

# Central Valley Landscape Conservation Project: Priority Natural Resource Selection Methodology

This document describes the methods used to develop the preliminary Priority Resources (species and habitat) lists provided for sub-selection in the Priority Resource Workshop, June 3, 2015. The resulting selected Priority Resources will be the focus of climate change vulnerability assessments and region-wide adaptation strategies.

## SPECIES

### Species List Creation

Species common and scientific names were gathered from 27 conservation plans and lists and 43 species-specific plans (see Appendix A). Only species with significant occurrence in the Central Valley were selected (“significant occurrence”= a population of the species regularly utilizes Central Valley habitats for one or more stages of its lifecycle). Judgments about species distributions were made by referring to the resources in the references section.

The plans and lists were split into two categories for use in the ranking step described below. The first category (“Core Plans”) are 12 plans and lists that were determined to be of high relevance to the Central Valley and are all focused on the Central Valley or its sub-regions. Among them are five plans and one list that address all taxa, one plan and one list addressing only birds, two lists of fish species, and one list for invertebrates. In the second category (“Additional Plans”) are nine plans and six lists ranging from state-level to national and international focus and all pertaining to birds, plus a collection of 44 species-specific bird plans.

### Species Ranking

Species lists were first sorted into taxonomic groups. This was done first because the scores for birds would always outweigh the scores for other taxa due to the fact that there are more bird plans (see the listings below).

A ranking order was accomplished using the following information:

- “Total Core Plans”, the sum of one point for each plan/list from the 12 Core Plans/Lists that the species occurred in, multiplied by a weighting of 2.
- “Total Other Plans”, the sum of one point for each plan/list from the 15 Additional Plans/Lists that the species occurred in.

Because of the “Other Plans” which were available only for birds, we ranked and sorted bird species and other species separately. Approximately 25 of the highest ranking species in each Habitat Type, distributed among multiple taxon groups, were chosen to be included in the Species Selection Worksheet, and sorted from highest to lowest ranking. The entire ranked species list is also being made available to the workshop participants in a handout, and species can be chosen from there to be included in the worksheet.

**T&E and Special Status Scores**

A “T&E and Special Status Score” was assigned using the system of the USFWS Resources of Concern Database, and augmented for “Special Status” with information from additional sources, listed below.

**T&E/SS Score Definitions:**

- 3** = The species is federally listed as T or E or is a Federal Candidate
- 2** = The species is state listed as T or E, or is a Federal trust resource of the NWRS (migratory bird, marine mammal or anadromous or interjurisdictional fish)
- 1** = The species is a State Candidate or any other designation of management concern, including: American Bird Conservancy, American Fisheries Society, CA Department of Fish & Wildlife, The World Conservation Union, NatureServe, US Forest Service, US Fish & Wildlife Service, North American Bird Conservation Initiative, National Marine Fisheries Service, Xerces Society Redlist
- 0** = The species has no special listing status or designation.

**HABITATS**

**Habitat List Creation**

Ranked species were sorted into habitat lists for use in the Priority Resources Workshop working groups. Habitat groupings were:

Habitat - Macro group	Habitat - subgroup
Wetlands	Alkali Seasonal wetland complex, Managed Wetland, Permanent wetland, Seasonal wetlands, Semi-permanent wetlands, Ponds, Rice cropland

Riparian and Riverine	Riparian, Floodplain ecosystems, Riparian woodland, Stream channel/riverine, Estuarine
Upland	Grassland, Rangeland/pasture, Native uplands, Alkali scrubland, Grain/hay crops, Dunes, Chaparral, Row crops, Vernal pools and swales
Woodland	Oak woodland/savanna, Coniferous forest, Orchard/vineyard

### Source Plans and Lists:

#### “Core” Plans And Lists Used In Ranking:

1. Bay Delta Conservation Plan. California Natural Resources Agency. <a href="http://baydeltaconservationplan.com/Home.aspx">http://baydeltaconservationplan.com/Home.aspx</a>
2. Central Valley Project Conservation Plan. Bureau of Reclamation. <a href="http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project">http://www.usbr.gov/projects/Project.jsp?proj_Name=Central+Valley+Project</a>
3. Central Valley Joint Venture Implementation Plan – Conserving Bird Habitat. 2006. <a href="http://www.centralvalleyjointventure.org/assets/pdf/CVJV_fnl.pdf">http://www.centralvalleyjointventure.org/assets/pdf/CVJV_fnl.pdf</a>
4. Central Valley Flood System Conservation Strategy. California Department of Water Resources. <a href="http://www.water.ca.gov/conservationstrategy/">http://www.water.ca.gov/conservationstrategy/</a>
5. 2013 California Water Plan. California Department of Water Resources. <a href="http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm">http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm</a>
6. 2005 State Wildlife Action Plan. California Department of Fish and Wildlife. <a href="https://www.wildlife.ca.gov/SWAP">https://www.wildlife.ca.gov/SWAP</a>
7. 2015 State Wildlife Action Plan. California Department of Fish and Wildlife. <a href="https://www.wildlife.ca.gov/SWAP">https://www.wildlife.ca.gov/SWAP</a>
8. Fish Passage Forum Website. <a href="http://www.cafishpassageforum.org/">http://www.cafishpassageforum.org/</a>
9. Fish Species of Special Concern in California. California Department of fish and Wildlife. <a href="https://www.dfg.ca.gov/wildlife/nongame/ssc/fish.html">https://www.dfg.ca.gov/wildlife/nongame/ssc/fish.html</a>

10. California Bird Species of Special Concern. California Department of Fish and Wildlife. <https://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html>

11. Xerces Society for Invertebrate Conservation Redlist.  
<http://www.xerces.org/pollinator-redlist/>

12. Tulare Basin Wildlife Partners Conservation Vision. Tulare Basin Wildlife Partners.  
[http://www.tularebasinwildlifepartners.org/uploads/2/1/4/7/21473344/tbwp\\_conservationvision072110.pdf](http://www.tularebasinwildlifepartners.org/uploads/2/1/4/7/21473344/tbwp_conservationvision072110.pdf)

**Additional plans and lists used in ranking:**

13. Audubon strategic plan 2012-2015 plan - A Roadmap for Hemispheric Conservation. Audubon Society.  
[http://www.audubon.org/sites/default/files/documents/audubon\\_strategic\\_plan\\_-\\_web\\_2012.pdf](http://www.audubon.org/sites/default/files/documents/audubon_strategic_plan_-_web_2012.pdf)

14. CPIF (California Partners in Flight). 2000. Version 1.0. The draft grassland bird conservation plan: a strategy for protecting and managing grassland habitats and associated birds in California (B. Allen, lead author). Point Reyes Bird Observatory

15. The State of the Birds 2014 Common Birds in Steep Decline. North American Bird Conservation Initiative, U.S. Committee. Washington, D.C.

16. North American Waterbird Conservation Plan. James A. Kushlan, Melanie J. Steinkamp, Katharine C. Parsons, Jack Capp, Martin Acosta Cruz, Malcolm Coulter, Ian Davidson, Loney Dickson, Naomi Edelson, Richard Elliot, R. Michael Erwin, Scott Hatch, Stephen Kress, Robert Milko, Steve Miller, Kyra Mills

17. North American Waterfowl Management Plan 2012 : People Conserving Waterfowl and Wetlands.

18. Saving Our Shared Birds: Partners in Flight Tri-National Vision for Landbird Conservation. H. Berlanga, et al. 2010. Cornell Lab of Ornithology: Ithaca, NY

19. RHJV (Riparian Habitat Joint Venture). 2004. Version 2.0. The riparian bird conservation plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight.  
<http://www.prbo.org/calpif/pdfs/riparian.v-2.pdf>

20. The Southern Pacific Shorebird Conservation Plan: A strategy for supporting California's Central Valley and coastal shorebird populations. Hickey, C., W.D. Shuford, G.W. Page, and S. Warnock. 2003. Version 1.1. PRBO Conservation Science, Stinson Beach, CA
21. U.S. Fish & Wildlife Service Migratory Bird Program Focal Species Strategy. 2011.
22. American Bird Conservancy (2012) List of the Birds of the United States with Conservation Rankings
23. The State of the Birds 2014 Watch List. Rosenberg, K.V., D. Pashley, B. Andres, P. J. Blancher, G.S. Butcher, W.C. Hunter, D. Mehlman, A.O. Panjabi, M. Parr, G. Wallace, and D. Wiedenfeld. 2014. North American Bird Conservation Initiative, U.S. Committee.
24. Birds of Conservation Concern 2008. U.S. Fish and Wildlife Service. 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp.
25. USFWS Birds of Management Concern, personal communication, Brad Andres, National Coordinator, U.S. Shorebird Conservation Plan, 12/10/2014
26. Birds of Conservation Concern 2008. U.S. Fish and Wildlife Service. 2008. United States Department of Interior, Fish and Wildlife Service
27. Conservation Status Assessment Factor Scores and Categories of Concern for Solitary-Nesting Waterbird Species [Relative to All Waterbirds and Derived Within the Spatial Context of the NAWCP Area]

**Species-Specific Plans:**

1. A Monitoring Strategy for the Western Population of American White Pelicans within the Pacific Flyway
2. A Monitoring Strategy for the Western Population of Double-crested Cormorants within the Pacific Flyway
3. Bank Swallow ( <i>Riparia riparia</i> ) Conservation Strategy for the Sacramento River Watershed, California

4. Bank Swallow Recovery Plan, 1992
5. California Wild Turkey Strategic Plan Synopsis
6. Conservation Plan for the Dunlin with Breeding Populations in North America (Calidris alpina arctica, C.a. pacifica, and C.a. hudsonia)
7. Conservation Plan for the Tricolored Blackbird (Agelaius tricolor)
8. Draft Recovery Plan for the Quino Checkerspot Butterfly (Euphydryas editha quino)
9. Draft Recovery Plan for the Smith's Blue Butterfly
10. Kern Primrose Sphinx Moth Draft Recovery Plan
11. Management Plan for Mule Deer
12. Management plan of the Pacific and Central Flyways for the Rocky Mountain population of greater sandhill cranes.
13. Monitoring Plan for the American Peregrine Falcon
14. Mourning Dove National Strategic Harvest Management Plan
15. North American grouse management plan (Draft 2004)
16. Pacific Flyway Management Plan for Pacific Brant
17. Pacific Flyway Management Plan for Ross' Geese
18. Pacific Flyway Management Plan for the Aleutian Goose
19. Pacific Flyway Management Plan for the Cackling Canada Goose
20. Pacific Flyway Management Plan for the Central Valley Population of Greater Sandhill Cranes
21. Pacific Flyway management plan for the greater white-fronted goose
22. Pacific Flyway Management Plan for the Pacific Coast population of band-tailed pigeons
23. Pacific Flyway Management Plan for the Pacific Coast Population of Trumpeter

Swans
24. Pacific Flyway Management Plan for the Pacific Flyway Population of Lesser Sandhill Cranes
25. Pacific Flyway Management Plan for the Pacific Population of Lesser Canada Geese
26. Pacific Flyway Management Plan for the Pacific Population of Western Canada Geese
27. Pacific Flyway Management Plan for the Rocky Mountain Population of Canada Geese
28. Pacific Flyway Management Plan for the Rocky Mountain Population of Trumpeter Swans
29. Pacific Flyway Management Plan for the Tule Greater White-Fronted Goose
30. Pacific Flyway Management Plan for the Western Arctic Population of Lesser Snow Geese
31. Pacific Flyway Management Plan for the Western Population of Tundra Swans
32. Pacific Flyway Management Plan for the Wrangel Island Population of Lesser Snow Geese
33. Pacific Flyway Management Plan for Western White-winged Doves
34. Pacific Flyway Plan: A Framework for the Management of American White Pelican Depredation on Fish Resources in the Pacific Flyway
35. Pacific Flyway Plan: A Framework for the Management of Double-crested Cormorant Depredation on Fish Resources in the Pacific Flyway
36. Recovery Plan for Peregrine Falcon (Pacific Population) 1982
37. Recovery Plan for the California Condor, April, 1996
38. Recovery Plan for the California Least Tern, <i>Sterna antillarum brownii</i>
39. Recovery Plan for the Light-footed Clapper Rail (Revised 1985)
40. Seven Coastal Plants and the Myrtle's Silverspot Butterfly Recovery Plan.

41. Southwestern Willow Flycatcher Recovery Plan
42. Status Assessment and Conservation Action Plan for the Long-Billed Curlew (Numenius americanus)
43. Western Quail Management Plan

## Other References for Species Information

### References used to determine geographic distributions:

- The Cornell Lab of Ornithology. Basic Bird Info Website
- CA Natural Diversity Database (CNDDB)
- Calflora
- UC Davis PISCES
- CA Dept. of Fish & Wildlife - Biogeographic Data Branch Conservation Analysis Documents
- California Herps Website
- Endangered Species Recovery Program Mammal and Southern Valley Species profiles
- Sierra Forest Legacy List of Indicator Species
- East Bay Park District List of Indicator Species
- Jepson Eflora Plant habitats
- Xerces Society Red Lists Invertebrate Basic Info Website

### References for existing vulnerability assessments:

- Gardali, et al. Bird Species of Special Concern vulnerability to climate change
- Siegel, et. al. Vulnerability of birds to climate change in California's Sierra Nevada
- Nur, et. al. Assessing Vulnerability of Tidal Marsh Birds to Climate Change through the Analysis of Population Dynamics and Viability.
- Moyle, et. al. Climate change effects on California fishes, 2012.
- Kershner, J. M., ed. A Climate Change Vulnerability Assessment for Focal Resources of the Sierra Nevada. 2014. EcoAdapt.