

1 **REVISED SAIC TERRESTRIAL SPECIES GOALS AND**
2 **OBJECTIVES**
3 **Working Draft¹**

4
5 **Introduction**

6
7 This handout presents draft biological goals and objectives for the proposed terrestrial
8 covered species that have been revised based on comments received to the preliminary
9 draft biological goals and objectives presented to the Biological Goals and Objectives
10 Working Group on February 10, 2009 and additional comments received on the March
11 2nd draft discussed at that meeting. These terrestrial goals and objectives will be
12 combined with the Aquatics Goals package presented at the April 17th Steering
13 Committee into a single, unified set of goals and objectives for the BDCP that will
14 ultimately constitute chapter 3.2 of the draft conservation plan. They are presented
15 separately here for the sake of brevity.

16 As identified in the BDCP Overview dated January 12, 2009 and other planning
17 documents, the BDCP Steering Committee anticipates that implementation of BDCP
18 proposed covered activities and conservation measures will affect certain terrestrial
19 species and their habitats, and that the BDCP Conservation Strategy will therefore need
20 to address these unavoidable effects. At the direction of the Steering Committee, SAIC
21 has been pursuing the following approach for terrestrial species:

- 22 a. identify the terrestrial species or habitats that may be affected by the proposed
23 BDCP;
- 24 b. identify the biological goals and objectives that may be appropriate for these
25 affected terrestrial species;
- 26 c. develop (through the Terrestrial Resources Subgroup) draft conservation
27 measures that may be appropriate to implement for these species and their habitats
28 to meet the relevant goals and objectives;
- 29 d. explore the manner in which these conservation measures may relate to the
30 conservation measures and programs in other existing or planned HCP/NCCPs in
31 these same geographic areas to provide enhanced benefits to natural communities
32 and species and to support further discussions of enhanced coordination with
33 those other plans and programs.

34
35 The revised biological goals and objectives presented below are intended to be crafted
36 such that implementation of conservation measures that will achieve the objectives will
37 provide for coverage of all the terrestrial covered species under the Natural Community
38 Conservation Planning Act (NCCPA). Coverage is anticipated to be primarily provided

¹ This draft is based upon the March 2, 2009 handout to the Workgroup, as modified by editorial comments shared amongst workgroup members subsequent to the meeting. It remains a “work in progress.”

1 through conservation of sufficient covered species habitats through proposed BDCP
2 physical habitat restoration actions, undertaken in conjunction with the conservation
3 actions under approved and planned HCP/NCCPs that intersect the BDCP Planning Area
4 and Suisun Marsh. If it develops that the BDCP terrestrial conservation measures may
5 not be suited to the conservation standards under the NCCPA for particular terrestrial
6 species that will be affected by the plan, the BDCP plan participants may seek incidental
7 take authorizations for those species under the California Endangered Species Act.
8

9 The approach to conservation is anticipated to be primarily through preservation,
10 enhancement, and restoration of covered terrestrial species habitats. Therefore, the
11 anticipated metric for achieving terrestrial covered species objectives will be the extent of
12 each species habitat (described in acres) that is demonstrably preserved, enhanced, or
13 restored, as described in the conservation measures themselves.
14

15 **Natural Community Goals and Objectives**

16
17 *Please note: This natural community goal is drawn directly from the April 17th 2009*
18 *draft of the Aquatics Goals and Objectives. Also pulled from that draft are the several*
19 *objectives nested underneath it that are relevant to the terrestrial (and wetland) species*
20 *which are dependent upon those communities and habitats. They are incorporated*
21 *here so that reviewers can see the community-related goal and objectives under which*
22 *the terrestrial (and wetland) species-specific goals and objectives enumerated here will*
23 *be located.*
24

25 **Goal NACO1:** Protect, enhance, and restore natural communities to provide habitat and
26 ecosystem functions to increase the natural production (reproduction, growth, and
27 survival), abundance, and distribution of native Delta species.
28

29 **Problem Statement [TBD].**
30

31 **Covered species benefiting: [TBD]**
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33 **Objective NACO1.1:** Increase hydrologic connectivity of Delta waterways with
34 existing and historical floodplains to support habitat and food production for
35 associated native species.
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37 *[Note: metrics, targets, and monitoring for this objective would be the same as*
38 *those provided for in the relevant conservation measures (e.g., frequency,*
39 *duration, and extent of Yolo Bypass inundation)]*
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41 **Objective NACO1.2:** Increase the extent and spatial distribution of tidal marsh
42 within the Planning Area and Suisun Marsh to support habitat and food
43 production for associated native species.
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1 *[Note: metrics, targets, and monitoring for this objective would be the same as*
2 *those provided for in the relevant conservation measures (e.g., extent and location*
3 *of restored habitat)]*

4
5 **Objective NACO1.3:** Increase the extent and spatial distribution of riparian
6 forest and scrub within the Planning Area to support habitat and food production
7 for associated native species and increase connectivity among native habitats
8 within and adjacent to the Planning Area.

9
10 *[Note: metrics, targets, and monitoring for this objective would be the the same*
11 *as those provided for in the relevant conservation measures (e.g., extent and*
12 *location of restored habitat)]*

13
14 **Objective NACO1.4:** Preserve pasture lands and lands that are farmed for rice,
15 alfalfa, and row crops in and adjacent to the Planning Area that are managed to
16 support habitat for native species.

17
18 *[Note: metrics, targets, and monitoring for this objective would be the the same*
19 *as those provided for in the relevant conservation measures (e.g., extent and*
20 *location of preserved ag lands)]*

21
22 **Objective NACO1.5:** Preserve grassland communities in and adjacent to the
23 Planning Area that support habitat for associated native species.

24
25 *[Note: metrics, targets, and monitoring for this objective would be the the same*
26 *as those provided for in the relevant conservation measures (e.g., extent and*
27 *location of protected habitat)]*

28
29 **Objective NACO1.6:** Preserve natural seasonal wetlands, including vernal pools
30 and their micro-watersheds, and managed wetlands in and adjacent to the
31 Planning Area that support habitat for associated native species.

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33 *[Note: metrics, targets, and monitoring for this objective would be the same as*
34 *those provided for in the relevant conservation measures (e.g., extent and location*
35 *of protected habitat)]*

36
37 **Objective NACO1.7:** Preserve non-tidal perennial aquatic and associated non-
38 tidal perennial permanent emergent marsh communities in and adjacent to the
39 Planning Area that support habitat for associated native species.

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41 *[Note: metrics, targets, and monitoring for this objective would be the same as*
42 *those provided for in the relevant conservation measures (e.g., extent and location*
43 *of protected habitat)]*

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46 **Terrestrial Covered Species Goals and Objectives**

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Salt Marsh Harvest Mouse

Goal SMHM1: Preserve and protect the abundance and distribution of salt marsh harvest mouse and provide sufficient habitat to support the abundance and distribution of its populations in Suisun Marsh and the Planning Area to contribute to its conservation in these areas.²

The following ecosystem and natural community objectives also contribute towards achieving this goal: ECSY5.2 and NACO1.3-1.4.

Objective SMHM1.1: Increase the extent of tidal salt marsh harvest mouse habitat within Suisun Marsh.

Objective SMHM1.2: Restore tidal marsh in portions of the Planning Area that may support salt marsh harvest mouse habitat in future years with sea level rise.

Objective SMHM1.3: Avoid mortality of salt marsh harvest mouse associated with implementation of covered activities and conservation measures³.

Suisun Shrew

Goal SUSH1: Provide sufficient habitat to support the abundance and distribution of Suisun shrew populations in Suisun Marsh and the Planning Area to contribute to the conservation of the Suisun shrew in these areas.

The following ecosystem and natural community objectives also contribute towards achieving this goal: ECSY5.2 and NACO1.3-1.4.

Objective SUSH1.1: Increase the extent of tidal Suisun shrew habitat within Suisun Marsh.

Objective SUSH1.2: Restore tidal marsh in portions of the Planning Area that may support Suisun shrew habitat in future years with sea level rise.

² The phrase *Protect and preserve the abundance and distribution* refers to protecting and preserving the abundance and distribution of salt marsh harvest mouse only in the context of BDCP actions and not from actions implemented by non-BDCP entities.

³ The salt marsh harvest mouse is a designated fully protected species under the California Fish and Code § 4700. Take as defined in California Fish and Game Code §86 of fully protected species is prohibited. Conservation measures to achieve this objective would avoid take of the species in accordance with California Fish and Game Code § 4700.

1 **Goal RIBR1:** Preserve and protect the abundance and distribution of riparian brush
2 rabbit and increase the extent of its habitat to contribute to conservation of its populations
3 in the Planning Area.⁴
4

5 The following ecosystem and natural community objectives also contribute towards
6 achieving this goal: ECSY5.2 and NACO1.5.
7

8 **Objective RIBR1.1:** Increase the extent of riparian brush rabbit habitat near
9 occupied habitats within the Planning Area.
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11 **Objective RIBR1.2:** Avoid mortality of riparian brush rabbit and removal or
12 degradation of occupied habitat associated with implementation of covered
13 activities and conservation measures.⁵
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16 **Swainson's Hawk**

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18 **Goal SWHA1:** Provide sufficient habitat to support the abundance and distribution of
19 Swainson's hawk in the Planning Area to contribute to its conservation.
20

21 The following ecosystem and natural community objectives also contribute towards
22 achieving this goal: ECSY5.2, NACO1.3, and NACO1.5.
23

24 **Objective SWHA1.1:** Increase the extent of Swainson's hawk nesting habitat
25 within the Planning Area that is located within miles of Swainson's hawk
26 foraging habitat.
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28 **Objective SWHA1.2:** Maintain or increase the extent of protected Swainson's
29 hawk foraging habitat within the Planning Area.
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32 **California Clapper Rail**

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34 **Goal CLRA1:** Preserve and protect the abundance and distribution of California clapper
35 rail and provide sufficient habitat to support the abundance and distribution of its
36 populations in Suisun Marsh and the Planning Area to contribute to its conservation in
37 these areas.⁶

⁴ The phrase *Protect and preserve the abundance and distribution* refers to protecting and preserving the abundance and distribution of riparian brush rabbit only in the context of BDCP actions and not from actions implemented by non-BDCP entities.

⁵ The riparian brush rabbit is extremely rare and is known to occupy only two small habitat areas, one of which is in the Planning Area.

⁶ The phrase *Protect and preserve the abundance and distribution* refers to protecting and preserving the abundance and distribution of California clapper rail only in the context of BDCP actions and not from actions implemented by non-BDCP entities.

1
2 The following ecosystem and natural community objectives also contribute towards
3 achieving this goal: ECSY5.2 and NACO1.3-1.4.

4
5 **Objective CLRA1.1:** Increase the extent of tidal California clapper rail habitat
6 within Suisun Marsh.

7
8 **Objective CLRA1.2:** Restore tidal marsh in portions of the Planning Area that
9 may support California clapper rail habitat in future years with sea level rise.

10
11 **Objective CLRA1.3:** Avoid mortality of California clapper rail associated with
12 implementation of covered activities and conservation measures⁷.

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15 **California Black Rail**

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17 **Goal BLRA1:** Preserve and protect the abundance and distribution of California black
18 rail and provide sufficient habitat to support the abundance and distribution of its
19 populations in Suisun Marsh and the Planning Area to contribute to its conservation in
20 these areas.

21
22 The following ecosystem and natural community objectives also contribute towards
23 achieving this goal: ECSY5.2 and NACO1.3-1.4.

24
25 **Objective BLRA1.1:** Increase the extent of tidal California black rail habitat
26 within the Planning Area and Suisun Marsh.

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28 **Objective BLRA 1.2:** Avoid mortality of California black rail associated with
29 implementation of covered activities and conservation measures⁸.

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32 **Greater Sandhill Crane**
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⁷ The California clapper rail is a designated fully protected species under the California Fish and Code § 4700. Take as defined in California Fish and Game Code §86 of fully protected species is prohibited. Conservation measures to achieve this objective would avoid take of the species in accordance with California Fish and Game Code § 4700.

⁸ The California black rail is a designated fully protected species under the California Fish and Code § 4700. Take as defined in California Fish and Game Code §86 of fully protected species is prohibited. Conservation measures to achieve this objective would avoid take of the species in accordance with California Fish and Game Code § 4700.

1 **Goal SACR1:** Preserve and protect the abundance and distribution of greater sandhill
2 crane and provide sufficient habitat to support the abundance and distribution of greater
3 sandhill cranes that winter within the Planning Area to contribute to its conservation.⁹
4

5 The following ecosystem and natural community objectives also contribute towards
6 achieving this goal: NACO1.3.

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8 **Objective SACR1.1:** Maintain or increase the extent of protected greater sandhill
9 crane roosting habitat within the Planning Area.

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11 **Objective SACR1.2:** Maintain or increase the extent of protected greater sandhill
12 crane foraging habitat within the Planning Area.

13
14 **Objective SACR1.3:** Avoid mortality of greater sandhill crane associated with
15 implementation of covered activities and conservation measures¹⁰.
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18 **Western Burrowing Owl**

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20 **Goal BUOW1:** Provide sufficient habitat to support the abundance and distribution of
21 western burrowing owl in the Planning Area and Suisun Marsh to contribute to its
22 conservation in these areas.

23
24 The following ecosystem and natural community objectives also contribute towards
25 achieving this goal: NACO1.3-1.4.

26
27 **Objective BUOW1.1:** Maintain or increase the extent of protected western
28 burrowing owl foraging and breeding habitat within the Planning Area and Suisun
29 Marsh.
30

31 **Tricolored Blackbird**

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33 **Goal TRBB1:** Provide sufficient habitat to support the abundance and distribution of
34 tricolored blackbird in the Planning Area and Suisun Marsh to contribute to its
35 conservation in these areas.
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⁹ The phrase *Protect and preserve the abundance and distribution* refers to protecting and preserving the abundance and distribution of greater sandhill crane only in the context of BDCP actions and not from actions implemented by non-BDCP entities.

¹⁰ The greater sandhill crane is a designated fully protected species under the California Fish and Code § 4700. Take as defined in California Fish and Game Code §86 of fully protected species is prohibited. Conservation measures to achieve this objective would avoid take of the species in accordance with California Fish and Game Code § 4700.

1 The following ecosystem and natural community objectives also contribute towards
2 achieving this goal: NACO1.3-1.4 and NACO1.5.

3
4 **Objective TRBB1.1:** Increase the extent of tricolored blackbird nesting habitat
5 within the Planning Area and Suisun..

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7 **Objective TRBB1.2:** Maintain or increase the extent of protected tricolored
8 blackbird foraging and nesting habitat within the Planning Area and Suisun
9 Marsh.

10 11 **Yellow-breasted Chat**

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13 **Goal YBCH1:** Provide sufficient habitat to support the abundance and distribution of
14 yellow-breasted chat in the Planning Area to contribute to its conservation.

15
16 The following ecosystem and natural community objectives also contribute towards
17 achieving this goal: NACO1.5.

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20 **Objective YBCH1.1:** Increase the extent of yellow-breasted chat nesting habitat
21 within the Planning Area.

22 23 24 **Giant Garter Snake**

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26 **Goal GIGS1:** Provide sufficient habitat to support the abundance and distribution of
27 giant garter snake populations in the Planning Area to contribute to its conservation.

28
29 The following ecosystem and natural community objectives also contribute towards
30 achieving this goal: ECSY5.2 and NACO1.3.

31
32 **Objective GIGS1.1:** Increase the extent of tidal giant garter snake habitat within
33 the Planning Area.

34
35 **Objective GIGS1.2:** Maintain or increase the extent of protected non-tidal giant
36 garter snake habitat within the Planning Area and Suisun Marsh.

37 38 39 **Western Spadefoot Toad**

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41 **Goal SPTO1:** Provide sufficient habitat to support the abundance and distribution of
42 western spadefoot toad in the Planning Area and Suisun Marsh to contribute to its
43 conservation in these areas.

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1 The following ecosystem and natural community objectives also contribute towards
2 achieving this goal: NACO1.3.

3
4 **Objective SPTO1.1:** Maintain or increase the extent of protected western
5 spadefoot toad breeding and upland habitats within the Planning Area and Suisun
6 Marsh.

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9 **Valley Elderberry Longhorn Beetle**

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11 **Goal VELB1:** Provide sufficient habitat to support the abundance and distribution of
12 valley elderberry longhorn beetle in the Planning Area to contribute to its conservation.

13
14 The following ecosystem and natural community objectives also contribute towards
15 achieving this goal: ECSY5.2 and NACO1.5.

16
17 **Objective VELB1.1:** Increase the extent of valley elderberry longhorn beetle
18 habitat within the Planning Area.

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21 **Fairy Shrimp (Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp,
22 Conservancy Fairy Shrimp, and Longhorn Fairy Shrimp)**

23
24 **Goal FASH1:** Provide sufficient vernal pool habitats to support the abundance and
25 distribution of vernal pool fairy shrimp, vernal pool tadpole shrimp, conservancy fairy
26 shrimp, and longhorn fairy shrimp populations in the Planning Area to contribute to their
27 conservation.

28
29 The following ecosystem and natural community objectives also contribute towards
30 achieving this goal: NACO1.3.

31
32 **Objective VPFS1.1:** Maintain or increase the extent of protected vernal pool
33 habitats that support habitats for vernal pool fairy shrimp, vernal pool tadpole
34 shrimp, conservancy fairy shrimp, and longhorn fairy shrimp within the Planning
35 Area.

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38 **Alkali milk-vetch**

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40 **Goal ALMV 1:** Provide sufficient vernal pool, vernal swale, alkali meadow, and alkali
41 sink habitats to support the abundance and distribution of alkali milk-vetch in the
42 Planning Area and Suisun Marsh to contribute to its conservation in these areas.

43
44 The following ecosystem and natural community objectives also contribute towards
45 achieving this goal: NACO1.3-1.4.

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Objective ALMV1.1: Maintain or increase the extent of protected vernal pool, vernal swale, alkali meadow, and alkali sink habitats that supports alkali milk-vetch habitat within the Planning Area and Suisun Marsh.

Delta Button-Celery

Goal DEBC1: Provide sufficient seasonal floodplain habitat to support the abundance and distribution of delta button-celery in the Planning Area to contribute to its conservation.

The following ecosystem and natural community objectives also contribute towards achieving this goal: NACO1.2.

Objective DEBC1.1: Maintain or increase the extent of protected seasonal floodplain habitats that support habitat for delta button-celery within the Planning Area.

Delta Mudwort

Goal DEMW1: Provide sufficient habitat to support the abundance and distribution of delta mudwort in the Planning Area and Suisun Marsh to contribute to its conservation in these areas.

The following ecosystem and natural community objectives also contribute towards achieving this goal: ECSY5.2 and NACO1.3-1.5.

Objective DEMW1.1: Increase the extent of delta mudwort habitat within the Planning Area and Suisun Marsh.

Delta Tule Pea

Goal DETP1: Provide sufficient habitat to support the abundance and distribution of delta tule pea in the Planning Area and Suisun Marsh to contribute to its conservation in these areas.

The following ecosystem and natural community objectives also contribute towards achieving this goal: ECSY5.2 and NACO1.3-1.5.

Objective DETP1.1: Increase the extent of delta tule pea habitat within the Planning Area and Suisun Marsh.

Heckard's Peppergrass

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2 **Goal HEPE 1:** Provide sufficient vernal pool, vernal swale, alkali meadow, and alkali sink
3 habitats to support the abundance and distribution of Heckard's peppergrass in the
4 Planning Area to contribute to its conservation in these areas.

5
6 The following ecosystem and natural community objectives also contribute towards
7 achieving this goal: NACO1.3.

8
9 **Objective HEPE1.1:** Maintain or increase the extent of protected vernal pool,
10 vernal swale, alkali meadow, and alkali sink habitats that support Heckard's
11 peppergrass habitat within the Planning Area.

12 13 14 **Legenere**

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16 **Goal LELI1:** Provide sufficient vernal pool and vernal swale habitats to support the
17 abundance and distribution of legenere in the Planning Area to contribute to its
18 conservation in these areas.

19
20 The following ecosystem and natural community objectives also contribute towards
21 achieving this goal: NACO1.3.

22
23 **Objective LELI1.1:** Maintain or increase the extent of protected vernal pool and
24 vernal swale habitats that supports legenere habitat within the Planning Area.

25 26 27 **Mason's Lilaeopsis**

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29 **Goal MALI1:** Provide sufficient habitat to support the abundance and distribution of
30 delta mudwort in the Planning Area and Suisun Marsh to contribute to its conservation in
31 these areas.

32
33 The following ecosystem and natural community objectives also contribute towards
34 achieving this goal: ECSY5.2 and NACO1.3-1.5.

35
36 **Objective MALI1.1:** Increase the extent of Mason's lilaeopsis habitat within the
37 Planning Area and Suisun Marsh.

38 39 40 **San Joaquin Spearscale**

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42 **Goal SJSP1:** Provide sufficient vernal pool, alkali meadow, alkali sink, and brackish tidal
43 marsh habitats to support the abundance and distribution of San Joaquin spearscale in the
44 Planning Area and Suisun Marsh to contribute to its conservation in these areas.

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1 The following ecosystem and natural community objectives also contribute towards
2 achieving this goal: NACO1.3.

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4 **Objective SJSP1.1:** Maintain or increase the extent of protected vernal pool,
5 alkali meadow, alkali sink, and brackish tidal marsh habitats that supports San
6 Joaquin spearscale habitat within the Planning Area and Suisun Marsh.

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9 **Soft Bird's-Beak**

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11 **Goal SOBB1:** Preserve and protect the abundance and distribution of soft bird's-beak
12 and provide sufficient brackish tidal marsh habitat to support the abundance and
13 distribution of soft bird's-beak in the Planning Area and Suisun Marsh to contribute to its
14 conservation in these areas.¹¹

15
16 The following ecosystem and natural community objectives also contribute towards
17 achieving this goal: ECSY5.2 and NACO1.3-1.4.

18
19 **Objective SOBB1.1:** Increase the extent of brackish tidal marsh habitats that
20 could support soft bird's beak habitat.

21
22 **Objective SOBB1.2:** Avoid take of soft bird's beak associated with
23 implementation of covered activities and conservation measures.

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26 **Suisun Marsh aster**

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28 **Goal SUMA1:** Provide sufficient habitat to support the abundance and distribution of
29 Suisun marsh aster in the Planning Area and Suisun Marsh to contribute to its
30 conservation in these areas.

31
32 The following ecosystem and natural community objectives also contribute towards
33 achieving this goal: ECSY5.2 and NACO1.3-1.5.

34
35 **Objective SUMA1.1** Increase the extent of Suisun marsh aster habitat within the
36 Planning Area and Suisun Marsh.

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39 **Goals and Objectives for the additional covered species to be**
40 **forthcoming**

¹¹ The phrase *Protect and preserve the abundance and distribution* refers to protecting and preserving the abundance and distribution of soft bird's-beak only in the context of BDCP actions and not from actions implemented by non-BDCP entities.