Urban Permit Areas (UPAs)															Covered Activities in CAZs ¹	Conservation Measures		Total
		Chico UPA	Durham UPA	State Route 99 UPA	State Route 191 UPA	Oroville UPA	Palermo UPA	Gridley-Biggs UPA	Skyway-Neal Road UPA	Nord UPA	Dayton UPA	Nelson UPA	Richvale UPA	Honcut UPA	Bangor UPA	Subtotal				
Plants																				
Ferris's milkvetch																				
Lesser saltscare																				
Hoover's spurge																				
Ahart's dwarf rush																				
Butte County meadowfoam																				
<i>Occupied habitat</i>																				
<i>Core habitat</i>																				
<i>General habitat</i>																				
Hairy Orcutt grass																				
Butte County checkerbloom																				
Veiny monardella ²																				
Butte County golden clover																				
Greene's tuctoria																				
Total																				

¹ From Table 4-8b.

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Table 4-8b. Estimated Extent of Covered Species Habitats Degraded by Covered Activities and Butte Regional HCP/NCCP Conservation Measures in Conservation Acquisition Zones (in acres unless otherwise noted – fish species and bank swallow habitat is in lineal miles)

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Degraded													Percent Change ¹		
		Covered Activities in Conservation Acquisition Zones (CAZs)											Covered Activities in UPAs ¹	Conservation Measures		Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal					
Animals																	
Tricolored blackbird <i>(Breeding and foraging habitat)</i>																	
Yellow-breasted chat <i>(Nesting and foraging habitat)</i>																	
Bank swallow <i>(Nesting habitat)</i>																	
Western burrowing owl <i>(Nesting and foraging habitat)</i>																	
Western yellow-billed cuckoo <i>(Nesting habitat)</i>																	
Greater sandhill crane <i>Winter roosting and foraging habitat</i>																	
<i>Traditional upland use areas</i>																	
<i>Subtotal</i>																	
California black rail ²																	
American peregrine falcon <i>Nesting habitat</i>																	
<i>Year-round foraging habitat</i>																	
<i>Seasonal foraging habitat</i>																	
<i>Subtotal</i>																	
Bald eagle <i>Nesting habitat</i>																	
<i>Foraging habitat: Year-Round Habitat</i>																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Degraded											Percent Change ¹				
		Covered Activities in Conservation Acquisition Zones (CAZs)															
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal		Covered Activities in UPAs ¹	Conservation Measures	Total	
<i>Foraging habitat: Seasonal Habitat</i>																	
<i>Subtotal</i>																	
White-tailed kite																	
<i>Nesting habitat</i>																	
<i>Year-round foraging habitat</i>																	
<i>Breeding season foraging habitat</i>																	
<i>Subtotal</i>																	
Swainson's hawk																	
<i>Nesting habitat</i>																	
<i>Foraging habitat</i>																	
<i>Nesting and Foraging habitat</i>																	
<i>Subtotal</i>																	
Giant garter snake																	
<i>Breeding and movement habitat: rice</i>																	
<i>Breeding and movement habitat: managed and emergent wetlands, willow scrub</i>																	
<i>Breeding and movement habitat: adjoining irrigated cropland</i>																	
<i>Movement habitat: connected waterways</i>																	
California horned lizard ²																	
Northwestern pond turtle																	
<i>Aquatic habitat</i>																	
<i>Nesting and movement habitat</i>																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Degraded											Percent Change ¹				
		Covered Activities in Conservation Acquisition Zones (CAZs)															
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal		Covered Activities in UPAs ¹	Conservation Measures	Total	
<i>Aquatic, nesting and movement habitat</i>																	
<i>Subtotal</i>																	
Foothill yellow-legged frog																	
<i>Breeding season habitat: perennial</i>																	
<i>Breeding season habitat: intermittent</i>																	
Western spadefoot																	
<i>Breeding habitat</i>																	
<i>Upland habitat</i>																	
<i>Breeding and upland habitat</i>																	
<i>Subtotal</i>																	
Sacramento splittail <i>Rearing, migration, and potential spawning habitat</i>																	
Sacramento River winter run Chinook salmon <i>Adult migration; juvenile rearing and migration habitat</i>																	
Central Valley spring run Chinook salmon																	
<i>Spawning habitat</i>																	
<i>Adult migration and holding habitat</i>																	
<i>Juvenile migration habitat</i>																	
<i>Juvenile rearing habitat</i>																	
<i>Subtotal</i>																	
Central Valley fall/late-fall run Chinook salmon																	

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Degraded											Percent Change ¹			
		Covered Activities in Conservation Acquisition Zones (CAZs)														
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ	Subtotal		Covered Activities in UPAs ¹	Conservation Measures	Total
<i>Adult spawning and migration; juvenile rearing and migration</i>																
<i>Adult migration; juvenile rearing and migration habitat</i>																
<i>Non-natal juvenile rearing habitat</i>																
Central Valley steelhead																
<i>Adult Spawning and migration habitat; juvenile rearing and migration habitat</i>																
<i>Adult migration habitat; juvenile rearing and migration habitat</i>																
<i>Non-natal juvenile rearing and migration habitat</i>																
<i>Subtotal</i>																
Green sturgeon																
<i>Adult upstream migration, spawning, and rearing habitat</i>																
<i>Adult upstream migration and rearing habitat</i>																
<i>Adult upstream migration, potential spawning and rearing habitat</i>																
River lamprey <i>Spawning, rearing, and migration habitat</i>																
Valley elderberry longhorn beetle																
Vernal pool tadpole shrimp																

Covered Species	Current Extent in Planning Area	Extent of Species Habitat Degraded											Percent Change ¹			
		Covered Activities in Conservation Acquisition Zones (CAZs)										Covered Activities in UPAs ¹		Conservation Measures	Total	
		Northern Orchards CAZ	Southern Orchards CAZ	Northern Cascade CAZ	Southern Cascade CAZ	Northern Sierra CAZ	Southern Sierra CAZ	Northern Rice CAZ	Southern Rice CAZ	Sacramento River CAZ	Thermalito CAZ					Subtotal
Vernal pool fairy shrimp																
Conservancy fairy shrimp																
Plants																
Ferris's milkvetch																
Lesser saltscale																
Hoover's spurge																
Ahart's dwarf rush																
Butte County meadowfoam																
<i>Occupied habitat</i>																
<i>Core habitat</i>																
<i>General habitat</i>																
Hairy Orcutt grass																
Butte County checkerbloom																
Veiny monardella ²																
Butte County golden clover																
Greene's tuctoria																
Total																

¹ From Table 4-8a.

Meeting Summary

**Butte Regional HCP/NCCP
Stakeholder Committee Meeting**
December 3, 2008, 11:00 a.m. to 1:00 p.m.
BCAG Conference Room

Stakeholder Committee Attendees

Scott McNall (CSU Chico)	Phil Johnson (Altacal Audubon)
Richard Price (Butte County Ag. Commission)	Colleen Cecil (BC Farm Bureau)
Suellen Rowlison (CNPS)	Pia Sevelius (Butte RCD)

Resource Agencies Attendees

Jenny Marr (DGF)	Nina Bicknese (USFWS)
Jennifer Hogan (DFG)	

Steering Committee and Staff Attendees

Jane Dolan (BCAG/ Supervisor)	Paul Cylinder (SAIC)
Jon Clark (BCAG)	Holly Wilson (SAIC)
Chris Devine (BCAG)	

Interested Public Attendees

Gregg McKenzie (McKenzie Consulting)	Robert Capriola (Westervelt Ecological Services)
Riley Swift (Restoration Resources)	Chris Swift (Restoration Resources)
Mike Donnelly (The group/Loafer Creek)	John Merz (SRPT)
Jamison Watts (No Calif Regional Land Trust)	

Associated Documents/Handouts:

1. Agenda packet including: Meeting Notes from August 13, 2008
2. Additional Handout: General Schedule for Butte Regional Conservation Plan (December 2, 2008)
3. Additional Handout: Draft Chapter 2 Covered Activities

Action Items and Key Recommendations:

- The next Stakeholder meeting will be held on Wednesday, January 7, 2009, 11:00 am – 3:00 pm, at BCAG.

Meeting Agenda:

- Introductions
- City of Chico General Plan – Preferred Land Use Alternative
- Covered Activities Chapter Update
- Revised CAZ/UPA Map
- Updated Project Schedule
- Meeting Notes from August 13, 2008 (Attachment #1)
- Action Items and Next Meetings

City of Chico General Plan—Preferred Land Use Alternative

- Chris Devine and Paul Cylinder presented details about the City of Chico's General Plan (GP) and preliminary land use alternatives released on November 17, 2008. With the Chico GP, the BCAG HCP/NCCP can move forward on the covered activities and impact analysis. SAIC will overlay the Chico GP preliminary proposed land use designations on the Butte HCP/NCCP species habitat models and natural communities maps.
- Stakeholder members discussed concerns and issues raised by Chico GP preliminary proposed land use. There is concern that clarification will be needed from the City before the Impact Analysis can be conducted. Members also reiterated the need for City of Chico representatives to start attending Stakeholder meetings.
- John Merz (SRPT) indicated that the City of Chico is expecting specific direction from the BCAG HCP for responsibilities and goals.
- The County's GP may add Richvale and Nelson UPAs in addition to bridges, roadway improvements and bicycle lanes to the covered activities under the HCP/NCCP.

Covered Activities Chapter Update/Revised CAZ/UPA Map

Paul Cylinder presented the revised CAZ/UPA map (it will continue to be revised and updated). UPAs will not necessarily be built-out under the HCP/NCCP - the HCP/NCCP will identify biological resources that would be avoided and preserved. The changes to boundaries of CAZs were highlighted now that the City of Chico's has provided General Plan draft land use designations.

The *Draft Updated Covered Activities Chapter* was presented and discussed.

Stakeholder members discussed the contents and status of the updated and revised documents. Topics discussed including: the effects of City of Chico easements outside the UPA such as water lines, treated wastewater lines to the Sacramento River water and whether these areas would be addressed in the covered activities chapter and the impact analysis; anticipated landfill expansion sites; new transportation and utility corridors; reminder that projects in the future that will be outside the plan and may need additional permitting; consideration of the need to add/include/invite additional permittees; the need for specific descriptions of future activities so they can be included in the impact analysis.

Caltrans and the Western Canal Water District are considering becoming permit applicants under the Butte HCP/NCCP. BCAG will contact others on the list of potential permittees and determine their level of interest in receiving coverage for their activities under the HCP/NCCP.

The *Draft Updated Covered Activities Chapter* will be revised and expanded in December and January. A request was made for tables of each type of activity: outside the UPAs and inside the UPAs as well as an acronym list that includes a “crosswalk” between CEQA and NEPA terminology. Members also requested a list of third party activities and plans, for example PG&E. Also discussed were mitigation banks such as Wildlands and others in the Planning Area. The group discussed how decisions are made about the biological standards for mitigation banks. The HCP/NCCP will include descriptions of specific conservation requirements. The eventual HCP/NCCP implementing entity would be responsible for making sure requirements are met. During HCP/NCCP implementation, development projects would go through the city and county approval processes with the cities and county allocating use of their ESA permits. Question was asked about specific locations for conservation. Paul Cylinder indicated that we do not anticipate mapping specific conservation locations, but rather identifying the required extent, specific geographic distribution, and form of the preserve system to protect and conserve covered species populations and habitat and natural communities.

In response to questions about monitoring, Jenny Marr described DFG’s document for the requirements of conservation and mitigation bank lands and how those lands are acquired and used. HCP/NCCPs often form a group that includes the regulatory agencies, whose job it is to work with the implementing entity in assessing the appropriateness of conservation lands in meeting the plan’s goals and objectives.

Jenny Marr will provide SAIC with a copy of the existing MOU regarding flood control activities.

Nina Bicknese (FWS) requested that section 2.3.3 be merged into 2.3.1 and 2.3.2.

Updated Project Schedule

Paul Cylinder presented the updated *General Schedule for Butte Regional Conservation Plan through the Public Draft HCP/NCCP and EIR/EIS*. He discussed and explained the schedule for the upcoming documents for the Butte HCP/NCCP, as well as the process of developing the EIR/EIS. He also described the scope and size of the HCP/NCCP EIR/EIS and its relationship to the General Plan EIR/EIS. The Butte HCP/NCCP is the applicants’ document (supports permitting activities under ESA and NCCPA); the EIR/EIS on the HCP/NCCP is the lead agencies’ (for NEPA it will be FWS and NMFS and for CEQA it will be BCAG) document.

Meeting Notes from August 13, 2008

- Meeting notes from August 13, 2008 were approved.

Upcoming Workshops/Meetings:

- The next Stakeholder meeting will be held on Wednesday, January 7, 2009, 11:00 am to 3:00 pm, at BCAG.

Topics for next meeting: Revisiting Goals and Objectives, table of species spatial needs, approach to impact analysis, updated CAZ\UPA map, and an updated draft covered activities chapter.