

Agenda

**Stakeholder Committee Meeting #26
Butte Regional HCP/NCCP
Wednesday, March 3, 2010
11:00 am - 3:00 pm
BCAG Conference Room**

Agenda Items:

1. Introductions and Agenda Review
2. Draft Schedule, HCP/NCCP document outline and Status of Chapters (**Handouts #1a, #1b and #2**)
3. Admin. Draft Species Conservation Measures (**Handouts #3a and #3b**)
4. Admin. Draft Species Conservation Targets (**Handout #4**)
5. Meeting Notes from December 2009 Stakeholder Meeting (**Handout #5**)
6. USFWS/DFG/NMFS Items for Discussion
7. Action Items and Next Meeting Agenda

General Schedule for Butte Regional Conservation Plan through Public Draft HCP/NCCP and EIR/EIS (February 25, 2009)

Year	2009												2010												2011							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Documents																																
Chapter 1. Introduction (draft)																																
Chapter 2. Covered Activities (draft)																																
Conditions (draft)																																
Chapter 4. Impact Analysis (draft)																																
Chapter 5. Conservation Strategy (draft)																																
Draft biological goals and objectives																																
Draft conservation measures																																
Draft monitoring plan																																
Draft adaptive management plan																																
Chapter 6. Plan Implementation																																
Chapter 7. Implementation Structure (draft)																																
Chapter 8. Implementation Costs and Funding Sources																																
Draft cost estimates																																
Implementation funding																																
1st Admin Draft HCP/NCCP ¹																																
2nd Admin Draft HCP/NCCP																																
Public Draft HCP/NCCP																																
Draft Implementing Agreement																																
NOI/NOP & Scoping																																
1st Admin Draft EIR/EIS																																
2nd Admin Draft EIR/EIS																																
Public Draft EIR/EIS																																
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug

Working Draft

Butte Regional HCP/NCCP Document Outline

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Note to Reviewers: *This working draft outline of the Butte Regional HCP/NCCP document is intended to provide the Stakeholder Committee with an understanding of the content of the document and the types of information that will need to be developed to complete the document. It is anticipated that this outline will change as we proceed through the development of the Plan as each component of each chapter is more fully defined and developed.*

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- Cover**
- Cover Page**
- Verso Page**
- Table of Contents**
- Executive Summary**

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Chapter 1. Introduction

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1.1 Background

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This section describes the genesis of the Butte Regional HCP/NCCP.

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1.2 Butte Regional HCP/NCCP Goals and Objectives

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This section describes the conservation and regulatory goals and objectives of the HCP/NCCP (e.g., update of initial goals and objectives described in the Planning Agreement).

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1.3 Regulatory Context

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1.3.1 Need for the Butte Regional HCP/NCCP

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This section describes the applicable federal and state laws and regulations with which the HCP/NCCP is intended to comply and will list the Permit Applicants. Other federal and state laws and regulations with which the Butte Regional HCP/NCCP implementation may need to comply are also described (e.g., Migratory Bird Treaty Act).

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1.4 Scope of the Butte Regional HCP/NCCP

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This section identifies and describes:

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- the rationale for the geographic scope of the Butte Regional HCP/NCCP, defined as the Planning Area;

- 1 ▪ the rationale for the natural communities addressed in the Butte Regional HCP/NCCP;
- 2 ▪ the covered species selection process and selected proposed covered species; and
- 3 ▪ the general types of activities to be covered under the Butte Regional HCP/NCCP.

4 **1.5 Overview of the Butte Regional HCP/NCCP Process**

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6 This section describes the composition of the Steering Committee and Stakeholder Committee
7 member entities and the role of each entity in developing the Butte Regional HCP/NCCP; the
8 participation of DFG, USFWS, and NMFS as technical advisors to the planning process; the role
9 of state and federal agencies, stakeholders, and the public in the development of the Butte
10 Regional HCP/NCCP, including agency coordination, stakeholder participation, and public
11 involvement (e.g., public newsletters, public informational workshops); and the independent
12 science process that was used to inform the development of the Butte Regional HCP/NCCP and
13 the role of the independent science process in meeting the requirements of the NCCPA and
14 following agency guidance relating to the ESA.

15 **1.6 Organization of the Butte Regional HCP/NCCP**

16
17 This section provides a brief overview the contents of HCP/NCCP document chapters and
18 appendices.

19 **Chapter 2. Covered Activities**

20 **2.1 Introduction**

21 This section describes the Chapter purpose and provides an overview of the chapter and types of
22 covered activities described and will also list the authorized entities.

23 **2.2 Covered Activities Within UPAs**

24
25 This section describes permanent development and ongoing operations and maintenance covered
26 activities within UPAs.

27 **2.3 Covered Activities Outside UPAs**

28
29 This section describes permanent development and ongoing operations and maintenance covered
30 activities outside UPAs.

31 **2.4 Conservation Activities within Habitat Preserves**

32
33 This section describes covered activities within preserves established under the HCP/NCCP.

1 **Chapter 3. Ecological Baseline Conditions**

2 **3.1 Introduction**

3 This section provides an overview of Chapter 3 contents and its purpose (e.g., baseline
4 information supporting preparation of the impact assessment and development of conservation
5 measures).

6 **3.2 Physical Environment**

7
8 This section describes the general physical environmental conditions of the Planning Area.

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10 **3.3 Land Cover Type Mapping**

11 This section defines the land cover types that are present in the Planning Area and describes how
12 they were delineated.
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15 **3.4 Natural Communities**

16 This section describes the ecological attributes and functions of the covered natural communities.
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19 **3.5 Proposed Covered Species**

20 This section and Appendix A, Species Accounts, describe the covered species selection process
21 and the status of the proposed covered species, respectively.
22
23

24 **3.6 List of Species of Local Concern**

25 This section defines and lists local species of concern, the Stakeholder Committee species
26 selection process, and role of the species in Plan development.
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29 **3.7 Migratory Deer Herds in the Planning Area**

30 This section describes migratory deer herds using the Planning Area and the function and
31 importance of Planning Area habitats for supporting those deer herds.
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33 **Chapter 4. Impact Assessment and Estimated Level**
34 **of Take**

35 **4.1 Introduction**

36 This section describes the Chapter contents and the purpose of the Chapter in Plan development.
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38 **4.2 Impact Assessment Approach**

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2 The subsections of this section describes the approach used to conduct the impact assessment,
3 including impact mechanisms, assessment tools and methods, and key assumptions.

4 **4.3 Impacts on Covered Natural Communities**

5 Subsections of this section describes impacts, both beneficial and adverse, of the covered
6 activities and conservation measures on each of the covered natural communities (i.e., the extent
7 of each community that would removed and affects on ecosystem functions), including affects on
8 associated native species. The overall effects of implementing the covered activities and
9 conservation measures over the term of the HCP/NCCP on each of the natural communities will
10 also be described.

11 **4.4 Impacts on Covered Species**

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13 Subsections of this section describes the impacts, both beneficial and adverse, of the covered
14 activities and conservation measures on each of the covered species, including estimated levels of
15 species take, effects on designated critical habitat, and essential fish habitat. The overall effects
16 of implementing the covered activities and conservation measures over the term of the
17 HCP/NCCP on each of the covered species will also be described.
18

19 **4.5 Cumulative Impacts**

20 This section will describe how cumulative impacts of covered activities and the Butte Regional
21 HCP/NCCP conservation measures on covered species will be addressed. Cumulative effects are
22 defined under ESA regulations as those effects of future state or private activities, not involving
23 Federal activities, that are reasonably certain to occur within the action area of the Federal action
24 subject to consultation (50 C.F.R. §402.02). This definition differs from the broader definition
25 used under NEPA and other environmental laws. Cumulative impact regulations apply only to
26 the section 7 analyses that will be conducted by USFWS and NMFS on the Butte Regional
27 HCP/NCCP. The HCP/NCCP could include this analysis to support the USFWS and NMFS
28 section 7 process. In this section, foreseeable non-Federal projects expected to occur in the
29 Planning Area would be identified and their probable impacts on covered species assessed.

30 **4.6 Indirect Effects Outside of the Planning Area**

31 ESA regulations define “indirect effects” as effects that are caused by a proposed action and are
32 later in time, but still are reasonably certain to occur. The HCP/NCCP could include this analysis
33 to support the USFWS and NMFS section 7 process. This section will address indirect effects, if
34 any, on listed species outside of the Planning Area that are the reasonably certain to be caused by
35 the covered activities and conservation measures.

36 **Chapter 5. Conservation Strategy**

37 **5.1 Introduction**

1 This section introduces and provides an overview of the Chapter contents.

2 **5.2 Biological Goals and Objectives**

3

4 This section describes the biological goals and objectives related to the covered natural
5 communities and covered species, including the process used to develop the biological goals and
6 objectives and their role in Plan development. The organization of goals and objectives at
7 landscape-, natural community-, and species-level ecological scales will also be described.

8 **5.3 Approach to Conservation**

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10 This section will describe the general approach of the strategy for conserving covered species and
11 natural communities (e.g., habitat based approach for preserving, enhancing, and managing
12 species habitats).

13 **5.4 Conservation Measures**

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15 This section would describe the conservation measures that would be implemented to achieve
16 each of the biological goals and objectives.

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18 **5.5 Avoidance and Minimization Measures**

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20 This section will describe measures that will be undertaken during implementation of covered
21 activities and the Plan to avoid and minimize effects on covered species to the maximum extent
22 practicable, consistent with the requirements of section 10 of the ESA and Natural Community
23 Conservation Planning Act.

24

25 **5.6 Monitoring and Research Plan**

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27 This section will describe the Plan commitments for implementing a monitoring program to
28 provide the information necessary to adaptively manage Plan implementation and assess progress
29 towards achieving biological goals and objectives. Monitoring elements include pre-construction
30 monitoring; construction monitoring; effectiveness monitoring to assess the effectiveness of
31 conservation measures in achieving the desired species response; and system monitoring to assess
32 regional changes in the status of covered species over time and progress towards achieving
33 biological goals and objectives. This section also describes research that may be undertaken by
34 the Implementing Entity and how research conducted by the Implementing Entity and others may
35 inform future implementation. Results of research and effectiveness and system monitoring
36 provide the information necessary to adjust Plan implementation through the adaptive
37 management decision making process to improve the Plan's effectiveness in achieving the
38 biological goals and objectives.

39 **5.7 Adaptive Management Plan**

1 This section describe the components of the adaptive management program, its purpose and
2 scope, adaptive management decision making processes for adjusting Plan implementation based
3 on new information. This section also describes changed circumstances, the process for declaring
4 the existence of changed circumstances, and remedial measures that will be implemented to
5 address them should they occur (e.g., the loss of preserved habitat to wild fire could be a changed
6 circumstance and the Implementing Entity’s response commitment to address effects of fire on
7 the preserved habitat would constitute a remedial measure). This section would also describe
8 changed circumstances and the remedial measures that would be implemented to address them
9 should they occur. Changed circumstances are defined as “changes in circumstances affecting a
10 species or geographic area covered by a conservation plan that can reasonably be anticipated by
11 plan developers and the USFWS and that can be planned for...” (50 C.F.R. §17.3).
12

13 **Chapter 6. Plan Implementation**

14 **6.1 Implementation Schedule**

15
16 This section presents the schedule for implementing all elements of the Butte Regional
17 HCP/NCCP. This section provides the basis for identifying funding requirements over the term
18 of the HCP/NCCP.

19 **6.2 Compliance Monitoring and Reporting**

20
21 This section describes monitoring that will be undertaken in compliance with permit conditions
22 (e.g., construction monitoring to ensure implementation), reporting procedures, and monitoring
23 report contents.

24 **6.3 Regulatory Assurances and Unforeseen** 25 **Circumstances**

26
27 This section will describe the regulatory assurances requested by the Permit Applicants from the
28 USFWS, NMFS, and DFG. This section will describe the approach for addressing unforeseen
29 circumstances. Unforeseen circumstances are defined as “circumstances affecting a species or
30 geographic area covered by a conservation plan that could not reasonably be anticipated by plan
31 developers and the Services at the time of the conservation plan’s negotiation and development,
32 and that result in a substantial and adverse change in the status of the covered species.” (50
33 C.F.R. §17.3)

34 **6.4 Permit Duration, Amendment, Renewal, and** 35 **Enforcement**

36 This section will identify and describe the rationale for the requested duration of ESA and CESA
37 permits and summarize processes described in the draft Implementing Agreement for amending
38 the plan and for renewing and enforcing permits.
39

1 **Chapter 7. Implementation Structure**

2
3 This Chapter describes the Butte Regional HCP/NCCP implementing entity, structure, and
4 decision making process.
5

6 **Chapter 8. Implementation Costs and Funding**
7 **Sources**

8 **8.1 Cost to Implement the Butte Regional HCP/NCCP**
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10 This section presents cost estimates for each of the Butte Regional HCP/NCCP implementation
11 cost categories (e.g., program administration, land acquisition, habitat restoration, remedial
12 measures). The temporal distribution of costs over the term of the Butte Regional HCP/NCCP
13 will be estimated.

14 **8.2 Funding Sources and Assurances**
15

16 This section will identify Butte Regional HCP/NCCP funding sources and the assurances that
17 sufficient funding will be available for Butte Regional HCP/NCCP implementation.

18 **Chapter 9. Alternatives to Take Considered and**
19 **Rejected**
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21 This Chapter will describe the alternatives to take of federally listed species that were considered
22 and the reasons why they were not included in the proposed Plan.

23 **Chapter 10. Independent Science Advisory Process**
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25 This Chapter will describe Butte Regional HCP/NCCP coordination with the Butte Regional
26 HCP/NCCP Independent Science Advisors and other science bodies that may provide input
27 during Plan development. The purpose of this section is to demonstrate compliance with NCCPA
28 and guidance provided in the USFWS five-point policy.

29 **Chapter 11. List of Preparers**
30

31 This section will identify the preparers of the document. It would include a list of the Steering
32 Committee members, Stakeholder Committee members, the Butte Regional HCP/NCCP
33 consultant team, and others that contributed to development of the Butte Regional HCP/NCCP.

34 **11.1 Steering Committee**
35

1 This section would list the name, title, and organization of individuals affiliated with the
2 organizations represented on the Steering Committee or participating entities.
3

4 **11.2 Stakeholder Committee**

5
6 This section would list the name, title, and organization of individuals affiliated with the
7 organizations represented on the Stakeholder Committee, including DFG, USFWS, and NMFS
8 representatives.
9

10 **11.3. Technical Consultants**

11
12 This section would list the name, title, and organization of individuals affiliated with the
13 Technical Consultant Team.

14 **11.4. Other Contributors**

15
16 This section would list the name, title, and organization of individuals affiliated with other
17 contributors to the Butte Regional HCP/NCCP development.

18 **Chapter 12. References**

19 **12.1 Printed References**

20 **12.2 Personal Communications**

21 **Appendices**

22 Potential appendices include:

- 23 ■ Species Accounts
- 24 ■ List of Species Mentioned in the Butte Regional HCP/NCCP
- 25 ■ Methods for Delineating Natural Communities and Constituent Habitat Types
- 26 ■ Covered Natural Communities x Species Matrix
- 27 ■ Acronyms and Abbreviations used in the Butte Regional HCP/NCCP
- 28 ■ Glossary of Terms used in the Butte Regional HCP/NCCP

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Status of Butte Regional HCP/NCCP Chapters

Chapter	Current Chapter Version Presented to Stakeholder Committee	Supporting Handouts (HOs) Provided to Stakeholder Committee During Chapter Development
Ch. 1 - Introduction	To come.	To come.
Ch. 2 – Covered Activities	9/18/09: Revised Draft Covered Activities Ch. 2; http://www.buttehcp.com/Document/Chapter_2_-_Admin__Draft_Covered_Activities.html	<ul style="list-style-type: none"> • 9/2/09 <ul style="list-style-type: none"> - Covered Activities Ch. Additional Changes, HO #1 • 8/5/09 <ul style="list-style-type: none"> - Covered Activities Admin. Draft Ch. and Figures, HO #5, 5a
Ch. 3 – Ecological Baseline Conditions	6/27/07: Draft Ecological Baseline Conditions Ch. 3; http://www.buttehcp.com/Document/Admin_Draft_Ecological_Baseline_Report.html	<ul style="list-style-type: none"> • 3/14/07 <ul style="list-style-type: none"> - Draft Ecological Baseline Conditions Report review
Ch. 4 – Impact Assessment and Estimated Level of Take	12/2/09: Revised Draft Impact Assessment and Estimated Level of Take Ch. 4; HO #1a-1j	<ul style="list-style-type: none"> • 10/7/09 <ul style="list-style-type: none"> - Impact Assessment for Natural Communities, HO #2a, 2b - Impact Assessment for Activities Outside UPAs, HO #3 • 9/2/09 <ul style="list-style-type: none"> - Impact Assessment of Outside UPA Effects, Indirect Effects, Critical Habitat, HO #2a • 8/5/09 <ul style="list-style-type: none"> - Impact Assessment of Capital Improvement Project Example, HO #2a, 2b - Indirect Effects Analysis Example, HO #3a, 3b • 7/1/09 <ul style="list-style-type: none"> - Example Impact Assessments for Selected Covered Wildlife and Plant Species - Proposed Approach to Assessing Impacts of Covered Activities Implemented Outside UPAs - Extent of Permanent Impacts on Covered Species Habitats Based on Species Habitat Models within UPAs, Table 4-7 • 3/4/09 <ul style="list-style-type: none"> - Butte Regional HCP/NCCP Impact Assessment Outline, HO #1 - Impact Mechanisms Associated with Implementation of Covered Activities and Conservation Measures, Habitat Impact Assessment Tools used to Assess Impacts on Covered

Chapter	Current Chapter Version Presented to Stakeholder Committee	Supporting Handouts (HOs) Provided to Stakeholder Committee During Chapter Development
		<p>Species, Summary of Impacts on NCCP Communities and Covered Species and Estimated Level of Take Associated with Implementation of Covered Activities and Butte Regional HCP/NCCP Conservation Measures, HO #2</p> <ul style="list-style-type: none"> - Estimated Extent of Covered Natural Communities and Land Cover Types and Covered Species Habitats Removed and Degraded by Covered Activities and Butte Regional HCP/NCCP Conservation Measures in UPAs and CAZs, HO #3 • 1/7/09 <ul style="list-style-type: none"> - Estimated Extent of Covered Species Habitats Removed by Covered Activities and Butte Regional HCP/NCCP Conservation Measures, HO #3 • 12/12/07 <ul style="list-style-type: none"> - Impact Assessment Approach Draft Annotated Ch. • 11/7/07 <ul style="list-style-type: none"> - Impact Assessment Approach, HO #1, 2
Ch. 5 – Conservation Strategy	In Progress	<ul style="list-style-type: none"> • 2/3/10 <ul style="list-style-type: none"> - Admin. Avoidance and Minimization Measures for Selected Species, HO #1 - Admin. Draft Species Conservation Measures for Selected Species, HO #2a, 2b • 10/7/09 <ul style="list-style-type: none"> - Species Habitat Conservation Objectives, HO #4 • 7/1/09 <ul style="list-style-type: none"> - Acreage Calculations for Land Cover Types by CAZ, Table 1 - Butte Regional Conservation Plan Habitat Preservation Objectives for Covered Species - Extent of Existing Covered Species Habitats within CAZs - Habitat Conservation Objectives for Selected Species Expressed as a Percentage of Existing Covered Species Habitats by CAZ - Biological Objectives for Selected Covered Species • 6/3/09 <ul style="list-style-type: none"> - CAZ Update, HO #2

Chapter	Current Chapter Version Presented to Stakeholder Committee	Supporting Handouts (HOs) Provided to Stakeholder Committee During Chapter Development
		<ul style="list-style-type: none"> - UPA Update, HO #3 - CAZ Acreage Calculations, HO #4 • 1/7/09 <ul style="list-style-type: none"> - Second Draft Butte Regional HCP/NCCP Biological Goals and Objectives, HO #1 - Conservation Preserve Design Criteria for Covered and Planning Species, HO #2a, 2b • 12/3/08 <ul style="list-style-type: none"> - Conservation Measures for Basin CAZs and Giant Garter Snake - Spatial Requirements of Covered Species and Planning Species - Revised Biological Goals and Objectives - Comments on Draft Biological Goals and Objectives • 8/13/08 <ul style="list-style-type: none"> - Conservation Measures for Basin CAZs and Giant Garter Snake, HO #1 - Spatial Requirements of Covered Species and Planning Species, HO #2a-c - Revised Biological Goals and Objectives, HO #3 • 6/4/08 <ul style="list-style-type: none"> - Existing Protected Land Categories, HO #2, 2b - Conservation Strategy – Biological Goals and Objectives, HO#3, 3b - Spatial Requirements of Covered Species and Planning Species, HO #4a-c • 5/7/08 <ul style="list-style-type: none"> - Overview of Recommended Approach to Conservation Strategy, HO #1 - Phil Johnson’s Science Panel Report Comments, HO #2 • 3/5/08 <ul style="list-style-type: none"> - Approach to Addressing Red-legged Frog and California Tiger Salamander, HO #1
Ch. 6 – Plan Implementation	To come.	To come.

Chapter	Current Chapter Version Presented to Stakeholder Committee	Supporting Handouts (HOs) Provided to Stakeholder Committee During Chapter Development
Ch. 7 – Implementation Structure	To come.	To come.
Ch. 8 – Implementation Costs and Funding Sources	To come.	To come.
Ch. 9 – Alternatives to Take Considered and Rejected	To come.	To come.
Ch. 10 – Independent Science Advisory Process	To come.	To come.
Ch. 11 – List of Preparers	To come.	To come.
Ch. 12 - References	To come.	To come.
Appendix A – Species Accounts	5/25/07: Covered Species Accounts; http://www.buttehcp.com/Document/Admin_Draft_Ecological_Baseline_Report.html	<ul style="list-style-type: none"> • 5/7/08 <ul style="list-style-type: none"> - Local Species of Concern Accounts, HO #3 • 4/2/08 <ul style="list-style-type: none"> - Review of New Covered Species Accounts and New Species Habitat Models, HO #1 - Recommendations for Additional Species of Local Concern, HO #2 • 3/5/08 <ul style="list-style-type: none"> - Proposed Additional Species of Local Concern and Covered Species, HO #1 • 12/12/07 <ul style="list-style-type: none"> - Revised Species Habitat Models • 11/7/07 <ul style="list-style-type: none"> - Revised Species Habitat Models, HO A
Appendix B – Natural Community Species Lists	5/25/2007: Natural Community Species Lists; http://www.buttehcp.com/Document/Admin_Draft_Ecological_Baseline_Report.html	
Appendix ## - Acronyms and Abbreviations Used in the Butte Regional HCP/NCCP	In Progress	<ul style="list-style-type: none"> • 9/2/09 <ul style="list-style-type: none"> - Acronyms and Abbreviations Used in the Butte Regional HCP/NCCP, HO #2b • 8/5/09 <ul style="list-style-type: none"> - Updated Glossary and Acronyms, HO #4 • 5/2/07 <ul style="list-style-type: none"> - Draft Acronym List

Chapter	Current Chapter Version Presented to Stakeholder Committee	Supporting Handouts (HOs) Provided to Stakeholder Committee During Chapter Development
Appendix ## - Glossary of Terms Used in the Butte Regional HCP/NCCP	In Progress	<ul style="list-style-type: none">• 9/2/09<ul style="list-style-type: none">- Updated Glossary, HO #2b• 8/5/09<ul style="list-style-type: none">- Updated Glossary and Acronyms, HO #4
Other Appendices	To come.	To come.

DRAFT

Handout #3a

DRAFT

Conservation Measures for Selected Covered Species

This handout presents draft conservation measures for most of the covered wildlife and plant species. Additions and revisions to the draft presented at the February 3, 2010 Stakeholder Committee meeting are shown in track changes. It is anticipated that the conservation measures for the remaining covered species will be developed and presented at the April 2010 Revisions in response to comments received to this and the February 3, 2010 versions will be addressed in the compiled draft Chapter 5. The draft of conservation measures are presented at three ecological scales (i.e., landscape-, natural community-, and species-levels). To provide context, conservation measures are preceded by the draft biological goals and objectives for each ecological scale. Draft conservation measures for landscape- and natural community-level biological goals and objectives are incomplete—only those conservation measures that support achieving the biological objectives for the covered species addressed in this handout are presented. Consequently, additional landscape- and natural community-level conservation measures are expected to be added as conservation measures are developed for the remaining covered species.

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

Landscape-Level Goals, Objectives, and Conservation Measures

Goals and Objectives

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

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

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

Natural Community	Extent to Preserve (acres)	Minimum Patch Size (acres)
Oak woodland	To come	300 ¹

Handout #3a

Natural Community	Extent to Preserve (acres)	Minimum Patch Size (acres)
Oak Savanna	To come	300 ²
Grassland	To come	400 ³
Swale complex and vernal pools	To come	400 ⁴
Riparian forest and scrub	To come	25
Riparian scrub	To come	10
Agricultural land (irrigated crop and pasture)	To come	160
Agricultural land (rice)	To come	160
Emergent wetlands	To come	No minimum.
Aquatic	To come	

¹Comprised of oak woodland or combined oak woodland and oak savanna patches.
²Comprised of oak savanna or combined oak savanna and oak woodland patches.
³Comprised of grassland or combined grassland and swale complex and vernal pools.
⁴Comprised of swale complex and vernal pools or combined swale complex and vernal pools and grassland.

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

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

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

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

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

Handout #3a

1 **Objective LAND2.3:** In the Planning Area south of the City of Oroville,
2 preserve a contiguous habitat corridor at least █ feet wide along the east-west
3 elevation gradient between the foothills at the eastern boundary of the Planning
4 Area and the Feather River (across the [Southern-Sierra Foothills](#) CAZ and eastern
5 part of the Southern Orchard CAZ).
6

7 **Objective LAND2.4:** Preserve a contiguous habitat corridor suiTable 5.X [to
8 come] for Giant Garter Snake movement at least █ feet wide along the north-
9 south gradient between the Llano Seco Unit of the Upper Butte Basin Wildlife
10 Area (in the Sacramento River CAZ), across the [Northern-RiceBasin](#) CAZ, to the
11 Little Dry Creek Unit of the Upper Butte Basin Wildlife Area, and to Gray Lodge
12 Wildlife Area (~~in the Southern Rice CAZ~~).
13

14 **Goal LAND3:** Maintain and enhance connectivity among preserves to provide for the
15 movement of native organisms among habitat areas and to facilitate genetic exchange
16 among populations.
17

18 **Objective LAND3.1:** Preserve corridors of habitat that provide linkages among
19 preserved habitat areas within and adjacent to the Planning Area.
20

21 **Objective LAND3.2:** Improve habitat corridors that allow covered species and
22 other native species to move into preserved habitats from adjacent lands and
23 among habitat areas within preserved lands.
24

25 **Objective LAND3.3:** Maintain or improve upstream and downstream passage
26 for covered and other native fish in Pine Creek, Rock Creek, Mud Creek, Big
27 Chico Creek, Lindo channel, Little Chico Creek, Butte Creek, Little Dry Creek,
28 and Feather River.
29

30 **Goal LAND4:** Maintain and rehabilitate ecosystem processes that support covered
31 species and their habitats.
32

33 **Objective LAND4.1:** Preserve watersheds and subwatersheds to the greatest
34 extent possible to protect the quantity and quality of runoff to streams and
35 wetlands.
36

37 **Objective LAND4.2:** Support implementation of water quality improvement
38 programs that serve to reduce the loads of toxic contaminants into waters that
39 support covered plants, amphibians, and fish and foodweb processes.
40

41 **Objective LAND4.3:** Restore floodplain processes along rivers and streams.
42

43 **Conservation Measures**

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1
2 **LAND CM1: Conduct pre-land acquisition surveys.** The Implementing Entity will
3 develop and implement protocols for assessing physical and biological resources and
4 infrastructure present on lands being considered for acquisition to determine the degree to
5 which the lands would likely contribute to achieving natural community- and species-
6 level biological goals and objectives. Pre-land acquisition surveys would be conducted
7 by qualified biologists under agreements with willing landowners. Surveys would assess
8 the physical and biological attributes of the lands, including:

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

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

17
18 **LAND CM2: ~~Purchase~~ Acquire in-fee or enter into conservation easements for the**
19 **preservation of oak woodland and savanna, grassland, wetland, riparian, and**
20 **aquatic natural communities.** The Implementing Entity will preserve the extent of
21 existing oak woodland and savanna, grassland, wetland, and aquatic natural communities
22 identified in Table 5.X [to come] 5.1 through ~~acquisition of lands purchase~~ in-fee title or
23 through in-perpetuity conservation easements with willing landowners. In-perpetuity
24 conservation easements must include provisions that:

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

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

- 37 ▪ protocols for periodically surveying for and assessing the abundance of non-native
38 predators and competitors on preserve lands;

Handout #3a

- 1 ▪ methods for assessing degree of biological effect they have on covered and other
- 2 native species within contiguous preserve parcels;
- 3 ▪ methods for assessing threats for establishment of non-native predators and
- 4 competitors from adjacent lands;
- 5 ▪ a decision-making process for determining the need for implementing management
- 6 actions to control non-native predators and competitors;
- 7 ▪ a description of potential non-native predator and competitor control methods; and
- 8 ▪ a process for developing and implementing monitoring necessary to assess the
- 9 effectiveness of implemented control methods.

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

12 | **LAND CM4: Develop and implement a non-native plant species [prevention and](#)**
13 **control program for the preserve system.** The Implementing Entity will develop and
14 implement a preserve-wide plan for control of invasive non-native plant species on
15 preserved lands. The program will consider the potential negative as well as the positive
16 effects on covered species. Invasive non-native plant species to be considered should
17 include but are not limited to [waxy mannagrass, Italian ryegrass, barbed goatgrass,](#)
18 [medusahead grass, yellow starthistle, Himalayan blackberry, giant reed, and parrot](#)
19 [feather.](#)
20 [barbed goatgrass, medusahead grass, and yellow starthistle.](#)

21 Elements of the plan will include:

- 22 ▪ protocols for periodically surveying for and assessing the occurrence and
- 23 abundance of invasive non-native plants on preserve lands;
- 24 ▪ methods for assessing degree of biological effect they have on covered and other
- 25 native species within contiguous preserve parcels;
- 26 ▪ methods for assessing threats for establishment of invasive non-native plants from
- 27 adjacent lands;
- 28 ▪ a decision-making process for determining the need for implementing management
- 29 actions to [prevent the introduction to the preserve and](#) control [of](#) invasive non-
- 30 native plants;
- 31 ▪ a description of potential invasive non-native plant control methods; and
- 32 ▪ a process for developing and implementing monitoring necessary to assess the
- 33 effectiveness of implemented control methods.

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

36 **LAND CM5: Conduct post-acquisition ecological surveys of preserved habitats to**
37 **identify habitat enhancement and management requirements.** Following acquisition
38 of preserve parcels, conduct surveys to assess the level of ecological condition of

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1 preserved species habitats and supporting ecosystem processes. If appropriate based on
2 results of the assessment, identify actions to be implemented to enhance habitat functions
3 for the target covered species and any subsequent ongoing management actions that
4 necessary to maintain habitat functions over time. Identified habitat and enhancement
5 actions will be incorporated into preserve-specific management plans (see LAND CM6).

6 **LAND CM6: Develop and implement preserve-specific management plans.** The
7 Implementing Entity will develop preserve-specific management plans for preserved
8 parcels or multiple parcels that share similar characteristics and objectives. At a
9 minimum, management plans will describe [and map as appropriate](#):

- 10 ▪ the biological goals and objectives to be achieved with the preservation and
11 management of the parcels;
- 12 ▪ infrastructure, [hazards, and easements](#);
- 13 ▪ existing land uses and management practices;
- 14 ▪ terms and conditions conservation easements when applicable;
- 15 ▪ management actions and schedules;
- 16 ▪ monitoring requirements and schedules; and
- 17 ▪ any other information relevant to management of the preserved parcels.

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

21 ***Natural Community-level Goals, Objectives, and Conservation*** 22 ***Measures***

23 **Oak Woodland and Savanna Natural Community**

24 Goals and Objectives

25
26 **Goal OWSA1:** Maintain and enhance functional oak woodland and savanna community
27 to benefit covered species and biodiversity.

28
29 **Objective OWSA1.1:** Preserve acres of existing unprotected blue oak
30 savanna of minimum patch size of 300 acres in combination with other oak
31 habitats that are distributed within the Planning Area as indicated in Table 5.X [to
32 come] (includes acres of protected blue oak savanna that support seeps protected
33 under Objective WETL1.2).

34
35 **Objective OWSA1.2:** Preserve acres of existing unprotected blue oak,
36 interior live oak, and mixed oak woodlands of minimum patch size of 300 acres
37 distributed within the Planning Area as indicated in Table 5.X [to come] (includes

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1 acres of protected oak woodlands that support seeps protected under Objective
2 WETL1.2).

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

6 Conservation Measures

7
8
9 A total of 59,908 acres of blue oak savanna and woodland, interior live oak woodland,
10 and mixed oak woodland are present in the Planning Area, representing 10.5 percent of
11 all natural communities present in the Planning Area.

12
13 The strategy for preservation of oak woodland and savanna is specifically directed
14 towards meeting the conservation needs of the bald eagle, white-tailed kite, Swainson's
15 hawk, northwestern pond turtle, western spadefoot toad, and foothill yellow-legged frog.
16 Preservation of this natural community will also serve to conserve other native species
17 whose habitats are supported by the oak woodland and savannah community.

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

27
28 **OWSA CM2: Manage livestock grazing in preserved oak woodland and savanna**
29 **habitats.** Where the lands brought into the preservation program are to be grazed either
30 to continue an existing land use, to initiate a new land use, for habitat enhancement
31 actions for covered species, or to control exotic species such as medusahead grass both
32 the negative and positive effects of grazing on each site will be assessed prior to
33 implementing the grazing land use. Proposed changes in existing grazing levels will also
34 be evaluated for effects on covered species and the community. Base conditions will be
35 established as either no grazing if that has been the current land use on the site for more
36 than 5 years or based on existing grazing practices present on the site. Changes to the
37 base grazing condition will be based on site specific conditions and on - the possible
38 negative and positive effects on covered the community and associated covered and other
39 native species communities, and on existing practices on sites that are equivalent in these
40 characteristics. Potential changes to existing practices that meet the requirements will be
41 implemented as planned studies on a representative portion of the site that represents the
42 minimum manageable pasture size. Factors to be assess will be the effects of grazing
43 (grazing effects include direct herbivory as well as trampling and other effects) on oak

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1 [seedling recruitment and sapling growth and survival, the effects of grazing on shrub](#)
2 [recruitment, density, species composition, and survival, and the effects of grazing on](#)
3 [springs and seeps and their vegetation. Water quality and stream geomorphology will be](#)
4 [preserved using best management practices such as those developed by UC Cooperative](#)
5 [Range Advisors.](#)
6
7

8 **OWSA CM3: Enhance the habitat functions for covered and other native species on**
9 **up to █ acres of preserved oak woodland and savanna.** Based on results of post-
10 acquisition ecological and base conditions surveys (see LAND CM5 and OWSA CM1),
11 the Implementing Entity will identify patches of preserved oak woodland and savanna
12 that support habitats for which the function for covered and other native species can be
13 substantially enhanced. The Implementing Entity will identify enhancement actions to be
14 undertaken and monitor the ecological results of the actions. Based on analysis of
15 monitoring results, the Implementing Entity may adjust enhancement actions to improve
16 their effectiveness through the adaptive management decision making process (see
17 Section 5.X).
18

19 **OWSA CM4: Manage Preserved Oak Woodland and Savanna Habitats.** Oak
20 woodland and savanna habitats will be managed to maintain and enhance functions for
21 Swainson's hawk, white-tailed kite, and bald eagle. Depending on site-specific
22 conditions, appropriate management actions may include:

- 23 ▪ retention of snags and down wood;
 - 24 ▪ ~~discontinuance prohibiting of~~ tree harvest for firewood and other uses [unless tree](#)
25 [harvest is identified in the the preserve management plan as a method for achieving](#)
26 [habitat enhancement objectives;](#)
 - 27 ▪ managing grazing to enhance tree survival and recruitment; and
 - 28 ▪ protecting seedlings from herbivory.
- 29

30 **Grassland Natural Community, including Vernal Pool and Swale** 31 **Complexes**

32 Goals and Objectives

33
34 **Goal GRLA1:** Maintain and enhance functional grassland communities, including
35 grassland with swale complexes, to benefit covered species and biodiversity.

36
37 **Objective GRLA1.1:** Preserve █ acres of unprotected grassland (including
38 grassland with swale complexes and vernal pools) comprised of a minimum patch
39 size of 400 acres located within the same watershed distributed within the
40 Planning Area as indicated in Table 5.X [to come].

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1
2 **Objective GRLA1.2:** Preserve at least [] acres of existing unprotected grassland
3 swale complexes that are within vernal pool species recovery core areas inclusive
4 of those that may also be protected under Objective GRLA1.1 distributed within
5 the Planning Area as indicated in Table 5.X [to come].
6

7 **Objective GRLA1.3:** Preserve [] acres of existing unprotected grassland with
8 swale complexes outside of vernal pool species recovery core areas distributed
9 within the Planning Area inclusive of those that may also be protected under
10 Objective GRLA1.1 distributed within the Planning Area as indicated in Table
11 5.X [to come].
12

13 **Objective GRLA1.4:** Enhance the habitat functions of [] acres of degraded (i.e.,
14 disked, tire-rutted, or otherwise disturbed) vernal pools and swales and
15 contributing watershed grassland within vernal pool species recovery core areas
16 distributed within the Planning Area as indicated in Table 5.X [to come] that are
17 protected under Objective GRLA1.2 by at least [] percent.
18

19 **Objective GRLA1.5:** Enhance the habitat functions of [] acres of degraded (i.e.,
20 disked, tire-rutted, or otherwise disturbed) vernal pools and swales and
21 contributing watershed grassland outside of vernal pool species recovery core
22 areas distributed within the Planning Area as indicated in Table 5.X [to come] that
23 are protected under Objective GRLA1.3 by at least [] percent.
24

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

- 28 ▪ Riverbank Formation, [] acres;
- 29 ▪ Red Bluff Formation, [] acres;
- 30 ▪ Laguna Formation, [] acres;
- 31 ▪ Tuscan Formation Members A and B on Strath Terraces, [] acres;
- 32 ▪ Tuffs of Oroville, [] acres;
- 33 ▪ Lovejoy Basalt Formation, [] acres.

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

38 **Goal GRLA2:** Preserve, enhance, and restore functional vernal pools within grassland
39 communities to benefit covered species and biodiversity.
40

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

- 4 ▪ Riverbank Formation percent of pools over 400sq ft and percent of
5 all other pool sizes;
- 6 ▪ Red Bluff Formation percent of pools over 400sq ft and percent of
7 all other pool sizes;
- 8 ▪ Laguna Formation percent of pools over 400sq ft and percent of all
9 other pool sizes;
- 10 ▪ Tuscan Formation percent of pools over 400sq ft and percent of all
11 other pool sizes;
- 12 ▪ Tuffs of Oroville percent of pools over 400sq ft and percent of all
13 other pool sizes;
- 14 ▪ Lovejoy Basalt percent of pools over 400sq ft and percent of all
15 other pool sizes.

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

18
19 **Objective GRLA2.2:** Restore acres of functional vernal pools within vernal
20 pool species recovery core areas.

21
22 **Objective GRLA2.3:** Restore acres of functional vernal pools outside of
23 vernal pool species recovery core areas.

24
25 **Objective GRLA2.4:** Restore acres and protect acres of vernal pools that
26 function as habitat for covered species for every acre of vernal pool removed as a
27 result of implementing covered activities (i.e., compensatory ratio of X:1 and
28 preservation ratio of X:1) on the same geologic landform as the impact.

29 Conservation Measures

30 **GRLA CM1: Conduct surveys to establish base ecological conditions.** Within 2
31 years of acquisition, the Implementing Entity will conduct surveys of preserved
32 grasslands, vernal pool, and swale complexes to determine existing environmental
33 conditions, including [vegetation associations, covered species presence and abundance,](#)
34 [floristic composition, species identity and cover of invasive and ecosystem altering plant](#)
35 [species, pool surface area at estimated maximum ponding depth, general ponding](#)
36 [duration of pools \(short medium, long\), factors \(including grazing practices\) that may](#)
37 [alter pool function \(water quality, hydrology, etc\), vegetative structure, composition, and](#)
38 [cover](#) and habitat functions for covered and other native species. Results of analyses of
39 survey data will be used to guide [the](#) development and implementation of habitat
40 enhancement and management measures and [to](#) provide the basis for assessing the

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1 effectiveness of enhancement and management measures based on effectiveness
2 monitoring.

3
4 **GRALA CM2: Establish a livestock grazing program for preserved grasslands,**
5 **including vernal pool and swale complexes.** Where the lands brought into the
6 preservation program are to be grazed either to continue an existing land use, to initiate a
7 new land use, for habitat enhancement actions for covered species, or to control exotic
8 species such as medusahead grass [and Italian ryegrass](#), both the negative and positive
9 effects of grazing on each site will be assessed prior to implementing the [change in](#)
10 grazing land use. Proposed changes in existing grazing levels will also be evaluated for
11 effects on covered species and the community. Base conditions will be established as
12 either no grazing if that has been the current land use on the site for more than 5 years or
13 based on existing grazing practices present on the site. Changes to the base grazing
14 condition will be based on site specific conditions, the possible negative and positive
15 effects on covered communities, and on existing practices on sites that are equivalent in
16 these characteristics. Potential changes to existing practices that meet the requirements
17 will be implemented as planned studies on a representative portion of the site that
18 represents the minimum manageable pasture size.

19
20 [Factors to be assess will include the effects of grazing \(grazing effects include direct](#)
21 [herbivory as well as trampling, fecal and urine deposition, and other effects\) on covered](#)
22 [species growth, survival and fecundity, the effects of grazing on water and soil fertility,](#)
23 [and the effects of grazing on swale and vernal pool geomorphology. Grazing](#)
24 [management will be conducted using best management practices such as those developed](#)
25 [by UC Cooperative Range Advisors and tailored so that the needs of covered species](#)
26 [either present on or utilizing the site are fully considered.](#)

27
28 **GRLA CM3: Enhance the habitat functions for covered and other native species on**
29 **up to [] acres of preserved vernal pool and swale complex and contiguous**
30 **grassland.** Based on results of post-acquisition ecological and base conditions surveys
31 (see LAND CM5 and GRLA CM1), the Implementing Entity will identify preserved
32 vernal pool and swale complexes that support habitats for which the function for covered
33 and other native species can be substantially enhanced. The Implementing Entity will
34 identify enhancement actions to be undertaken and [will monitor and analyze](#) the
35 ecological results of the actions. Based on analysis of monitoring results, the
36 Implementing Entity may adjust enhancement actions to improve their effectiveness
37 through the adaptive management decision making process (see Section 5.X).

38
39 **GRLA CM4: Enhance the habitat functions for covered and other native species on**
40 **up to [] acres of preserved grassland without vernal pools.** Based on results of post-
41 acquisition ecological and base conditions surveys (see LAND CM5 and GRLA CM1),
42 the Implementing Entity will identify preserved vernal pool and swale complexes that
43 support habitats for which the function for covered and other native species can be
44 substantially enhanced. The Implementing Entity will identify enhancement actions to be

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1 undertaken and monitor the ecological results of the actions. Based on analysis of
2 monitoring results, the Implementing Entity may adjust enhancement actions to improve
3 their effectiveness through the adaptive management decision making process (see
4 Section 5.X).

6 **GRLA CM5: Manage Grasslands to Increase Burrow and Rodent Prey**

7 **Availability.** Grassland preserves will be managed to increase the abundance of fossorial
8 mammals (e.g., ground squirrels), [when consistent with achieving other biological](#)
9 [objectives](#), to increase the abundance of prey species of covered raptor species and other
10 native predators and to increase burrow availability for western burrowing owl and
11 western spadefoot toad. Surveys conducted under LAND CM5 will identify the potential
12 for burrow management/enhancement actions. Depending on site-specific conditions,
13 appropriate management actions may include:

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

18
19 [GRLA CM6: Restore and Protect Vernal Pools. Restore \[\] acres and protect \[\] acres](#)
20 [of vernal pools that function as habitat for covered species. Restoration actions that](#)
21 [include excavation or contouring will occur only at sites where vernal pools were](#)
22 [historically present and their characteristic visual signatures are still present to guide](#)
23 [restoration efforts. Pool density, connectivity, and bathymetry of the restored pools will](#)
24 [be based on what was present on the site before the disturbance. Additionally, restoration](#)
25 [activities will only be conducted where the appropriate hydrology is present or can be](#)
26 [restored with reasonable certainty. Propagule sources will be from the closest populations](#)
27 [that can contribute germplasm without suffering severe impacts.](#)

29 **Riparian Natural Community**

30 **Goals and Objectives**

31
32 **Goal RIPA1:** Maintain and enhance functional riparian communities to benefit covered
33 species and biodiversity.

34
35 **Objective RIPA1.1:** Preserve [] acres of existing unprotected cottonwood-
36 willow riparian forest in minimum patch sizes of 25 acres (minimum patch size
37 may be achieved in combination with valley oak riparian forest) along rivers and
38 streams distributed within the Planning Area as indicated in Table 5.X [to come].
39

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

4
5 **Objective RIPA1.3:** Preserve █ acres of existing unprotected valley oak
6 riparian forest in minimum patch sizes of 25 acres (minimum patch size may be
7 achieved in combination with cottonwood-willow riparian forest) within the
8 Planning Area as indicated in Table 5.X [to come].

9
10 **Objective RIPA1.4:** Enhance █ acres of degraded cottonwood-willow riparian
11 forest along rivers and streams that are protected under Objective RIPA1.1
12 distributed within the Planning Area as indicated in Table 5.X [to come].

13
14 **Objective RIPA1.5:** Restore █ acres of cottonwood-willow riparian forest
15 along rivers and streams distributed within the Planning Area as indicated in
16 Table 5.X [to come].

17
18 **Objective RIPA1.6:** For every acre of cottonwood-willow riparian forest
19 removed as a result of implementing covered activities, restore █ acres of
20 cottonwood-willow riparian forest on landscapes that can provide for the natural
21 regeneration of riparian vegetation distributed within the Planning Area as
22 indicated in Table 5.X [to come] (i.e., a X:1 compensation ratio).

23
24 **Objective RIPA1.7:** For every acre of valley oak riparian forest removed as a
25 result of implementing covered activities, restore █ acres of valley oak riparian
26 forest on landscapes that can provide for the natural regeneration of riparian
27 vegetation distributed within the Planning Area as indicated in Table 5.X [to
28 come] (i.e., a X:1 compensation ratio).

29
30 **Objective RIPA1.8:** For every acre of willow scrub removed as a result of
31 implementing covered activities, restore █ acres of willow scrub on landscapes
32 that can provide for the natural regeneration of riparian vegetation distributed
33 within the Planning Area as indicated in Table 5.X [to come] (i.e., a X:1
34 compensation ratio).

35 Conservation Measures

36
37 A total of 19,376 acres of riparian land cover types are present in the Planning Area,
38 representing 3.4 percent of all natural communities present in the Planning Area.

39
40 The strategy for preservation of riparian communities is specifically directed towards
41 meeting the conservation needs of the yellow-breasted chat, bald eagle, white-tailed kite,
42 Swainson's hawk, western yellow-billed cuckoo, northwestern pond turtle, and foothill

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1 yellow-legged frog. Preservation of this natural community will also serve to conserve
2 other native species whose habitats are supported by the riparian community.

3 **RIPA CM1: Conduct surveys in preserved riparian forest and scrub habitats to**
4 **establish baseline ecological conditions.** Within 2 years of acquisition, The
5 Implementing Entity will conduct surveys of preserved riparian forest and scrub to
6 determine existing environmental conditions, including structure, composition, and cover
7 of understory, midstory, and overstory vegetation and habitat functions for covered and
8 other native species. Results of analyses of survey data will be used to guide
9 development and implementation of habitat enhancement and management measures and
10 provide the basis for assessing the effectiveness of enhancement and management
11 measures based on effectiveness monitoring.

12
13 **RIPA CM2: Enhance the habitat functions for covered and other native species on**
14 **up to █ acres of preserved riparian habitat.** Based on results of post-acquisition
15 ecological and base conditions surveys (see LAND CM5 and RIPA CM1), the
16 Implementing Entity will identify patches of preserved riparian habitat that support
17 habitats for which the function for covered and other native species can be substantially
18 enhanced. The Implementing Entity will identify enhancement actions to be undertaken
19 and monitor the ecological results of the actions. Based on analysis of monitoring results,
20 the Implementing Entity may adjust enhancement actions to improve their effectiveness
21 through the adaptive management decision making process (see Section 5.X).

22
23 **RIPA CM3: Restore riparian habitat.** Based on results of post-acquisition ecological
24 surveys (see LAND CM5), the Implementing Entity will identify potential locations
25 within preserve lands that support site conditions suitable for restoration of riparian forest
26 and scrub habitats and that support hydrologic conditions that will sustain restored
27 riparian forest and scrub habitats over time. Restored riparian habitats will be designed
28 to develop as habitat for riparian-dependent covered species over time. Effectiveness
29 monitoring will be conducted as described in Section 5.X, *Monitoring and Research*
30 *Plan*, to collect the information necessary to evaluate the effectiveness of restoration
31 methods and species use of restored habitats. Based on analyses of monitoring results,
32 the Implementing Entity may adjust riparian restoration methods through the adaptive
33 management decision making process.

34
35 **RIPA CM4: Manage Preserved Riparian Habitats.** Riparian habitats will be
36 managed to maintain and enhance habitat functions for Swainson's hawk, white-tailed
37 kite, yellow-breasted chat, yellow-billed cuckoo, foothill yellow-legged frog, western
38 pond turtle, and valley elderberry longhorn beetle. Depending on site-specific conditions,
39 appropriate management practices may include:

- 40 ▪ excluding livestock from riparian habitats;
- 41 ▪ controlling non-native predators and invasive plant species;
- 42 ▪ planting native species to improve habitat structure and species composition;

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- 1 ▪ installing woody debris in stream channels to create pools to increase the diversity
- 2 of micro-habitats; and
- 3 ▪ ~~enhancing~~ altering stream channel ~~profiles~~ geomorphology to improve hydrologic
- 4 conditions that support the regeneration of riparian vegetation.

5 **Wetland Natural Community**

6 **Goals and Objectives**

7
8 **Goal WETL1:** Maintain and enhance functional wetland communities to benefit
9 covered species and biodiversity. [*Note: Goals and objectives for vernal pools and swale*
10 *complexes are provided in the goals and objectives for grassland communities.*]

11
12 **Objective WETL1.1:** Preserve █ acres of existing unprotected emergent
13 wetlands distributed within the Planning Area as indicated in Table 5.X [to come].

14
15 **Objective WETL1.2:** Preserve seeps and emergent wetlands by protecting █
16 acres of unprotected grassland, oak savanna and oak woodland communities that
17 support seeps and small patches of emergent wetland.

18
19 **Objective WETL1.3:** Maintain █ acres of existing managed wetlands as
20 wetlands distributed within the Planning Area as indicated in Table 5.X [to come].

21
22 **Objective WETL1.4:** Enhance █ acres of emergent wetland distributed within
23 the Planning Area as indicated in Table 5.X [to come].

24
25 **Objective WETL1.6:** Restore █ acres of high quality emergent wetland for
26 every acre of emergent wetland removed as a result of implementing covered
27 activities.

28
29 **Objective WETL1.7:** Restore █ acres of high quality seasonal or perennial
30 wetland distributed for every acre of managed wetland removed as a result of
31 implementing covered activities (i.e., a X:1 compensation ratio).

32 **Conservation Measures**

33
34 A total of 31,996 acres of emergent wetland and managed wetland are present in the
35 Planning Area, representing 5.7 percent of all natural communities present in the
36 Planning Area.

37
38 The strategy for preservation of wetlands is aimed at meeting the conservation needs of
39 the western spadefoot toad, northwestern pond turtle, giant garter snake, bald eagle,
40 American peregrine falcon, greater sandhill crane, and tricolored blackbird.

41

Handout #3a

1 **WETL CM1: Enter into Conservation Easements with Water and Irrigation**
2 **Districts to Preserve and Enhance Wetland Habitats along Canals.** The

3 Implementing Entity would purchase in-perpetuity conservation easements from local
4 water and irrigation districts that own and operate water conveyance facilities to allow for
5 and maintain emergent wetland habitats along the periphery of permanent water
6 conveyance canals. The easement would specify the extent to which wetland vegetation
7 can persist along canals while not interrupting water conveyance requirements.
8

9 The network of canals and irrigation channels throughout the rice-growing region of the
10 Butte Basin comprises the primary breeding, cover, and dispersal habitat for giant garter
11 snakes in that area. Permanent water flows and emergent wetland vegetation along the
12 perimeter of these canals are essential in maintaining suitable habitat (e.g., cover,
13 basking, prey base, etc.) for giant garter snakes. These canals represent the primary
14 avenues for dispersal and the most important breeding and foraging habitats for giant
15 garter snakes within an agricultural landscape. Conservation easements that provide
16 protection and opportunities for wetland enhancement along large permanent water
17 conveyance canals (without affecting water conveyance capability) will be an important
18 tool in managing and maintaining this population.
19

20 **WETLCM2: Restore wetland habitats.** Wetland restoration actions are designed to
21 increase the habitat area for wetland-dependent covered species by either improving the
22 habitat functions of severely degraded wetlands or creating wetlands. Based on results of
23 post-acquisition ecological surveys (see LAND CM5), the Implementing Entity will
24 identify potential locations within preserve lands that support site conditions suitable for
25 restoration of wetland habitats and that support hydrologic conditions that will sustain
26 restored wetland habitats over time. Restored wetland habitats will be designed to
27 develop as habitat for wetland-dependent covered species over time. Effectiveness
28 monitoring will be conducted as described in Section 5.X, *Monitoring and Research*
29 *Plan*, to collect the information necessary to evaluate the effectiveness of restoration
30 methods and species use of restored habitats. Based on analyses of monitoring results,
31 the Implementing Entity may adjust riparian restoration methods through the adaptive
32 management decision making process.
33

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

- 38 ▪ controlling nonnative species,
- 39 ▪ establishing appropriate grazing regimes,
- 40 ▪ increasing extent of native vegetation,
- 41 ▪ fencing wetlands to exclude livestock and other activities,
- 42 ▪ controlling water sources supporting wetlands,

Handout #3a

- 1 ▪ increasing or decreasing ponding capacity,
- 2 ▪ erosion control, and
- 3 ▪ maintaining or enhancing adjacent upland habitats.

4 **WETL CM4: Manage Seasonal Wetlands to Provide Shallow-flooded Habitat**

5 **during Winter Months.** Selected preserves established within the greater sandhill crane
6 conservation area will be managed to provide shallow-flooded winter roosting habitat for
7 cranes. Management actions will include:

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

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

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

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

24
25 **WETL CM6: Create and Manage Ponds.** To provide habitat for and increase
26 populations of western pond turtle and western spadefoot toad, artificial ponds will be
27 created on selected preserved habitat areas within the range of these species. Ponds will
28 be managed specifically to promote the development of habitat for covered species with
29 management actions designed to enhance habitat value including:

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

34
35 **WETL CM7: Protect and Manage Wetland Seeps.** To provide habitat for and
36 increase populations of California black rail, occupied and potentially occupied wetland
37 seep habitat will be preserved and managed. Wetlands will be managed specifically to

Handout #3a

1 [promote the development of habitat for covered species with management actions](#)
2 [designed to enhance habitat value including:](#)

- 3 [▪ maintaining appropriate water depth,](#)
- 4 [▪ establishing emergent vegetation,](#)
- 5 [▪ fencing to exclude livestock, and](#)
- 6 [▪ control of non-native predators.](#)

8 **Aquatic Natural Community**

9 **Goals and Objectives**

10
11 **Goal AQUA1:** Maintain and enhance functional aquatic communities to benefit covered
12 species and biodiversity.

13
14 **Objective AQUA1.1:** Preserve acres of existing unprotected grassland and
15 oak savanna and woodland communities that support stock ponds suitable for
16 native amphibian breeding.

17
18 **Objective AQUA1.2:** Preserve linear miles of existing unprotected reaches of
19 Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little
20 Chico Creek, Butte Creek, Little Dry Creek, and Feather River.

21
22 **Objective AQUA1.3:** Restore ponds and associated emergent wetlands within
23 the Basin Landform (Southern Rice, Northern Rice, Sacramento River CAZs)
24 suitable for giant garter snake habitat on preserved lands.

25
26 **Objective AQUA1.4:** Reduce loads of contaminants in protected streams that
27 may be toxic to aquatic biota.

28
29 **Objective AQUA1.5:** Improve water temperature and overhead and instream
30 cover conditions along linear miles of protected streams.

31
32 **Objective AQUA1.6:** Remove or modify in-stream structures that pose a barrier
33 to the upstream and downstream movement of covered and other native fish
34 species to provide for the passage of fish.

35
36 **Objective AQUA1.7:** Remove linear feet of armored channel banks along
37 Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little
38 Chico Creek, Butte Creek, Little Dry Creek, and Feather River to restore
39 erosional and depositional processes and improve the supply of spawning gravels.
40

Handout #3a

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

3 Conservation Measures

4
5 A total of 2,506 miles of stream channels, 487 stock ponds, and 8,307 acres of open water
6 provide aquatic habitat for covered species. The strategy for preservation of aquatic
7 communities is aimed at meeting the conservation needs of the Chinook salmon, Central
8 Valley steelhead, Sacramento splittail, green sturgeon, river lamprey, foothill yellow-
9 legged frog, western spadefoot toad, northwestern pond turtle, giant garter snake, bald
10 eagle, and American peregrine falcon.

11
12 **AQUA CM1: Establish Agreements with Water and Irrigation Districts to**
13 **Maintain Appropriate Water Flows in Permanent Water Conveyance Canals.** The
14 Implementing Entity would work with water and irrigation districts that own, operate,
15 and maintain water conveyance facilities to ensure that appropriate flows are present to
16 support the requirements of covered species.

17
18 To maintain giant garter snake use, water flows in water conveyance canals must be
19 maintained at appropriate levels. Reducing flows can restrict movement and isolate
20 individuals and populations. Over time, this limits reproductive potential and reduces
21 dispersal capabilities. Maintaining suitable water flows during the active period of the
22 year will facilitate movement and with implementation of habitat protection and
23 enhancement measures will potentially expand the distribution and population of giant
24 garter snakes within the Basin CAZs.

25 **Agricultural Lands**

26 Goals and Objectives

27
28 **Goal AGLA1:** Maintain agricultural land cover types that support habitat for covered
29 species and other wildlife, including migratory waterfowl, shorebirds, other waterbirds,
30 and raptors.

31
32 **Objective AGLA1.1:** Annually maintain at least █ acres of land in rice
33 production distributed within the Planning Area as indicated in Table 5.X [to
34 come].

35
36 **Objective AGLA1.2:** Annually maintain at least █ acres of irrigated pasture
37 distributed within the Planning Area as indicated in Table 5.X [to come].

38
39 **Objective AGLA1.3:** Annually maintain at least █ acres of irrigated hayfields
40 and corn/grain crops distributed within the Planning Area as indicated in Table
41 5.X [to come].

Handout #3a

1
2 **Objective AGLA1.4:** Implement farming practices on conserved agricultural
3 lands to increase their value as habitat for covered species (e.g., temporary
4 fallowing; plant tree borders or other hedge rows along field borders and
5 roadsides, etc).

6 Conservation Measures

7
8 The Planning Area is dominated by agricultural land use practices with irrigated
9 agriculture accounting for 250,434 acres or 44% of the total Planning Area. Non-
10 irrigated rangeland is addressed under conservation measures for the grassland natural
11 community. Rice and orchards (mostly almonds and walnuts) dominate the irrigated
12 agricultural land use. Orchards and vineyards do not provide important habitat for any of
13 the covered species or for wildlife in general and are not a focus of the conservation
14 strategy. In contrast, rice lands provide habitat for an array of wildlife, including several
15 covered species. A key component of the conservation strategy is to provide incentives
16 to growers/landowners to maintain a substantial portion of the Butte Basin agricultural
17 lands in continued use for rice growing.

18
19 Preservation of the working landscape of rice in the Basin CAZs is a focus of the
20 conservation strategy particularly for conservation of giant garter snake, bald eagle,
21 American peregrine falcon, greater sandhill crane, and tricolored blackbird.

22
23 Preservation of the working landscape of non-rice/orchards/vineyards irrigated crops
24 (e.g., hay, row, grain crops) is a focus of the conservation strategy for Swainson's hawk,
25 greater sandhill crane, giant garter snake, white-tailed kite, and western burrowing owl.

26
27 **AGLA CMI: Establish a Rice Lands Preservation Program.** The Implementing
28 Entity will establish, fund, and operate a Rice Lands Preservation Program. The goal of
29 the Program will be to ensure that specified amounts of land are in rice production in any
30 given year that support habitat for giant garter snake, bald eagle, American peregrine
31 falcon, greater sandhill crane, and tricolored blackbird. Rice land would be preserved
32 within the following CAZs: Southern Rice, Northern Rice, Sacramento River, Northern
33 Orchards, Southern Orchards, Southern Sierra, Thermalito, and Southern Cascade.
34 Minimum requirements for rice land preservation in each of these CAZs are provided in
35 Table 5.X [to come] 5. Under the Program, the Implementing Entity will monitor
36 planned rice production each year. Should monitoring indicate that rice lands might fall
37 below the target for any given CAZ, the Implementing Entity would use funds to provide
38 economic incentives to meet land use targets. For example, the Implementing Entity may
39 enter into annual contracts with growers considering switching to another crop and pay
40 the difference in anticipated crop value if the grower keeps the field in rice production. If
41 sufficient conservation easements (in-perpetuity) and fee title protection of rice lands and
42 other lands suitable for giant garter snake within a given CAZ meet the target for that
43 CAZ, then this Program would no longer be necessary for the CAZ.

Handout #3a

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AGLA CM2: Enter into In-Perpetuity Conservation Easements for Rice Lands.

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

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

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

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

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

Handout #3a

1
2 **AGLA CM6: Enter into Conservation Easements to Protect Remnant Habitats on**
3 **Farmlands.** Farmlands support valuable remnant natural habitats for covered species,
4 including isolated valley oak trees, tree rows, hedgerows, ponds, and other habitats.
5 Conservation easements will protect important habitats and provide additional
6 conservation on non-preserve lands. The Implementing Entity would purchase in-
7 perpetuity conservation easements from local landowners that conserve habitat elements
8 necessary for covered species conservation but allow for continued operation of farms
9 and ranches.
10

11

12

13

14

15 ***Species-Level Goals, Objectives, and Conservation Measures***

16 **Tricolored Blackbird**

17 **Goals and Objectives**

18

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

22

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

25

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

29

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

34

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

Handout #3a

1
2 **Conservation Strategy and Relationship to Landscape- and Community-Level**
3 **Conservation Measures**
4

5 The strategy for tricolored blackbird incorporates preservation of agricultural and
6 grassland foraging habitats and preserving/restoring emergent wetland breeding habitats
7 within the species' range in the Planning Area.
8

9 Tricolored blackbirds occur throughout most of the low elevation portions of the
10 Planning Area, with the exception of areas dominated by orchards and woodlands.
11 Reported breeding occurrences are uncommon and widely distributed throughout this
12 area. However, the species forages widely year round in cultivated, pasture, and
13 grassland habitats.
14

15 Tricolored blackbird habitat occurs mainly in the Basin, Sacramento River, Cascades, and
16 Sierra CAZs, and to a lesser extent in the Northern Orchard and Southern Orchard CAZs
17 due to the predominance of unsuitable orchard-dominated agriculture. While the Basin
18 CAZ supports the largest extent of agricultural foraging habitat, the rice-dominated
19 agriculture provides less value during the spring and summer months when the rice fields
20 are flooded than do the seasonal wetland, pasture, and grassland habitats that are found
21 primarily in the Sacramento River, Cascades, and Sierra CAZs. This may also explain, in
22 part, why there are no reported occurrences of breeding colonies within the Basin CAZ.
23 However, the southern end of the Basin CAZ supports primarily wetland habitats, much
24 of which may be available as both breeding and foraging habitat for tricolored blackbirds.
25 Thus, the tricolored blackbird conservation strategy will focus on preserving and
26 managing suitable foraging habitats in the Basin, Sacramento River, Cascades, and Sierra
27 CAZs, and emphasizing breeding habitat protection and restoration in the Sacramento
28 River, Cascades, and Sierra CAZs.
29

30 The general conservation approach for tricolored blackbird involves implementing
31 landscape and natural community-level conservation measures that preserve agricultural
32 and grassland landscapes and wetland habitats that are essential for tricolored blackbird
33 conservation. The strategy involves maintaining suitable agricultural, grassland, and
34 seasonal wetland foraging habitats and nesting habitats through implementation of
35 applicable natural community-level conservation measures.
36

37 **Additional Conservation Measures**
38

39 **TRBL CM1:** Enhance emergent wetland habitats on preserve lands (WETL
40 CM3) to provide breeding habitat for tricolored blackbirds. Up to the minimum
41 levels indicated in Table 5.X [to come], for each 300-acres of contiguous preserve
42 that includes suitable tricolored blackbird foraging habitat, at least one patch
43 (minimum 0.5 acre) of emergent wetland will be restored or enhanced to provide
44 suitable tricolored blackbird nesting habitat. To reduce disturbance and/or
45 predation risk, created or enhanced wetlands that potentially support tricolored

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1 blackbird breeding colonies will be located at least 1 mile from urban areas and
2 known black-crowned night heron colonies.
3

4 Yellow-breasted Chat

5 Goals and Objectives

6 Goal YBCH1: Maintain or increase the extent of yellow-breasted chat habitat to
7 potentially increase the abundance and distribution of breeding yellow-breasted chats in
8 the planning area.

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

11
12 Objective YBCH1.1: Protect [] acres of unprotected yellow-breasted chat
13 habitat with minimum patch sizes of 10 acres from loss or degradation distributed
14 within the planning area as indicated in Table 5.X [to come].

15
16 Objective YBCH1.2: Restore [] acres of yellow-breasted chat nesting habitat in
17 minimum patch sizes of 10 acres within the planning area as indicated in Table
18 5.X [to come].

19
20 Objective YBCH1.3: Compensate for losses of occupied and potentially-
21 occupied yellow-breasted chat breeding habitat through restoration of 2 acres or
22 enhancement of 3 acres of nesting habitat near affected areas at approved
23 locations for each acre of affected occupied or potentially occupied nesting
24 habitat.

25 Conservation Strategy and Relationship to Landscape- and Community-Level 26 Conservation Measures

27
28 The strategy for yellow-breast chat conservation focuses on the preservation and
29 restoration of suitable riparian habitat. All known occupied yellow-breasted chat habitat
30 and all potentially occupied chat habitat occurs along foothill streams along the eastern
31 edge of the Planning Area, and in a few cases extends westward onto the valley floor in
32 the vicinity of Chico. Thus, conservation for this species will focus on the Cascade and
33 Sierra CAZs and to a lesser extent (due to the relatively small number of acres) in the
34 Northern Orchard CAZ. A higher level of conservation is proposed for known occupied
35 drainages in the Cascade CAZ.

36
37 The general conservation approach for yellow-breasted chat involves implementing
38 landscape and natural community-level conservation measures that preserve riparian
39 communities essential for chat conservation. Conservation will be directed toward
40

Handout #3a

1 [protecting habitat through acquisition and enhancement of preserves that include riparian](#)
2 [corridors and by establishing no-development and no-disturbance buffers adjacent to](#)
3 [occupied and potentially occupied riparian habitat. The strategy involves maintaining](#)
4 [suitable riparian habitat through implementation of applicable natural community-level](#)
5 [conservation measures.](#)

6 [Additional Conservation Measures](#)

7
8
9 [YBCH CM1: Establish a brown-headed cowbird monitoring and control program. The](#)
10 [brown-headed cowbird is a frequent brood parasite of yellow-breasted chats and can](#)
11 [affect local reproduction of chats. On preserves that include occupied riparian habitat,](#)
12 [surveys and monitoring conducted initially under RIPA CM1 and RIPA CM2 and](#)
13 [through subsequent monitoring of preserves, will identify and monitor brown-headed](#)
14 [cowbird populations, the extent of brood parasitism of yellow-breasted chats, and the](#)
15 [reproductive trend of nesting yellow-breasted chats. If it is determined that cowbirds are](#)
16 [substantially affecting nesting success of yellow-breasted chats potentially leading to](#)
17 [declining local populations, cowbird control measures will be implemented to reduce](#)
18 [local cowbird populations.](#)

19
20 [YBCH CM2: Restore and enhance riparian habitats on preserve lands \(RIPA CM2 and](#)
21 [CM3\) to provide breeding habitat for yellow-breasted chat. Up to the minimum levels](#)
22 [indicated in Table 5.X \[to come\] and patch sizes of at least 10 acres, include appropriate](#)
23 [species mix and manage habitat to maintain early successional stages or suitable mid-](#)
24 [story shrub layer to provide suitable breeding habitat elements \(nesting substrate, cover,](#)
25 [perching sites, etc.\).](#)

26 27 [Bank Swallow](#)

28 29 [Goals and Objectives](#)

30
31 [Goal BASW1: Maintain or increase the extent of bank swallow nesting substrates to](#)
32 [potentially increase the abundance and distribution of breeding bank swallows in the](#)
33 [planning area.](#)

34
35 [The following landscape-level and natural community-level biological objectives also](#)
36 [contribute towards achieving this goal: \[to come\].](#)

37
38 [Objective BASW1.1: Protect existing unprotected occupied bank swallow nesting](#)
39 [colonies from anthropogenic activities that could result in the loss of the colony or](#)
40 [degradation of the habitat.](#)

41
42 [Objective BASW1.2: Protect \[redacted\] linear miles of channel banks in patches with a](#)
43 [minimum of 17 continuous feet of vertical bank along the Feather River, Big Chico](#)

Handout #3a

1 Creek, and Butte Creek that support dynamic bank formation and erosion processes that
2 create bank swallow nesting habitat.

3
4 **Objective BASW1.3:** Compensate for loss of or disturbance (leading to abandonment)
5 to active bank swallow colonies by acquiring and permanently protecting other known
6 occupied colony sites within the planning area at a replacement ratio of 2:1, or suitable
7 riverine bank habitat in approved locations at a replacement ratio of 3:1 based on total
8 linear feet of the affected site.

9
10 **Conservation Strategy and Relationship to Landscape- and Community-Level**
11 **Conservation Measures**

12
13 The strategy for the bank swallow conservation focuses on the preservation of existing
14 colony sites and suitable channel bank habitat within the species' range in the Planning
15 Area.

16
17 Bank swallow nesting colonies occur only in vertical banks or bluffs of friable soils
18 suitable for burrowing. Suitable characteristics are usually maintained through bank
19 erosion, and some source of continual erosion is typically present where colonies occur.
20 Within the Planning Area, suitable habitat for bank swallows is defined as banks along
21 unleveed and unchanneled portions of the Sacramento and Feather Rivers and Big
22 Chico and Butte Creeks and set-back levees associated with broad basins. Known
23 occurrences are restricted to sites along the Sacramento and Feather Rivers. No
24 conservation is proposed for the Sacramento River CAZ because there will be no
25 jurisdiction over the Sacramento River levees. Thus, conservation will emphasize the
26 Feather River drainage within the Southern Orchard and a small part of the Sierra CAZs
27 where there are several known colonies, and to a lesser extent the Butte and Big Chico
28 Creek drainages within the Cascade and Northern Orchard CAZs.

29
30 The general conservation approach for bank swallow involves implementing landscape
31 and natural community-level conservation measures that preserve aquatic and riparian
32 communities that can also protect stream bank habitat that is essential for bank swallow.
33 Conservation will be directed toward the acquisition, protection, and enhancement of
34 lands that include segments of the Feather River and to a lesser extent Big Chico and
35 Butte Creeks. The strategy involves acquiring lands that support occupied or potentially
36 occupied habitat, maintaining stream function and bank conditions, and minimizing
37 disturbances to occupied sites.

38
39 **Additional Conservation Measures**

40
41 **BASW CM1:** On preserves, restore natural erosion processes by removing rip rap and
42 other bank stabilization structures where possible without affecting adjacent land uses or
43 stream function.

44 **Western Burrowing Owl**

Handout #3a

Goals and Objectives

Goal BUOW1: Maintain sufficient western burrowing owl habitat to provide for the potential increase in the abundance and distribution of breeding western burrowing owls in the planning area.

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

Objective BUOW1.1: Protect ■ acres of unprotected western burrowing owl habitat in minimum patch sizes of 400 acres from loss or degradation distributed within the planning area as indicated in Table 14.

Objective BUOW1.2: Enhance habitats protected under Objective BUOW1.1 through vegetation management, installation of artificial nesting structures, perches, and reestablishment of ground squirrels where it does not interfere with other management objectives.

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

The strategy for the burrowing owl conservation focuses primarily on the preservation of the grassland natural community within the species' range in the Planning Area. To a lesser extent, the strategy will focus on seasonal wetland and some elements of the agricultural community.

Burrowing owl habitat is associated primarily with the eastern foothill grassland habitats and to a lesser extent in agricultural habitats and other managed habitats within the Planning Area. Most reported occurrences are east of State Route 99 with the remaining few from the Llano Seco area on the western edge of the Planning Area. Suitable nesting and foraging habitat is primarily grassland; however, some agricultural cover types (mainly non-rice and non-orchard types), and edges of managed seasonal wetlands may also provide some value depending on site conditions (e.g., inundation potential, soil conditions, prey availability, etc). Thus, conservation of burrowing owl habitat emphasizes the Cascade and Sierra CAZs due to the extent of open grassland habitats in those areas, and to a lesser extent all other CAZs that support less optimal and patchier habitat.

The general conservation approach for burrowing owl involves implementing landscape and natural community-level conservation measures that preserve grassland communities that are essential for burrowing owl conservation and to a lesser extent agricultural and seasonal wetland communities that can supplement grassland habitats. Conservation will be directed toward the acquisition, protection, and enhancement of grassland preserves (including vernal pool grasslands) and secondarily suitable agricultural and seasonal

Handout #3a

1 [wetland habitats that occur in association with grasslands. The strategy involves](#)
2 [maintaining grasslands and other suitable burrowing owl habitats through implementation](#)
3 [of applicable natural community-level conservation measures.](#)

4 [Additional Conservation Measures](#)

5 **[BUOW CM1.](#)** [Install artificial perches on preserves. Where perches are lacking in](#)
6 [otherwise suitable burrowing owl habitat, short \(1-3 feet tall\) perches will be installed to](#)
7 [encourage burrowing owl use, particularly on lands adjacent to occupied sites to](#)
8 [encourage expansion of existing use areas. Perches will be monitoring to determine](#)
9 [effectiveness, and location and specifications modified as needed based on monitoring](#)
10 [data.](#)

11 **[BUOW CM2.](#)** [Install artificial burrows as a temporary measure to encourage burrowing](#)
12 [owl use. Where ground squirrel activity is lacking on preserves, install artificial burrows](#)
13 [to encourage burrowing owl use as cover, winter, or breeding habitat. As ground squirrel](#)
14 [activity increase through implementation of GRLA CM5, artificial burrows should be](#)
15 [gradually removed as owls begin occupying ground squirrel burrows. As with artificial](#)
16 [perches, this measure would be most effective in unoccupied habitat that is near active](#)
17 [colonies. Artificial burrows will be monitoring to determine effectiveness and to inform](#)
18 [the removal process.](#)

19 [Yellow-billed Cuckoo](#)

20 [Goals and Objectives](#)

21 **[Goal YBCU1:](#)** [Maintain and increase the extent of western yellow-billed cuckoo habitats](#)
22 [to provide for potential increases in the abundance and distribution of breeding western](#)
23 [yellow-billed cuckoos in the planning area.](#)

24 [The following landscape-level and natural community-level biological objectives also](#)
25 [contribute towards achieving this goal: \[to come\].](#)

26 **[Objective YBCU1.1:](#)** [Protect \[\] acres of unprotected western yellow-billed](#)
27 [cuckoo nesting habitat with minimum patch sizes of 50 acres from loss or](#)
28 [degradation as indicated in Table 5.X \[to come\] from activities that could result in](#)
29 [the loss or degradation of nesting habitat and from disturbances that could reduce](#)
30 [nesting success. \[Note: this objective would only apply if there is nesting habitat](#)
31 [that is currently unprotected.\]](#)

32 **[Objective YBCU1.2:](#)** [Enhance a total of \[\] acres of western yellow-billed](#)
33 [cuckoo habitat distributed within the planning area as indicated in Table 5.X \[to](#)
34 [come\].](#)

Handout #3a

1
2 **Objective YBCU1.3:** Restore a total of [] acres of western yellow-billed cuckoo
3 habitat distributed within the planning area as indicated in Table 5.X [to come].

4
5 **Objective YBCU1.4:** Compensate for losses of occupied western yellow-billed
6 cuckoo breeding habitat (defined as suitable cottonwood-willow riparian forest
7 within 600 feet of an occupied nest site) through acquisition and permanent
8 protection of breeding habitat in approved locations within the planning area at a
9 habitat replacement ratio of 3:1.

10
11 **Conservation Strategy and Relationship to Landscape- and Community-Level**
12 **Conservation Measures**

13
14 The strategy for yellow-billed cuckoo conservation focuses on the preservation and
15 restoration of large patches of cottonwood-willow riparian forest. Known occurrences of
16 this species in the Planning Area are associated primarily with the Sacramento River.
17 Other potential habitat occurs along the Feather River and several smaller tributaries to
18 the Sacramento River. Due to the rarity of the species, its need for large patches (>25
19 acres) of riparian forest, and the limited extent of suitable riparian forests, all potentially
20 occupied habitats are considered important to sustain this species. Thus, conservation is
21 focused on retaining high percentages of suitable riparian habitat in the Northern
22 Orchards, Southern Orchards, and Sacramento River CAZs.

23
24 The general conservation approach for yellow-billed cuckoo conservation involves
25 implementing landscape and natural community-level conservation measures that
26 preserve riparian communities essential for cuckoo conservation. Conservation will be
27 directed toward protecting habitat through acquisition and enhancement of preserves that
28 include cottonwood-willow-dominated riparian corridors and by establishing no-
29 development and no-disturbance buffers adjacent to occupied and potentially occupied
30 riparian habitat. The strategy involves maintaining suitable riparian habitat through
31 implementation of applicable natural community-level conservation measures.

32
33 **Additional Conservation Measures**

34
35 **YBCU CM1:** Restore and enhance riparian habitats on preserve lands (RIPA CM2 and
36 CM3) to provide breeding habitat for yellow-billed cuckoo. Up to the minimum levels
37 indicated in Table 5.X [to come] and patch sizes of at least 50 acres, include appropriate
38 species mix and manage habitat to maintain a relatively dense cottonwood-willow-
39 dominated riparian forest to provide suitable breeding habitat elements (nesting substrate,
40 cover, foraging habitat, etc.).

41
42
43 **Greater Sandhill Crane**

Handout #3a

Goals and Objectives

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

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

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

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

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

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

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

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

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1
2 A large portion of the greater sandhill crane conservation area is currently protected as
3 DFG or USFWS refuges or through conservation easements on private lands. Of the
4 22,477.5 acres of managed and emergent wetland within the Basin CAZ, 15,734.6 acres
5 (70.0 percent) are currently protected and are expected to be maintained as wetland
6 habitat and managed for the benefit of wildlife and wetland conservation. Of the 7,702.9
7 acres of managed and emergent wetland habitat in the Sacramento River CAZ, 7,290.4
8 acres (94.6%) is protected. Rice lands are mostly privately held lands; however, there are
9 some lands that are protected through conservation easement or are state or federal refuge
10 lands.

11
12 Because a significant amount of existing wetland habitat is currently protected within the
13 conservation area, the focus of wetlands conservation related to greater sandhill crane
14 will include the preservation and enhancement of remaining unprotected wetland
15 habitats.

16
17 The general conservation approach for greater sandhill crane involves maintaining rice-
18 dominated agriculture within the Basin CAZ and preservation of managed wetlands
19 through implementation of applicable natural community-level conservation measures.
20

Additional Conservation Measures

21
22
23 **GSCR CM1:** Through implementation of LAND CM2, acquire lands that have
24 documented greater sandhill crane roosting activity or that include seasonal
25 wetland habitats suitable for crane roosting.
26

Black Rail

Goals and Objectives

27
28
29
30
31 **Goal BLRA1:** Maintain or increase the extent of California black rail habitat to provide
32 for potential increases in the distribution and abundance of California black rails breeding
33 in the planning area.

34
35 The following landscape-level and natural community-level biological objectives also
36 contribute towards achieving this goal: [to come].

37
38 **Objective BLRA1.1:** Identify and protect [] ponds and seeps with minimum
39 patch size of 0.5 acres that support California black rail habitat.

40
41 **Objective BLRA1.2:** Enhance up to [] ponds and seeps protected under
42 Objective BLCA1.1 to improve California black rail habitat conditions.
43

Handout #3a

1 **Objective BLRA1.3:** Enhance up to [] acres of emergent wetlands to improve
2 California black rail habitat conditions distributed within the planning area as
3 indicated in Table 5.X [to come].

4
5 **Objective BLRA1.4:** Compensate for losses of occupied California black rail
6 habitat through acquisition and permanent protection of other occupied habitat at
7 a replacement ratio of 1:1 or acquisition, enhancement, and permanent protection
8 of potentially occupied habitat at a replacement ratio of 3:1.

9
10 **Conservation Strategy and Relationship to Landscape- and Community-Level**
11 **Conservation Measures**

12
13 The strategy for California black rail conservation focuses on the preservation of suitable
14 wetland habitats through meeting Wetland Objective WETL1.2 (Preserve seeps and
15 emergent wetlands by protecting [] acres of unprotected grassland, oak savanna and oak
16 woodland communities that support seeps and small patches of emergent wetland).
17 Within the Planning Area, black rails are known to occur only in small patches of
18 wetland seep habitat in the southeast corner of Sierra CAZ. Occupied habitats occur
19 within a grazed pastureland in grassland, oak savannah, and oak woodland natural
20 communities. Thus, conservation of California black rail will focus on preservation and
21 enhancement of occupied and potentially occupied habitats within the Sierra CAZ.

22
23 The general conservation approach for California black rail involves implementing
24 landscape and natural community-level conservation measures that preserve suitable
25 wetland habitats that are essential for black rail conservation. Conservation will be
26 directed toward protecting occupied and potentially occupied through acquisition,
27 protection, and enhancement of wetland seep habitat in the southeast corner of the
28 Planning Area. The strategy involves maintaining suitable wetland seep habitat through
29 implementation of applicable natural community-level conservation measures.

30
31 **Additional Conservation Measures**

32
33 No additional conservation measures are required.

34 **American Peregrine Falcon**

35
36 **Goals and Objectives**

37
38 **Goal PEFA1:** Maintain or increase the extent of American peregrine falcon habitats to
39 provide for potential increases in the distribution and abundance of breeding peregrine
40 falcons and for maintaining the abundance of peregrine falcons that winter in the
41 planning area.

Handout #3a

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

3
4 **Objective PEFA1.1:** Protect unprotected existing nesting sites from activities
5 that could result in loss or degradation of the nesting habitat or nest site
6 abandonment and from disturbances that could reduce nesting success. [Note:
7 this objective would only apply if there are nest sites that currently are
8 unprotected.]

9
10 **Objective PEFA1.2:** Protect █ percent of cliff face/rimrock nesting habitat
11 within the planning area from disturbances or other activities that could preclude
12 their use by peregrine falcons or, if used by nesting pairs, could result in reduced
13 nesting success.

14
15 **Objective PEFA1.3:** Protect a total of █ acres of peregrine falcon foraging
16 habitat with minimum patch size of 40 acres distributed within the planning area
17 as indicated in Table 5.X [to come].

18 19 Conservation Strategy and Relationship to Landscape- and Community-Level 20 Conservation Measures

21
22 The strategy for peregrine falcon conservation focuses on the preservation of cliff and
23 rimrock nesting habitat along the eastern edge of the Planning Area and suitable foraging
24 habitat on the valley floor. The only available nesting habitat for peregrine falcons
25 within the Planning Area occurs on cliffs along the eastern edge of the Planning Area.
26 There are two known nest sites within the Planning area, one on the edge of the Planning
27 Area, and two additional site just east of the Planning Area. Thus, conservation of
28 peregrine falcon nesting habitat is restricted to the Cascade and Sierra CAZs. Peregrine
29 falcons are present year-round and forage mainly in wetlands, vernal pool grasslands, and
30 ricelands that attract seasonal waterfowl and shorebird use. Conservation of foraging
31 habitats emphasizes habitats that are nearest breeding areas, including the grasslands and
32 vernal pool habitats within the Cascade and Sierra CAZs, and secondarily the agricultural
33 and wetland habitats within the Basin, Sacramento River, and Northern and Southern
34 Orchard CAZs that are likely used primarily during the non-breeding season.

35
36 The general conservation approach for peregrine falcon involves implementing landscape
37 and natural community-level conservation measures that preserve vernal pool grassland,
38 wetland, and agricultural (riceland) communities, and measures to protect cliff and
39 rimrock breeding habitats that are essential for peregrine falcon conservation.
40 Conservation will be directed toward protecting nesting habitat by establishing no-
41 development and no-disturbance buffers adjacent to suitable cliff and rimrock nesting
42 habitat; the acquisition, protection, and enhancement of vernal pool grassland and
43 wetland preserves; and the establishment of the ricelands preservation program. The
44 strategy involves maintaining suitable nesting and foraging habitat through
45 implementation of applicable natural community-level conservation measures.

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Additional Conservation Measures

PEFA CMI: Establish a peregrine falcon protection zone around peregrine falcon cliff and rimrock nesting habitat that prohibits development, road construction, or other land clearing within at least 0.25 miles of the edge of plateaus where suitable nesting habitat has been identified.

Bald Eagle

Goals and Objectives

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

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

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

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

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

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

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

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

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

27
28 Bald eagle nesting habitat is present in the all the CAZs with nesting having been
29 documented in the Sierra Foothills and Southern Orchards CAZ (see Appendix A,
30 *Covered Species Accounts*). Primary year-round foraging habitat used by nesting eagles
31 is supported by Thermalito Forebay and Afterbay, the Feather River, and Lake Oroville
32 and the Sacramento River that border the Planning Area. Consequently, the conservation
33 strategy for nesting bald eagles focuses on conserving habitat areas that currently are
34 known to support nesting bald eagles and that have a high potential for supporting nesting
35 bald eagles in the future because of their proximity to year-round foraging habitat. Year-
36 round foraging habitat is currently preserved under existing laws and regulations (e.g.,
37 operating criteria that maintain flows in the Feather River). Additionally, the
38 conservation strategy provides for preserving 30 percent the existing seasonal foraging
39 habitat present in the Planning Area for use by wintering, migrant, and breeding bald
40 eagles. This extent of preserved habitat is expected to be sufficient because it would be
41 sufficient to support approximately 100 breeding pairs based on a mean territory size of
42 500 acres (see Table 5.X [to come]). Approximately 24 percent of nesting habitat and 16
43 percent of seasonal foraging habitats are currently in protected status.
44

Handout #3a

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

8 9 Additional Conservation Measures

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

12
13 **BAEA CM2:** Through implementation of LAND CM2, acquire lands that
14 support documented active bald eagle roost sites.
15
16

17 **White-Tailed Kite**

18 Goals and Objectives

19
20 **Goal WTKI1:** Maintain or increase the extent of white-tailed kite habitats to provide for
21 maintaining or potentially increasing the abundance and distribution of resident of white-
22 tailed kites in the Planning Area.

23
24 The following landscape-level and natural community-level biological objectives also
25 contribute towards achieving this goal: [to come].

26
27 **Objective WTKI1.1:** Annually provide at least [] acres of white-tailed kite
28 agricultural foraging habitat with minimum patch size of 150 acres distributed
29 within the Planning Area as indicated in Table 5.X [to come].

30
31 **Objective WTKI1.2:** Preserve at least [] acres of white-tailed kite non-
32 agricultural foraging habitat with minimum patch size of 150 acres distributed
33 within the Planning Area as indicated in Table 5.X [to come].

34
35 **Objective WTKI1.3:** Preserve at least [] acres of unprotected white-tailed kite
36 nesting habitat from loss or degradation distributed within the Planning Area as
37 indicated in Table 5.X [to come].

38
39 **Objective WTKI1.4:** Restore at least [] acres of cottonwood-willow forest
40 distributed within the Planning Area as indicated in Table 5.X [to come] to
41 provide white-tailed kite riparian nesting habitat when trees have matured.
42

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

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

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

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

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

The Planning Area includes 34,578 acres of wetland communities, much of which is considered suitable for white-tailed kite (i.e., managed wetland, willow scrub). Of this total, 30,180 acres (87.3 percent) occurs within the Sacramento River and Basin CAZs. Of this, 23,025 acres (76.3 percent [and a total of 67 percent of wetland habitats within the Planning Area]) is currently protected under state or federal ownership or under conservation easements on private land and is managed for the benefit of wildlife and wetland conservation. Because a significant amount of existing wetland habitat is currently protected in the Basin and Sacramento River CAZs, the focus of seasonal wetland conservation for white-tailed kite will include the preservation and enhancement of remaining unprotected wetland habitats in the Basin, Sacramento River, and Sierra CAZs. Grassland and agricultural lands are largely privately owned and will be the focus of white-tailed kite conservation efforts in the Sacramento River, Cascade, and Sierra CAZs. Core preserve lands will be sufficiently large to support nesting and foraging of multiple nesting white-tailed kite pairs and be enhanced to increase foraging habitat value

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1 and the availability of nest sites. Several core preserves will be strategically situated
2 throughout the Planning Area to facilitate dispersal and movement and use of other non-
3 preserve habitats.

4
5 The general conservation approach for white-tailed kite involves implementing landscape
6 and natural community-level conservation measures that preserve agricultural and
7 grassland landscapes and seasonal wetland habitats that are essential for white-tailed kite
8 conservation. The strategy involves maintaining suitable agricultural, grassland, and
9 seasonal wetland foraging habitats and riparian nesting habitats through implementation
10 of applicable natural community-level conservation measures.

11 Additional Conservation Measures

12
13 **WTKI CM1:** Through implementation of LAND CM2, AGLA CM4, and AGLA
14 CM6, acquire lands that have documented white-tailed kite nesting activity or that
15 support white-tailed kite nesting habitat. Surveys conducted to assess potential
16 preserve lands as required under natural community conservation measures will
17 document nesting activity and/or nesting habitat and the results used to guide and
18 prioritize acquisitions.
19
20

21 **Swainson's Hawk**

22 Goals and Objectives

23
24 **Goal SWHA1:** Maintain or increase the extent of Swainson's hawk habitats to provide
25 for maintaining or potentially increasing the distribution and abundance of Swainson's
26 hawks nesting in the Planning Area.

27
28 The following landscape-level and natural community-level biological objectives also
29 contribute towards achieving this goal: [to come].
30

31 **Objective SWHA1.1:** Annually provide a minimum of ■ acres of primary
32 foraging habitat (e.g., alfalfa, irrigated pasture, certain row crops) and a minimum
33 of ■ acres of secondary foraging habitat (grassland, other row and grain crops)
34 with a minimum patch size of 830 acres for Swainson's hawk distributed within
35 the Planning Area as indicated in Table 5.X [to come].
36

37 **Objective SWHA1.2:** Preserve ■ acres of unprotected nesting habitat from loss
38 or degradation distributed within the Planning Area as indicated in Table 5.X [to
39 come].
40

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

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1
2 **Objective SWHA1.4:** Restore a total of [] acres of nesting habitat (riparian,
3 small groves, tree rows, etc.) on preserves.

4
5 **Conservation Strategy and Relationship to Landscape- and Community-Level**
6 **Conservation Measures**

7
8 The strategy for Swainson's hawk incorporates preservation of agricultural and grassland
9 foraging habitats and preserving/restoring riparian nesting habitat within the species'
10 range in the Planning Area.

11
12 Nesting Swainson's hawks are distributed in the Planning Area primarily along larger
13 riparian corridors such as the Sacramento River, Feather River, and Butte Creek. The
14 species is relatively uncommon in Butte County because of the prevalence of rice- and
15 orchard-dominated agriculture, neither of which provide suitable foraging
16 habitat for Swainson's hawks. Distribution and nesting density are largely a function of
17 the availability of suitable nest trees (including riparian woodlands, roadside trees, tree
18 rows, and isolated trees) and agricultural crop patterns that provide suitable foraging
19 habitat (generally defined as cover types that provide access to abundant microtine prey).
20 In particular, the occurrence and distribution of alfalfa is key to maintaining or enhancing
21 nesting populations; whereas the expansion of orchards, vineyards, and other unsuitable
22 cover types reduces available habitat and results in local population declines. Thus,
23 through restoration of nesting habitats and manipulation of crop patterns, there is
24 potential to enhance nesting populations in some areas. Grassland and seasonal wetland
25 preservation/enhancement actions may also contribute to increased foraging opportunities
26 and expansion of nesting populations in some areas.

27
28 Swainson's hawk habitat occurs mainly in the grassland and irrigated agricultural lands
29 of the Cascade and Sierra CAZs, and the seasonal wetland and irrigated agricultural
30 habitats Sacramento CAZ and the southwestern portion of the Basin CAZ. Patches of
31 suitable agricultural foraging habitat also occur in the Northern Orchards, Southern
32 Orchards and Basin CAZs, but they are generally interspersed within the rice- or orchard-
33 dominated landscape. Riparian woodland along the Sacramento River, Feather River,
34 and Butte Creek provide the majority of available nesting habitat, along with other
35 narrow riparian corridors and other woodland habitats.

36
37 Because a significant portion of the managed wetland habitats in the southern Basin and
38 Sacramento River CAZs are currently protected under state or federal ownership,
39 Swainson's hawk conservation will rely mainly on the preservation and management of
40 irrigated agriculture and grassland foraging habitats in the Sacramento River, Cascades,
41 Sierra, and Southern Orchards CAZs. Core preserve lands will be sufficiently large to
42 support nesting and foraging of multiple nesting Swainson's hawks and be enhanced to
43 increase foraging habitat value and the availability of nest sites. Several core preserves
44 will be strategically situated throughout the Planning Area to facilitate dispersal and
45 movement and use of other non-preserve habitats.

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1
2 The general conservation approach for Swainson's hawk involves implementing
3 landscape and natural community-level conservation measures that preserve agricultural
4 and grassland landscapes that are essential for Swainson's hawk conservation.
5 Conservation will be directed toward the acquisition, protection, and enhancement of
6 agricultural and grassland preserve lands to sustain existing nesting populations and
7 increase local populations in low nesting density areas. The strategy involves maintaining
8 suitable agricultural and grassland foraging habitats and riparian nesting habitats through
9 implementation of applicable natural community-level conservation measures.

10 Additional Conservation Measures

11
12
13 **SWHA CM1:** Through implementation of LAND CM2, AGLA CM4 and AGLA
14 CM6, acquire lands that have documented Swainson's hawk nesting activity or
15 that include high value Swainson's hawk nesting habitat. Surveys conducted to
16 assess potential preserve lands as required under natural community conservation
17 measures will document nesting activity and/or nesting habitat and the results
18 used to guide and prioritize acquisitions.
19

20 **Giant Garter Snake**

21 Goals and Objectives

22
23 **Goal GGSN1:** Maintain or increase the extent of giant garter snake habitats to
24 potentially increase the abundance and distribution of giant garter snakes within the
25 Planning Area.
26

27 The following landscape-level and natural community-level biological objectives also
28 contribute towards achieving this goal: [to come].
29

30 **Objective GGSN1.1:** Maintain ■ acres of existing rice lands with a minimum
31 patch size of 320 acres and associated water conveyance ditches in rice
32 production distributed within the Planning Area as described in Table 5.X [to
33 come].
34

35 **Objective GGSN1.2:** Maintain ■ acres of existing irrigated croplands with a
36 minimum patch size of 320 acres that support giant garter snake habitat in land
37 cover types that support habitat distributed within the Planning Area as described
38 in Table 5.X [to come].
39

40 **Objective GGSN1.3:** Preserve ■ acres of existing unprotected managed
41 wetlands, emergent wetlands, and willow scrub that support giant garter snake
42 habitat with a minimum patch size of 320 acres, including when combined with

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1 preserved giant garter snake aquatic and agricultural habitats, distributed within
2 the Planning Area as described in Table 5.X [to come].
3

4 **Objective GGSN1.4:** Maintain the hydrological connectivity among [] linear
5 miles of waterways that are currently connected to rice lands and patches of
6 managed wetlands, emergent wetlands, willow scrub, and irrigated cropland that
7 support giant garter snake habitat distributed within the Planning Area as
8 described in Table 5.X [to come].
9

10 **Objective GGSN1.5:** Enhance [] acres of emergent wetlands and willow scrub
11 that support giant garter snake habitat with a minimum patch size of 320 acres,
12 including when combined with preserved giant garter snake aquatic and
13 agricultural habitats, within 8 km of existing giant garter snake habitat distributed
14 within the Planning Area as described in Table 5.X [to come].
15

16 **Objective GGSN1.6:** Maintain aquatic connectivity between preserves and other
17 protected areas known or with potential to support giant garter snake.
18

19 **Conservation Strategy and Relationship to Landscape- and Community-Level** 20 **Conservation Measures**

21
22 The general strategy for giant garter snake conservation is to establish a system of
23 preserves linked to existing protected lands to form a network of protected areas outside
24 the area where new urban growth will be covered under the HCP/NCCP.
25

26 Giant garter snake is one of the primary influences in the design of agricultural and
27 wetland-associated preserves. Associated primarily with emergent wetland habitats along
28 natural and artificial watercourses, the species also uses managed wetlands and flooded
29 rice fields as well as adjacent upland habitats. Within Butte County, optimal habitat
30 includes perennial creeks with emergent vegetation but lacking a dense riparian overstory
31 and artificial water conveyance channels that support emergent vegetation within a
32 landscape dominated by managed wetland or rice farming. Other irrigated cropland types,
33 such as irrigated pastures and grain fields, may also provide cover and dispersal habitat,
34 particularly when near suitable aquatic habitat. Within the Planning Area, this condition
35 exists primarily in the Butte Basin in the southwest corner of the Planning Area.
36

37 The giant garter snake is known to occur in the Planning Area, with nearly all reported
38 occurrences in the southwestern corner of the Planning Area. While few recent surveys
39 have been conducted, the species is considered extent throughout most of southwestern
40 Butte County.
41

42 Giant garter snake habitat exists predominantly within two CAZs: Sacramento River and
43 Basin. These contiguous areas include 90.1 percent of the rice lands (108,291.8 acres)
44 and 87.3 percent of the managed and emergent wetland habitats (30,180.4 acres) in the
45 Planning Area. In addition, all but one of the reported GGS sightings in CNDDDB occurs

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1 within these CAZs. Eric Hansen (pers. comm.) notes that few if any records occur east of
2 Highway 99 in Butte County and that no definitive records occur east of Highway 70.
3 Thus, the giant garter snake conservation strategy includes establishing conservation
4 goals within the Sacramento River and Rice CAZs.

5
6 The giant garter snake conservation area (as defined above) represents the northernmost
7 and northeastern-most extent of giant garter snake habitat east of the Sacramento River.
8 North of the Basin CAZ, the landscape is dominated by orchard farming along with
9 urbanization and grassland habitats. While watercourses extended into this area, because
10 there is no connectivity with any other suitable landscape, this area was excluded from
11 the conservation strategy. Vegetation types (e.g., rice, managed wetlands) considered
12 suitable for giant garter snake also occur east of Highway 99 and east of Highway 70 in
13 the Southern Orchards CAZ. However, there are no records of giant garter snake
14 occurrence in these areas, they are considered isolated from the Butte Basin population,
15 and/or were relatively small patches of habitat separated by either Highway 99 or
16 Highway 70, both potential barriers to movement. Thus, these areas were also excluded
17 from the conservation strategy.

18
19 On the south and west, the conservation area is contiguous with other giant garter snake
20 habitats, mainly rice fields and managed wetland landscapes, and known extant giant
21 garter snake populations. Thus, the conservation area is contiguous with the giant garter
22 snake range to the south and west and represents the northeastern-most extent of the
23 species' range.

24
25 While maintaining large rice land and managed wetland landscapes are important to
26 sustain populations, connectivity of suitable aquatic habitats (e.g., natural streams and
27 water conveyance channels) is essential to link protected areas, provide connectivity with
28 unprotected agricultural areas and facilitate movement of snakes within the Planning
29 Area and contiguous suitable habitats outside of the Planning Area. Butte Basin rice
30 farming is supported by a network of permanent water delivery canals (e.g., Cherokee
31 Canal, Ashley Lateral Canal, Western Canal, Watt Lateral Canal, etc.) and natural
32 drainages (e.g., Butte Creek, Little Dry Creek, etc.). Smaller irrigation channels feed off
33 of these permanent canals.

34
35 As noted, the general conservation approach for giant garter snake involves establishing a
36 network of preserves throughout the Sacramento River and Basin CAZs (i.e., giant garter
37 snake conservation area), maintaining connectivity between the preserves with natural or
38 permanent artificial watercourses, maintaining suitable aquatic and wetland habitat along
39 these watercourses, and establishing a program to maintain target acreages of active rice,
40 other irrigated cropland, and managed wetland throughout the conservation area.

41
42 A large portion of the conservation area is currently protected as DFG or USFWS refuges
43 or through conservation easements on private lands. Of the 22,477.5 acres of managed
44 and emergent wetland within the Basin CAZ, 15,734.6 acres (70.0 percent) are currently
45 protected and are expected to be maintained as wetland habitat. Of the 7,702.9 acres of

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1 managed and emergent wetland habitat in the Sacramento River CAZ, 7,290.4 acres
2 (94.6%) is protected. Rice lands are mostly privately held lands; however, there are some
3 lands that are protected through conservation easement or are state or federal refuge
4 lands.

5
6 Preservation of rice lands in the Butte Basin is a focus of the conservation strategy for
7 giant garter snake. As indicated, the conservation area for giant garter snake includes the
8 Sacramento River and Basin CAZs, which incorporate 90.1 percent of the rice-growing
9 land with the Planning Area. Preservation of other irrigated cropland (e.g., hay, row, and
10 grain cropland) that is adjacent to managed wetlands is a secondary focus of the
11 conservation strategy for giant garter snake. Within the giant garter snake conservation
12 area (e.g., Sacramento River, Basin CAZs), the majority of this type occurs in the
13 Sacramento River CAZ.

14
15 The Planning Area includes 34,578.3 acres of wetland communities considered suitable
16 for giant garter snake (i.e., managed wetland, emergent wetland, willow scrub). Of this
17 total, 30,180 acres (87.3 percent) occurs within the giant garter snake conservation area
18 (Sacramento River and Basin CAZs). Of this, 23,025 acres (76.3 percent [and a total of
19 67 percent of wetland habitats within the Planning Area]) is currently protected under
20 state or federal ownership or under conservation easements on private land and is
21 managed for the benefit of wildlife and wetland conservation.

22
23 Because a significant amount of existing wetland habitat is currently protected within the
24 conservation area, the focus of wetlands conservation related to giant garter snake will
25 include the preservation and enhancement of remaining unprotected wetland habitats and
26 the protection, enhancement, and restoration of wetland habitats along drainages.

27
28 The giant garter snake conservation area includes 94.6 linear miles of connected
29 waterways, much of which is currently or has potential to support giant garter snake
30 breeding, foraging, and movement habitat. These waterways provide the necessary
31 connectivity between occupied areas and are essential for dispersal and genetic exchange.

32
33 As described in conservation measures AGLA CM 1-CM5, WETL CM 1 and 2, and
34 AQUA CM1, the conservation strategy for giant garter snake includes preservation of a
35 total of [] acres of rice lands, other irrigated croplands, emergent wetlands, managed
36 wetlands, and aquatic communities that support giant garter snake habitat. As described
37 under LAND CM X, preserved giant garter snake habitats will be configured to provide
38 for the preservation of movement corridors to provide connectivity among habitat areas
39 and dispersal pathways.

40 41 42 **Additional Conservation Measures**

43
44 No additional conservation measures are proposed at this time.

Handout #3a

1

2 **California Horned Lizard**

3 **Goals and Objectives**

4

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

7

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

10

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

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

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

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

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

Additional Conservation Measures

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1
2 **HOLI CM1:** Through implementation of LAND CM2, acquire lands that include
3 suitable habitat for coast horned lizard. Surveys conducted under LAND CM1
4 will include an assessment of the presence of California horned lizard habitat that
5 will be used for prioritizing preservation of California horned lizard habitat.

6

7 **Western Pond Turtle**

8 **Goals and Objectives**

9

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

13

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

16

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

23

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

28

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

33

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

37

38 **Conservation Strategy and Relationship to Landscape- and Community-Level** 39 **Conservation Measures**

40

Handout #3a

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

4
5 Western pond turtles are distributed throughout most of the Planning Area, but are largely
6 restricted to aquatic habitats (e.g., wetlands, ponds, and stream/channels) and adjacent
7 upland habitats that are used for nesting. There are few reported occurrences in the
8 Planning Area, but it is likely that this species is widely underreported. Reported
9 occurrences include three of the small foothill streams west of State Route 99 and the
10 wetland habitats of the Butte Basin. The species may occur along streams and
11 constructed water conveyance corridors (e.g., Cherokee Canal), ponds, and other wetland
12 areas (e.g., Llano Seco) in the Planning Area. However, because adjacent upland habitat
13 (e.g., steep banks, terraces, grassland) is required for nesting, many agricultural
14 landscapes, including rice- and orchard-dominated lands may not provide sufficient
15 habitat to support this species.

16
17 Western pond turtle habitat occurs mainly along streams and in wetlands within the
18 Cascade, Sierra, and Sacramento River CAZs, and the southwestern corner of the Basin
19 CAZ. While the Northern Orchard and Southern Orchard CAZs and the rice-dominated
20 portion of the Basin CAZ support suitable aquatic habitats, they generally lack adjacent
21 uplands. However, there are possible exceptions including Butte Creek, Feather River,
22 Cherokee Canal, and other larger watercourses that support steep banks or grassy terraces
23 or a broader basin that may provide potential nesting habitat for western pond turtles.

24
25 Because a significant portion of the wetland habitats in the southern Basin and
26 Sacramento River CAZs are currently protected under state or federal ownership, western
27 pond turtle conservation will rely mainly on the preservation and management of
28 remaining unprotected wetland habitats in the Sacramento River and Basin CAZs; the
29 protection of foothill streams and adjacent grassland habitat in the Cascade and Sierra
30 CAZs; and the protection and enhancement of natural streams and large water
31 conveyance canals in the Basin, Southern Orchard, and Northern Orchard CAZs that
32 potentially support western pond turtle. Core preserves located in each CAZ will be
33 connected by the network of streams and water conveyance channels, link the different
34 geographic regions of the Planning Area and facilitate movement and dispersal of
35 western pond turtles.

36
37 The general conservation approach for western pond turtle involves implementing
38 landscape and natural community-level conservation measures that preserve aquatic and
39 adjacent upland habitats that are essential for western pond turtle conservation.
40 Conservation will be directed toward the acquisition, protection, and enhancement of
41 wetland complexes to provide additional aquatic and upland habitat, and the protection
42 and enhancement of streams and other water conveyance channels. The strategy involves
43 maintaining suitable aquatic and upland habitats through the implementation of
44 applicable natural community-level conservation measures.

45

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Additional Conservation Measures

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

Foothill Yellow-legged Frog

Goals and Objectives

Goal YLFR1: Maintain or increase the extent and quality of foothill yellow-legged frog to potentially increase the abundance and distribution of foothill yellow-legged frog in the planning area.

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

Objective YLFR1.1: Protect [] acres of existing unprotected foothill yellow-legged frog stream and adjacent upland habitat within 130 feet of streams distributed within the planning area as described in Table 5.X [to come].

Objective YLFR1.2: Restore riparian and emergent vegetation where appropriate along [] linear miles of foothill yellow-legged frog habitat distributed within the planning area as described in Table 5.X [to come].

Objective YLFR1.3: Compensate for loss of occupied foothill yellow-legged frog habitat through acquisition and permanent protection of suitable stream habitat in approved locations within the planning area at a replacement ratio of 3:1.

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

The strategy for the foothill yellow-legged frog conservation focuses on the preservation of perennial and intermittent streams and restoration of associated riparian and wetland vegetation within the species' range in the Planning Area.

Foothill yellow-legged frog occurs in perennial and intermittent streams usually with shallow flowing water and a gravelly substrate. A cool microclimate provided by a riparian overstory is also important. They typically occupy the stream corridor and adjacent uplands within approximately 40-feet of the stream. Like many native amphibians, they are susceptible to non-native bullfrog and predatory fish predation and

Handout #3a

1 so their distribution generally does not include the valley floor where non-native
2 predators thrive. Therefore, their distribution in the Planning Area is defined as perennial
3 and intermittent streams above 300 feet mean sea level. Thus, potential habitat is
4 restricted to the Cascade and Sierra CAZs. There is only one reported occurrence of this
5 species in the Planning Area, with several others east of the Planning Area. Perennial
6 habitats were considered to have a higher likelihood of occupancy and provide more
7 optimal habitat conditions compared with intermittent streams. There is also
8 substantially fewer perennial streams than potentially occupied intermittent streams
9 within the Planning Area. Thus, conservation within the Cascade and Sierra CAZs
10 emphasized perennial streams by recommending a larger proportion of conserved habitat
11 relative to intermittent streams.

12
13 The general conservation approach for foothill yellow-legged frog involves implementing
14 landscape and natural community-level conservation measures that preserve aquatic,
15 riparian, and woodland communities that are essential for foothill yellow-legged frog
16 conservation; and restore riparian habitat along potentially occupied streams.
17 Conservation will be directed toward the acquisition, protection, and enhancement of
18 streams within riparian and woodland landscapes that have been identified as having
19 potential to support foothill yellow-legged frog. The strategy involves maintaining
20 permanent and intermittent streams, stream function, and streamside vegetation structure
21 through implementation of applicable natural community-level conservation measures.

Additional Conservation Measures

22
23
24
25 **YLFR CM1:** To protect aquatic and terrestrial habitats of the foothill-legged frog,
26 maintain a minimum 40-foot no-ground disturbance zone, including trail construction,
27 from the edge of potentially occupied streams.

28
29 **YLFR CM2:** Within preserves, establish a predator control program to remove
30 bullfrogs and non-native fish from occupied and potentially-occupied streams.

Western Spadefoot Toad

Goals and Objectives

31
32
33
34
35
36 **Goal WESPI:** Maintain or increase the extent of western spadefoot habitat to potentially
37 increase the abundance and distribution of western spadefoot in the planning area.

38
39 The following landscape-level and natural community-level biological objectives also
40 contribute towards achieving this goal: [to come].
41

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1 Objective WESPI.1: Protect 85 percent of western spadefoot habitat within the
2 portion of the Northeast Sacramento vernal pool region present within the
3 planning area, as per Recovery Plan (USFWS 2005).¹
4

5 Objective WESPI.2: Protect ■ acres of existing unprotected western spadefoot
6 breeding habitat and adjacent upland habitat with a minimum patch size of 100
7 acres outside of core recovery areas distributed within the planning area as
8 described in Table 5.X [to come].
9

10 Objective WESPI.3: Restore ■ acres of breeding habitat within recovery core
11 areas distributed within the planning area as described in Table 5.X [to come].
12

13 Objective WESPI.4: Restore or enhance ■ acres of breeding habitat outside of
14 recovery core areas distributed within the planning area as described in Table 20.
15

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

16
17

18
19 The strategy for western spadefoot toad conservation focuses on the preservation of
20 vernal pool grasslands and restoring aquatic breeding habitats within the grassland
21 landscape within the species' range in the Planning Area.
22

23 Western spadefoot toad is associated with grassland habitats that include aquatic breeding
24 habitat such as vernal pools, ponds, and pools within intermittent streams. Grasslands are
25 an essential habitat for this species; however, wetlands that are contiguous with
26 grasslands may also be used. Vernal pool grasslands are considered the optimal habitat
27 for this species and proposed conservation is proportionately higher for this habitat
28 category. Conservation is restricted to the Cascade, Sierra, and the vernal pool grassland
29 portion of the Northern Orchard CAZ, with emphasis on the Cascade CAZ where the
30 highest value vernal pool grasslands and the majority of the known occurrences of this
31 species exist in the Planning Area. This species is not found in cultivated habitats, and
32 thus its range with the Planning Area is restricted to grasslands and vernal pool grassland
33 types.
34

35 The general conservation approach for western spadefoot toad involves implementing
36 landscape and natural community-level conservation measures that preserve grassland
37 and vernal pool grassland communities that are essential for western spadefoot toad
38 conservation. Conservation will be directed toward the acquisition, protection, and
39 enhancement of vernal pool grassland preserves and secondarily grassland preserves that
40 include or have potential to enhance aquatic breeding habitats. The strategy involves
41 maintaining vernal pool grasslands and other grasslands through implementation of
42 applicable natural community-level conservation measures.
43

¹ From the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005).

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Additional Conservation Measures

WESP CM1: Through implementation of GRLA CM1 through CM3, focus spadefoot toad conservation efforts on acquisitions within the Cascade CAZ, particularly those that have or are near documented occurrences in the northern portion of the Cascade CAZ.

WESP CM2: Through implementation of WETL CM6, restore aquatic breeding habitat where such habitat is limited, including vernal pool grasslands with low density of vernal pools and non-vernal pool grasslands. Construct pools according to approved specifications to ensure ponding for at least four weeks to accommodate the minimum breeding cycle, and ensure that ponds are sufficiently seasonal to prevent establishment of predatory fish and bullfrogs. To provide suitable aquatic breeding habitat, stock ponds must be drained seasonally to prevent predators from establishing.

Valley Elderberry Longhorn Beetle

Goals and Objectives

Goal VELB1: Maintain or increase the extent and quality of valley elderberry longhorn beetle habitat to potentially increase the abundance and distribution of valley elderberry longhorn beetle in the planning area.

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

Objective VELB1.1: Protect ■ acres of existing unprotected riparian land cover types with a minimum patch size of 10 acres that includes the elderberry shrub as a mid- or understory component, distributed within the planning area as described in Table 5.X [to come].

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

The strategy for valley elderberry longhorn beetle conservation focuses on the preservation of riparian habitats in the Planning Area. The host plant for the beetle is the elderberry shrub, a relatively common component of valley riparian forest and woodlands. While elderberry shrubs can occur in many habitats and settings, the most significant occurrences are within riparian corridors. Conservation of valley elderberry longhorn beetle is achieved by meeting Riparian Natural Community Objectives RIPA1.1 through 1.8 and implementing riparian conservation measures RIPA CM1 through CM4.

Additional Conservation Measures

Handout #3a

1 VELB CM1: Enhance and restore riparian habitats on preserve lands (RIPA CM2 and
2 CM3) to provide habitat for valley elderberry longhorn beetle. Include elderberry
3 (*Sambucus mexicana*) in the planting list for all riparian enhancement and restoration
4 plans on preserve lands.

7 Vernal Pool Tadpole Shrimp

8 Goals and Objectives

9
10 Goal VPTS1: Contribute to the recovery of vernal pool tadpole shrimp.

11
12 The following landscape-level and natural community-level biological objectives also
13 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

14
15 Objective VPTS1.1: Protect 85 percent of suitable vernal pool tadpole shrimp
16 habitat present within the Doe Mill recovery core area and 95% present within
17 each of the following recovery core areas: Chico, Oroville, and Vina Plains, as
18 per Recovery Plan (USFWS 2005).²

19
20 Objective VPTS1.2: Protect [] acres of occupied vernal pool tadpole shrimp
21 habitat outside of recovery core areas protected under Objective VPTS1.1
22 distributed within the planning area as described in Table 5.X [to come].

23
24 Objective VPTS1.3: Enhance [] acres of vernal pool tadpole shrimp habitat
25 within recovery core areas protected under Objective VPTS1.2 distributed within
26 the planning area as described in Table 5.X [to come].

27
28 Objective VPTS1.4: Enhance [] acres of vernal pool tadpole shrimp habitat
29 outside of recovery core areas distributed within the planning area as described in
30 Table 5.X [to come].

31
32 Objective VPTS1.5: Restore [] acres of vernal pool tadpole shrimp habitat
33 within recovery core areas distributed within the planning area as described in
34 Table 5.X [to come].

35
36 Objective VPTS1.6: Restore [] acres of vernal pool tadpole shrimp habitat
37 outside of recovery core areas distributed within the planning area as described in
38 Table 5.X [to come].

39
40 Objective VPTS1.7. Compensate for the loss of and disturbance to occupied
41 vernal pool fairy shrimp habitats according to USFWS guidelines

² From the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005).

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1 [\(\[http://www.fws.gov/sacramento/es/documents/vp_programatic.PDF\]\(http://www.fws.gov/sacramento/es/documents/vp_programatic.PDF\)\).](http://www.fws.gov/sacramento/es/documents/vp_programatic.PDF)

2 Compensation includes:

- 3 ▪ preserving 2 acres (approved mitigation bank) or 3 acres (non-bank
- 4 mitigation site) of habitat for each acre directly or indirectly affected and
- 5 ▪ creating 1 acre (approved mitigation bank) or 2 acres (non-bank
- 6 mitigation site) of habitat for each acre directly affected.

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

8 Conservation Measures

9
10 The general conservation approach for vernal pool tadpole shrimp involves implementing
11 landscape and natural community-level conservation measures that preserve grassland
12 habitat including vernal pools (LAND CM1, 2, & 4; GRLA CM2, 7, & 8). Conservation
13 will be directed towards the acquisition, protection, and enhancement of vernal pools that
14 are located in the areas described in Table 5.X [to come] through implementation of
15 applicable natural community-level conservation measures.

16

17 Additional Conservation Measures

18
19 No additional conservation measures are required.

20

21

22 Vernal Pool Fairy Shrimp

23 Goals and Objectives

24
25 Goal VPFS1: Contribute to the recovery of vernal pool fairy shrimp.

26
27 The following landscape-level and natural community-level biological objectives also
28 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

29
30 Objective VPFS1.1: Protect 85 percent of suitable vernal pool fairy shrimp
31 habitat present within each of the following recovery core areas: Chico, Oroville,
32 Vina Plains, and Doe Mill, as per Recovery Plan (USFWS 2005).³

33
34 Objective VPFS1.2: Protect ■ acres of occupied vernal pool fairy shrimp
35 habitat outside of recovery core areas distributed within the planning area as
36 described in Table 5.X [to come].

37

³ From the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005).

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1 **Objective VPFS1.3:** Enhance ■ acres of vernal pool fairy shrimp habitat within
2 recovery core areas protected under Objective VPFS1.1 distributed within the
3 planning area as described in Table 5.X [to come].

4
5 **Objective VPFS1.4:** Enhance ■ acres of vernal pool fairy shrimp habitat
6 outside of recovery core areas protected under Objective VPFS1.2 distributed
7 within the planning area as described in Table 5.X [to come].

8
9 **Objective VPFS1.5:** Restore ■ acres of vernal pool fairy shrimp habitat within
10 recovery core areas distributed within the planning area as described in Table 5.X
11 [to come].

12
13 **Objective VPFS1.6:** Restore ■ acres of vernal pool fairy shrimp habitat outside
14 of recovery core areas distributed within the planning area as described in Table
15 5.X [to come].

16
17 **Objective VPFS1.7:** Compensate for the loss of and disturbance to occupied
18 vernal pool fairy shrimp habitats according to USFWS guidelines
19 (http://www.fws.gov/sacramento/es/documents/vp_programatic.PDF).
20 Compensation includes:

- 21 ▪ preserving 2 acres (approved mitigation bank) or 3 acres (non-bank
22 mitigation site) of habitat for each acre directly or indirectly affected and
- 23 ▪ creating 1 acre (approved mitigation bank) or 2 acres (non-bank
24 mitigation site) of habitat for each acre directly affected.

25 **Conservation Strategy and Relationship to Landscape- and Community-Level** 26 **Conservation Measures**

27
28 The general conservation approach for vernal pool fairy shrimp involves implementing
29 landscape and natural community-level conservation measures that preserve grassland
30 habitat including vernal pools (LAND CM1, 2, & 4; GRLA CM2, 7, & 8). Conservation
31 will be directed towards the acquisition, protection, and enhancement of vernal pools that
32 are located in the areas described in Table 5.X [to come] through implementation of
33 applicable natural community-level conservation measures.

34 35 **Additional Conservation Measures**

36
37 No additional conservation measures are required.

38 39 40 **Conservancy Fairy Shrimp**

41 **Goals and Objectives**

Handout #3a

1
2
3 **Goal CFSH1:** Contribute to the recovery of Conservancy fairy shrimp.

4
5 The following landscape-level and natural community-level biological objectives also
6 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

7
8 **Objective CFSH1.1:** Protect 95 percent of suitable Conservancy fairy shrimp
9 habitat present within the Vina Plains recovery core area, as per Recovery Plan
10 (USFWS 2005).⁴

11
12 **Objective CFSH1.2:** Protect █ acres of occupied Conservancy fairy shrimp
13 habitat outside of the Vina Plains recovery core area distributed within the
14 planning area as described in Table 5.X [to come].

15
16 **Objective CFSH1.3:** Enhance █ acres of Conservancy fairy shrimp habitat
17 within recovery core areas protected under Objective CFSH1.1 distributed within
18 the planning area as described in Table 5.X [to come].

19
20 **Objective CFSH1.4:** Enhance █ acres of Conservancy fairy shrimp habitat
21 outside of recovery core areas protected under Objective CFSH1.2 distributed
22 within the planning area as described in Table 5.X [to come].

23
24 **Objective CFSH1.5:** Restore █ acres of Conservancy fairy shrimp habitat
25 within recovery core areas distributed within the planning area as described in
26 Table 5.X [to come].

27
28 **Objective CFSH1.6:** Restore █ acres of Conservancy fairy shrimp habitat
29 outside of recovery core areas distributed within the planning area as described in
30 Table 5.X [to come].

31
32 **Objective CFSH1.7:** Compensate for the loss of and disturbance to occupied
33 Conservancy fairy shrimp habitats according to USFWS guidelines
34 (http://www.fws.gov/sacramento/es/documents/vp_programatic.PDF).
35 Compensation includes:

- 36 ▪ preserving 2 acres (approved mitigation bank) or 3 acres (non-bank
37 mitigation site) of habitat for each acre directly or indirectly affected and
38 ▪ creating 1 acre (approved mitigation bank) or 2 acres (non-bank
39 mitigation site) of habitat for each acre directly affected.

40 **Conservation Strategy and Relationship to Landscape- and Community-Level**
41 **Conservation Measures**

⁴ From the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005).

Handout #3a

1
2 The general conservation approach for Conservancy fairy shrimp involves implementing
3 landscape and natural community-level conservation measures that preserve grassland
4 habitat including large vernal pools that are greater than 400 square feet in area (LAND
5 CM1, 2, & 4; GRLA CM6). Conservation will be directed towards the acquisition,
6 protection, and enhancement of large vernal pools that are located in the areas described
7 in Table 5.X [to come] through implementation of applicable natural community-level
8 conservation measures.

10 Additional Conservation Measures

11
12
13 CFSH CMI: Through implementation of GRLA CM6, preferentially acquire lands that
14 include suitable habitat for Conservancy fairy shrimp. The preferential habit for
15 Conservancy fairy shrimp consists of the subset of the largest vernal pools on the
16 landscape.

18 Ferris' Milkvetch

19 Goals and Objectives

20
21
22 Goal FEM1: Maintain or increase the size and number of occurrences of Ferris'
23 milkvetch within the planning area; meet or exceed conservation goals set forth in the
24 Vernal Pool Recovery Plan (USFWS 2005).

25 The following landscape-level and natural community-level biological objectives also
26 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

27
28 Objective FEM1.1: Protect a total of 100% of the remaining known extant
29 occurrences of Ferris' milkvetch that are currently unprotected within the
30 planning area, as per Recovery Plan (USFWS 2005).

31
32 Objective FEM1.2: Protect ■ additional occurrences of Ferris' milkvetch that
33 are located in the future.

34
35 Objective FEM1.3: Protect 95% of suitable Ferris' milkvetch habitat within
36 the Llano Seco and Upper Butte Basin Recovery Areas, as per Recovery Plan
37 (USFWS 2005).

38
39 Objective FEM1.4: Preserve a total of ■ acres of Ferris' milkvetch habitat
40 distributed within the planning area as indicated in Table 5.X [to come].
41

Handout #3a

1 **Objective FEM1.5:** Enhance a total of [] acres of Ferris' milkvetch habitat
2 protected under Objective FEM1.3 distributed within the species' recovery core
3 areas as indicated in Table 5.X [to come].

4 **Objective FEM1.6:** Enhance a total of [] acres of Ferris' milkvetch habitat
5 distributed outside of the species' recovery areas as indicated in Table 5.X [to
6 come].

7
8
9 **Objective FEM1.7:** Restore a total of [] acres of Ferris' milkvetch habitat
10 distributed within the species' recovery areas as indicated in Table 5.X [to come].

11 **Objective FEM1.8:** Restore a total of [] acres of Ferris' milkvetch habitat
12 distributed outside of the species' recovery areas as indicated in Table 5.X [to
13 come].

14
15 **Objective FEM1.9:** Restore [] acres of Ferris' milkvetch habitat for every acre
16 of Ferris' milkvetch habitat removed by covered activities.

18 Conservation Strategy and Relationship to Landscape- and Community-Level 19 Conservation Measures

20
21 The general conservation approach for Ferris' milkvetch involves implementing
22 landscape and natural community-level conservation measures that preserve wetland
23 habitat that is essential for Ferris' milkvetch conservation. Conservation will be directed
24 towards the acquisition, protection, and enhancement of wetland communities that are
25 located in the areas described in Table 5.X [to come] through implementation of
26 applicable natural community-level conservation measures.

27
28 Ferris' milkvetch is known within the Planning Area to be limited in distribution to the
29 Gray Lodge Wildlife Area where it occurs in alkaline seasonal wetlands.

30 31 Additional Conservation Measures

32
33 **FEMI CM1:** Through implementation of LAND CM1, 2, 4, 5, & 6 acquire lands that
34 include suitable habitat for Ferris' milkvetch. Surveys conducted under LAND CM1 will
35 include an assessment of the presence of Ferris' milkvetch habitat that will be used for
36 prioritizing preservation of Ferris' milkvetch habitat.

37
38 **FEMI CM2:** Develop management prescriptions to ensure that management actions for
39 the benefit of wildlife do not impact the alkaline seasonal wetlands that are habitat for
40 Ferris' milkvetch.

41 42 Lesser Saltscale

Handout #3a

Goals and Objectives

Goal LESA1: Maintain or increase the size and number of occurrences of lesser saltscale within the planning area.

The following landscape-level and natural community-level biological objectives also contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

Objective LESA1.1: Protect █% of the remaining known extant occurrences of lesser saltscale that are currently unprotected within the planning area as indicated in Table 5.X [to come]. [Note: assumption at this time is that all occurrences are protected at Gray Lodge Wildlife Area].

Objective LESA1.2: Protect up to █ occurrences located in the future of lesser saltscale that are currently unprotected within the planning area.

Objective LESA1.3: Protect a total of █ acres of lesser saltscale habitat distributed within the planning area as indicated in Table 5.X [to come].

Objective LESA1.4: Enhance a total of █ acres of lesser saltscale habitat protected under Objective LESA1.3 distributed within the planning area as indicated in Table 5.X [to come].

Objective LESA1.5: Restore a total of █ acres of lesser saltscale habitat distributed within the planning area as indicated in Table 5.X [to come].

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

The general conservation approach for lesser saltscale involves implementing landscape and natural community-level conservation measures that preserve wetland habitat that is essential for lesser saltscale conservation. Conservation will be directed towards the acquisition, protection, and enhancement of wetland communities that are located in the areas described in Table 5.X [to come] through implementation of applicable natural community-level conservation measures.

Lesser saltscale is known within the Planning Area to be limited in distribution to the Gray Lodge Wildlife Area where it occurs in alkaline seasonal wetlands.

Additional Conservation Measures

LESA CMI: Through implementation of LAND CM1, 2, 4, 5, & 6 acquire lands that include suitable habitat for lesser saltscale. Surveys conducted under LAND CM1 will include an assessment of the presence of lesser saltscale habitat that will be used for prioritizing preservation of lesser saltscale.

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Handout #3a

1 LESA CM2: Develop management prescriptions to ensure that management actions for
2 the benefit of wildlife do not impact the alkaline seasonal wetlands that are habitat for
3 lesser saltscare.

6 Hoover's Spurge

7 Goals and Objectives

8
9 Goal HOSP1: Maintain or increase the size and number of occurrences of Hoover's
10 spurge within the planning area; meet or exceed conservation goals set forth in the Vernal
11 Pool Recovery Plan (USFWS 2005).

12
13 The following landscape-level and natural community-level biological objectives also
14 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

15
16 Objective HOSP1.1: Protect a total of 80% of the remaining known extant
17 occurrences of Hoover's spurge that are currently unprotected, as per Recovery
18 Plan (USFWS 2005). These will be distributed within the planning area as
19 indicated in Table 5.X [to come].

20
21 Objective HOSP1.2: Protect ■ additional occurrences of Hoover's spurge that
22 are located in the future.

23
24 Objective HOSP1.3: Protect 95% of suitable habitat within the Oroville and
25 Vina Plains Recovery Areas, as per Recovery Plan (USFWS 2005).

26
27 Objective HOSP1.4: Protect a total of ■ acres of Hoover's spurge habitat
28 distributed within the planning area as indicated in Table 5.X [to come].

29
30 Objective HOSP1.5: Enhance a total of ■ acres of Hoover's spurge habitat
31 protected under Objective HOSP1.3 distributed within the species' recovery core
32 areas area as indicated in Table 5.X [to come].

33
34 Objective HOSP1.6: Enhance a total of ■ acres of Hoover's spurge habitat
35 distributed outside of the species' recovery areas as indicated in Table 5.X [to
36 come].

37 Objective HOSP1.7: Restore a total of ■ acres of Hoover's spurge habitat
38 distributed within the species' recovery areas as indicated in Table 5.X [to come].

39
40 Objective HOSP1.8: Restore a total of ■ acres of Hoover's spurge habitat
41 distributed outside of the species' recovery areas as indicated in Table 5.X [to
42 come].

Handout #3a

1 **Objective HOSP1.9:** Reintroduce Hoover’s spurge to extant vernal pools and soil
2 types from which surveys indicate that the species has been extirpated, as per
3 Recovery Plan (USFWS 2005).

4
5 **Objective HOSP1.10:** Restore █ acres of Hoover’s spurge habitat for every
6 acre of Hoover’s spurge habitat removed by covered activities.

7 Conservation Strategy and Relationship to Landscape- and Community-Level 8 Conservation Measures

9
10 The general conservation approach for Hoover’s spurge involves implementing landscape
11 and natural community-level conservation measures that preserve grassland habitat
12 including large vernal pools that are greater than 400 square feet in area (LAND CM1, 2,
13 & 4; GRLA CM6). Conservation will be directed towards the acquisition, protection, and
14 enhancement of large vernal pools that are located in the areas described in Table 5.X [to
15 come] through implementation of applicable natural community-level conservation
16 measures.

17 18 Additional Conservation Measures

19
20 **HOSP CM1:** Through implementation of GRLA CM6, preferentially acquire lands that
21 include suitable habitat for Hoover’s spurge. The preferential habit for Hoover’s spurge
22 consists of the subset of the largest vernal pools on the landscape.

23 24 25 Ahart’s Dwarf Rush

26 Goals and Objectives

27
28 **Goal ADRU1:** Maintain or increase the size and number of occurrences of Ahart’s
29 dwarf rush within the planning area; meet or exceed conservation goals set forth in the
30 Vernal Pool Recovery Plan (USFWS 2005).

31
32 The following landscape-level and natural community-level biological objectives also
33 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

34
35 **Objective ADRU1.1:** Protect 100% of the remaining known extant occurrences
36 of Ahart’s dwarf rush that are currently unprotected, as per Recovery Plan
37 (USFWS 2005).

38
39 **Objective ADRU1.2:** Protect █ additional occurrences of Ahart’s dwarf rush
40 that are located in the future that are currently unprotected.

Handout #3a

1 **Objective ADRU1.3:** Protect 85% of suitable species habitat within the Honcut
2 Core Recovery Area, as per the Recovery Plan (USFWS 2005).

3
4 **Objective ADRU1.4:** Protect a total of ■ acres of Ahart's dwarf rush habitat
5 distributed within the planning area as indicated in Table 5.X [to come].

6
7 **Objective ADRU1.5:** Enhance a total of ■ acres of Ahart's dwarf rush habitat
8 protected under Objective ADRU1.3 distributed within the species' recovery core
9 areas as indicated in Table 5.X [to come].

10
11 **Objective ADRU1.6:** Enhance a total of ■ acres of Ahart's dwarf rush habitat
12 distributed outside of the species' recovery areas as indicated in Table 5.X [to
13 come].

14
15 **Objective ADRU1.7:** Restore a total of ■ acres of Ahart's dwarf rush habitat
16 distributed within the species' recovery areas as indicated in Table 5.X [to come].

17
18 **Objective ADRU1.8:** Restore a total of ■ acres of Ahart's dwarf rush habitat
19 distributed outside of the species' recovery areas as indicated in Table 5.X [to
20 come].

21
22 **Objective ADRU1.9:** Restore ■ acres of Ahart's dwarf rush habitat for every
23 acre of Ahart's dwarf rush habitat removed by covered activities.

24 **Conservation Strategy and Relationship to Landscape- and Community-Level** 25 **Conservation Measures**

26
27 The general conservation approach for Ahart's dwarf rush involves implementing
28 landscape and natural community-level conservation measures that preserve grassland
29 habitat including vernal pools (LAND CM1, 2, & 4; GRLA CM2, 7, & 8). Conservation
30 will be directed towards the acquisition, protection, and enhancement of vernal pools that
31 are located in the areas described in Table 5.X [to come] through implementation of
32 applicable natural community-level conservation measures.

33 34 **Additional Conservation Measures**

35
36 No additional conservation measures are required.

37 **Hairy Orcutt Grass**

38 **Goals and Objectives**

39
40 **Goal HOGRI:** Maintain or increase the size and number of occurrences of hairy Orcutt
41 grass within the planning area; meet or exceed conservation goals set forth in the Vernal
42 Pool Recovery Plan (USFWS 2005).

Handout #3a

1
2 The following landscape-level and natural community-level biological objectives also
3 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

4
5 **Objective HOGRI.1:** Protect the single known extant occurrence of hairy Orcutt
6 grass in the planning area, as per Recovery Plan (USFWS 2005). This occurrence
7 is within the Southern Cascade CAZ.

8
9 **Objective HOGRI.2:** Protect ■ additional occurrences of hairy Orcutt grass
10 that are located in the future.

11
12 **Objective HOGRI.3:** Protect 95% of suitable species habitat within the Oroville
13 and Vina Plains Recovery Areas, as per Recovery Plan (USFWS 2005).

14
15 **Objective HOGRI.4:** Preserve a total of ■ acres of hairy Orcutt grass habitat
16 distributed within the planning area as indicated in Table 5.X [to come].

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17
18 **Objective HOGRI.5:** Enhance a total of ■ acres of hairy Orcutt grass habitat
19 protected under Objective HOGRI.3 distributed within the species' recovery
20 areas as indicated in Table 5.X [to come].

21
22 **Objective HOGRI.6:** Enhance a total of ■ acres of hairy Orcutt grass habitat
23 distributed outside of the species' recovery areas as indicated in Table 5.X [to
24 come].

25
26 **Objective HOGRI.7:** Restore a total of ■ acres of hairy Orcutt grass habitat
27 distributed within the species' recovery areas as indicated in Table 5.X [to come].

28
29 **Objective HOGRI.8:** Restore a total of ■ acres of hairy Orcutt grass habitat
30 distributed outside of the species' recovery areas as indicated in Table 5.X [to
31 come].

32
33 **Objective HOGRI.9:** Restore ■ acres of hairy Orcutt grass habitat for every
34 acre of hairy Orcutt grass habitat removed by covered activities.

35
36
37 **Conservation Strategy and Relationship to Landscape- and Community-Level**
38 **Conservation Measures**

39
40 The general conservation approach for hairy Orcutt grass involves implementing
41 landscape and natural community-level conservation measures that preserve grassland
42 habitat including large vernal pools that are greater than 400 square feet in area (LAND

Handout #3a

1 [CM1, 2, & 4; GRLA CM6](#). Conservation will be directed towards the acquisition,
2 [protection, and enhancement of large vernal pools that are located in the areas described](#)
3 [in Table 5.X \[to come\] through implementation of applicable natural community-level](#)
4 [conservation measures.](#)

6 [Additional Conservation Measures](#)

7
8 [HOCR CM1](#): Through implementation of GRLA CM6, preferentially acquire lands that
9 [include suitable habitat for hairy Orcutt grass. The preferential habit for hairy Orcutt](#)
10 [grass consists of the subset of the largest vernal pools on the landscape.](#)

13 [Slender Orcutt Grass](#)

14 [Goals and Objectives](#)

15
16 [Goal SOGR1](#): Maintain or increase the size and number of occurrences of slender
17 [Orcutt grass within the planning area; meet or exceed conservation goals set forth in the](#)
18 [Vernal Pool Recovery Plan \(USFWS 2005\).](#)

19
20 [The following landscape-level and natural community-level biological objectives also](#)
21 [contribute towards achieving this goal: \[GRLA1.1-1.5\]\(#\) and \[GRLA2.8-2.9\]\(#\).](#)

22
23 [Objective SOGR1.1](#): Protect 80% of known extant occurrences of slender Orcutt
24 [grass in the planning area, as per Recovery Plan \(USFWS 2005\). These will be](#)
25 [distributed within the planning area as indicated in Table 5.X \[to come\].](#)

26
27 [Objective SOGR1.2](#): Protect additional occurrences of hairy Orcutt grass that
28 [are located in the future.](#)

29
30 [Objective SOGR1.3](#): Protect 95% of suitable species habitat within the Vina
31 [Plains Recovery Area and 85% of suitable species habitat in the Palermo](#)
32 [Recovery Area, as per Recovery Plan \(USFWS 2005\).](#)

33
34 [Objective SOGR1.4](#): Preserve a total of acres of slender Orcutt grass habitat
35 [distributed within the planning area as indicated in Table 5.X \[to come\].](#)

36
37 [Objective SOGR1.5](#): Enhance a total of acres of slender Orcutt grass habitat
38 [protected under Objective SOGR1.3 distributed within the species' recovery areas](#)
39 [as indicated in Table 5.X \[to come\].](#)

40
41 [Objective SOGR1.6](#): Enhance a total of acres of slender Orcutt grass habitat
42 [distributed outside of the species' recovery areas as indicated in Table 5.X \[to](#)
43 [come\].](#)

Handout #3a

1
2 **Objective SOGR1.7:** Restore a total of [] acres of slender Orcutt grass habitat
3 distributed within the species' recovery areas as indicated in Table 5.X [to come].

4
5 **Objective SOGR1.8:** Restore a total of [] acres of slender Orcutt grass habitat
6 distributed outside of the species' recovery core areas as indicated in Table 5.X
7 [to come].

8
9 **Objective SOGR1.9:** Reintroduce slender Orcutt grass to extant vernal pools and
10 soil types from which surveys indicate that the species has been extirpated, as per
11 Recovery Plan (USFWS 2005).

12
13 **Objective SOGR1.10:** Restore [] acres of slender Orcutt grass habitat for every
14 acre of hairy Orcutt grass habitat removed by covered activities.

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

15
16
17
18 The general conservation approach for slender Orcutt grass involves implementing
19 landscape and natural community-level conservation measures that preserve grassland
20 habitat including vernal pools (LAND CM1, 2, & 4; GRLA CM2, 7, & 8). Conservation
21 will be directed towards the acquisition, protection, and enhancement of vernal pools that
22 are located in the areas described in Table 5.X [to come] through implementation of
23 applicable natural community-level conservation measures.

Additional Conservation Measures

24
25
26
27 No additional conservation measures are required.

Ahart's Paronychia

Goals and Objectives

28
29
30
31
32 **Goal AHPA1:** Maintain or increase the size and number of occurrences of Ahart's
33 paronychia within the planning area.

34 The following landscape-level and natural community-level biological objectives also
35 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

36
37 **Objective AHPA1.1:** Protect []% of the remaining known extant occurrences of
38 Ahart's paronychia that are currently unprotected within the planning area as
39 indicated in Table 5.X [to come].

Handout #3a

1 **Objective AHPA1.2:** Protect up to [] future occurrences of Ahart's paronychia
2 that are currently unprotected within the planning area.

3 **Objective AHPA1.3:** Protect a total of [] acres of Ahart's paronychia habitat
4 distributed within the planning area as indicated in Table 5.X [to come].

5 **Objective AHPA1.4:** Enhance a total of [] acres of Ahart's paronychia habitat
6 protected under Objective AHPA1.4 distributed within the planning area as
7 indicated in Table 5.X [to come].

8 **Objective AHPA1.5:** Restore a total of [] acres of Ahart's paronychia habitat
9 distributed within the planning area as indicated in Table 5.X [to come].

10
11 **Objective AHPA1.6:** Restore [] acres of Ahart's paronychia habitat for every
12 acre of Ahart's paronychia habitat removed by covered activities.

13 Conservation Strategy and Relationship to Landscape- and Community-Level 14 Conservation Measures

15
16 The general conservation approach for Ahart's paronychia involves implementing
17 landscape and natural community-level conservation measures that preserve grassland
18 habitat including vernal pools (LAND CM1, 2, & 4; GRLA CM2, 7, & 8). Conservation
19 will be directed towards the acquisition, protection, and enhancement of vernal pools that
20 are located in the areas described in Table 5.X [to come] through implementation of
21 applicable natural community-level conservation measures.

22 23 Additional Conservation Measures

24
25 No additional conservation measures are required.
26
27

28 California Beaked-Rush

29 Goals and Objectives

30
31 **Goal CBRU1:** Maintain or increase the size and number of occurrences of California
32 beaked-rush within the planning area.

33 The following landscape-level and natural community-level biological objectives also
34 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

35
36 **Objective CBRU1.1:** Protect a total of [] % of the remaining known extant
37 occurrences of California beaked-rush that are currently unprotected within the
38 planning area as indicated in Table 5.X [to come].

39 **Objective CBRU1.2:** Protect up to [] future occurrences of California beaked-
40 rush that are currently unprotected within the planning area.

Handout #3a

1 **Objective CBRU1.3:** Protect a total of ■ acres of California beaked-rush habitat
2 distributed within the planning area as indicated in Table 5.X [to come].

3 **Objective CBRU1.4:** Enhance a total of ■ acres of California beaked-rush
4 habitat protected under Objective CBRU1.3 distributed within the planning area
5 as indicated in Table 5.X [to come].

6 Conservation Strategy and Relationship to Landscape- and Community-Level 7 Conservation Measures

8
9 The general conservation approach for California beaked-rush involves implementing
10 landscape and natural community-level conservation measures that preserve oak
11 woodland/savanna, grassland, and riparian habitats that contain seeps and springs that are
12 essential for California beaked-rush conservation (LAND CM1, 2, & 4; OWSA CM 1 &
13 2; GRLA CM 1 & 2; RIPA CM, 2, 3, & 4). Conservation will be directed towards the
14 acquisition, protection, and enhancement of oak woodland savanna, grassland, and
15 riparian communities that are located in the areas described in Table 5.X [to come]
16 through implementation of applicable natural community-level conservation measures.

17 18 Additional Conservation Measures

19
20 **BCCBURU CM1:** Through implementation of LAND CM1, 2, & 4, acquire lands that
21 include suitable seep and spring habitat for California beaked-rush. Surveys conducted
22 under LAND CM1 will include an assessment of the presence of California beaked-rush
23 habitat that will be used for prioritizing preservation of California beaked-rush habitat.

24 **Butte County Checkerbloom**

25 Goals and Objectives

26
27 **Goal BCCH1:** Maintain the area, size and number of occurrences of Butte County
28 checkerbloom within the Planning Area as described in the following objectives.

29
30 The following landscape-level and natural community-level biological objectives also
31 contribute towards achieving this goal: [to come].

32
33 **Objective BCCH1.1:** Preserve 50 % of the known extant occurrences of Butte
34 County checkerbloom that are currently unprotected and the associated
35 communities.

36
37 **Objective BDDH1.2:** Preserve 50 % of unprotected newly discovered
38 occurrences that are located along drainages north of Butte Creek and the
39 associated communities.

Handout #3a

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

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

Butte County checkerbloom is known to be widely distributed across the foothills of the Plan Area from Butte Creek south. It is generally associated with stream corridors that cut through the Tuscan Geological formation. In the Butte Creek area the streams have higher flow capacities, flow down steeper gradients, and as a result have cut relatively narrow canyons with steep slopes and narrow bottoms lined with trees. In contrast, from about the Neal Road area south the watersheds of the streams are smaller, the gradients less steep, and the entire area consists of an ancient erosional strath terrace surface. The habitat in these areas can sometimes be directly on gravels along the bottom of the stream channels among California junipers. There are no reported occurrences in the Plan Area north of Butte Creek but habitat similar to that present in Butte Creek is present there and Butte County checkerbloom is likely to be discovered when surveys are conducted.

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

Additional Conservation Measures

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

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

Handout #3a

1 **Veiny Monardella**

2 **Goals and Objectives**

3
4 **Goal VEMO1:** Maintain or increase the size and number of occurrences of veiny
5 monardella within the Planning Area.

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

8
9 **Objective VEMO1.1:** Preserve 100% known extant occurrences of veiny
10 monardella that are currently unprotected within the Planning Area.

11
12 **Objective VEMO1.2:** Preserve 90% of newly documented occurrences of veiny
13 monardella within the Planning Area.

14 **Conservation Strategy and Relationship to Landscape- and Community-Level** 15 **Conservation Measures**

16
17 Because there are only two extant occurrences in California and a single occurrence in
18 Butte County, the initial conservation strategy will be to preserve the single known
19 occurrence in the Neal Road area and any newly documented occurrences, to conduct
20 focused studies to identify its biological and ecological requirements, and to preserve the
21 landscape in which veiny monardella is found in Butte County.

22 **Additional Conservation Measures**

23
24 **VEMO CM1:** Through implementation of LAND CM2, acquire lands that include
25 suitable habitat for veiny monardella. Surveys conducted under LAND CM1 will include
26 an assessment of the presence of veiny monardella habitat that will be used for
27 prioritizing preservation of veiny monardella habitat.

30 **Butte County Golden Clover**

31 **Goals and Objectives**

32
33 **Goal BCGC1:** Maintain or increase the size and number of occurrences of Butte County
34 golden clover within the planning area.

35
36 The following landscape-level and natural community-level biological objectives also
37 contribute towards achieving this goal: [GRLA1.1-1.5](#) and [GRLA2.8-2.9](#).
38

Handout #3a

1 **Objective BCGC1.1:** Protect █ % of the remaining known extant occurrences of
2 Butte County golden clover that are currently unprotected within the planning
3 area as indicated in Table 5.X [to come].

4 **Objective BDGC1.2:** Protect up to █ future occurrences of Butte County
5 golden clover that are currently unprotected within the planning area.

6 **Objective BCGC1.3:** Protect a total of █ acres of Butte County golden clover
7 habitat distributed within the planning area as indicated in Table 5.X [to come].

8 **Conservation Strategy and Relationship to Landscape- and Community-Level** 9 **Conservation Measures**

10 The general conservation approach for Butte County golden clover involves
11 implementing landscape and natural community-level conservation measures that
12 preserve grassland habitat including vernal pools on the Lovejoy basalt formation
13 (LAND CM1, 2, & 4; GRLA CM7 & 8). Conservation will be directed towards the
14 acquisition, protection, and enhancement of vernal pools that are located on the Lovejoy
15 basalt formation in the areas described in Table 5.X [to come] through implementation of
16 applicable natural community-level conservation measures.

17 **Additional Conservation Measures**

18 **GRTUBCGC CMI:** Through implementation of GRLA CM7, preferentially acquire
19 lands that include suitable habitat for Butte County golden clover. The preferential habit
20 for Butte County golden clover consists of the vernal pools on the Lovejoy basalt
21 formation.

22 **Greene's Tuctoria**

23 **Goals and Objectives**

24 **Goal GRTU1:** Maintain or increase the size and number of occurrences of Greene's
25 tuctoria within the planning area; meet or exceed conservation goals set forth in the
26 Vernal Pool Recovery Plan (USFWS 2005).

27 The following landscape-level and natural community-level biological objectives also
28 contribute towards achieving this goal: GRLA1.1-1.5 and GRLA2.8-2.9.

29 **Objective GRTU1.1:** Protect a total of 80% of the remaining known extant
30 occurrences of Greene's tuctoria that are currently unprotected, as per Recovery
31 Plan (USFWS 2005). These will be distributed within the planning area as
32 indicated in Table 5.X [to come].

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Handout #3a

1 Objective GRTU1.2: Protect [] additional occurrences of Greene's tuctoria that
2 are located in the future.

3
4 Objective GRTU1.3: Protect 95% of suitable species habitat within the Oroville
5 and Vina Plains Recovery Areas and 85% of suitable species habitat within the
6 Richvale Recovery Area, as per Recovery Plan (USFWS 2005).

7
8 Objective GRTU1.4: Preserve a total of [] acres of Greene's tuctoria habitat
9 distributed within the planning area as indicated in Table 5.X [to come].

10
11 Objective GRTU1.5: Enhance a total of [] acres of Greene's tuctoria habitat
12 protected under Objective GRTU1.2 distributed within the species' recovery core
13 areas as indicated in Table 5.X [to come].

14
15 Objective GRTU1.6: Enhance a total of [] acres of Greene's tuctoria habitat
16 distributed outside of the species' recovery areas as indicated in Table 5.X [to
17 come].

18
19 Objective GRTU1.7: Restore a total of [] acres of Greene's tuctoria habitat
20 distributed within the species' recovery areas as indicated in Table 5.X [to come].

21
22 Objective GRTU1.8: Restore a total of [] acres of Greene's tuctoria habitat
23 distributed outside of the species' recovery areas as indicated in Table 5.X [to
24 come].

25
26 Objective GRTU1.9: Restore [] acres of Greene's tuctoria habitat for every acre
27 of Greene's tuctoria habitat removed by covered activities.

28 Conservation Strategy and Relationship to Landscape- and Community-Level 29 Conservation Measures

30
31 The general conservation approach for Greene's tuctoria involves implementing
32 landscape and natural community-level conservation measures that preserve grassland
33 habitat including large vernal pools that are greater than 400 square feet in area (LAND
34 CM1, 2, & 4; GRLA CM6). Conservation will be directed towards the acquisition,
35 protection, and enhancement of large vernal pools that are located in the areas described
36 in Table 5.X [to come] through implementation of applicable natural community-level
37 conservation measures.

38 39 Additional Conservation Measures

40
41 GRTU CMI: Through implementation of GRLA CM6, preferentially acquire lands that
42 include suitable habitat for Greene's tuctoria. The preferential habit for Greene's tuctoria
43 consists of the subset of the largest vernal pools on the landscape.

Handout #3a

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GRTU CM2: Because Greene's tuctoria is distributed in very localized areas of clay soils on the bottoms of the largest vernal pools, grazing management on sites with large vernal pools that support or can support Greene's tuctoria will include specific provisions to protect Greene's tuctoria or its potential habitat from the trampling impacts of domestic grazing animals.

DRAFT