

Table 5-21. Biological Objective Monitoring Actions and Metrics

Monitoring Action	Monitoring Metrics
Landscape-Level Objectives	
Objective LAND1.1: Establish a system of protected lands in the Plan Area that protects the quantities and patch sizes of each natural community indicated in Table 5-11.	
Documentation of the location of each natural community protected under the BRCP.	Acres of natural communities protected Distribution of patch sizes of protected natural communities
<p>Objective LAND2.1: In the Plan Area north of the City of Chico, protect a habitat corridor comprised of oak woodland and savanna, grassland, riparian, wetland, and aquatic natural communities that is at least 1.2 miles wide¹ along the northeast-southwest elevation gradient between the foothills at the eastern boundary of the Plan Area and the Sacramento River at the western boundary of the Plan Area (across the Cascade Foothills and Northern Orchards CAZs) (Figure 5-4).</p> <p>Objective LAND2.2: In the Plan Area south of the City of Chico and north of the City of Oroville, protect a habitat corridor comprised of oak woodland and savanna, grassland, riparian, wetland, and rice land that is at least 1.2 miles wide (Caltrans and DFG, 2010) along the east-west elevation gradient between the foothills at the eastern boundary of the Plan Area and Butte Creek at the western boundary of the Plan Area (across the Cascade Foothills and Basin CAZs; Figure 5-4).</p> <p>Objective LAND2.3: In the Plan Area south of the City of Oroville, protect a habitat corridor comprised of oak woodland and savanna, grassland, riparian, wetland, and agricultural land that is at least 1.2 miles wide (Caltrans and DFG, 2010) along the east-west elevation gradient between the foothills at the eastern boundary of the Plan Area and the Feather River (across the Sierra Foothills and Southern Orchard CAZs) (Figure 5-4).</p> <p>Objective LAND2.4: Protect a habitat corridor suitable for giant garter snake movement comprised of riparian, wetland, aquatic, and agricultural natural communities separating patches of these communities that is at least 0.6 miles (1 kilometer) wide (Caltrans and DFG, 2010) along the north-south gradient between the Llano Seco Unit of the Upper Butte Basin Wildlife Area (in the Sacramento River CAZ), across the Basin CAZ, to the Little Dry Creek Unit of the Upper Butte Basin Wildlife Area, and to Gray Lodge Wildlife Area (Figure 5-4).</p> <p>Objective LAND3.1: Protect corridors of habitat that provide linkages among protected habitat areas within and adjacent to the Plan Area.</p>	
Evaluation of connectivity among BRCP protected natural communities relative to existing conditions for each corridor location.	Connectivity among protected habitat areas (number and size distribution of unconnected habitat patches, patch spacing, corridor dimensions, permeability and barriers)
Objective LAND3.2: Maintain or improve upstream and downstream passage for covered and other native fish in Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo channel, Little Chico Creek, Butte Creek, and Little Dry Creek.	
Documentation of actions implemented to remove barriers to movement of covered species.	Change in connectivity relative to base conditions.
Objective LAND4.1: Protect and enhance lands within watersheds and subwatersheds that are important to maintaining the quantity, quality, and timing of runoff to streams and wetlands.	
Documentation of the location of protected lands located near streams and wetlands and documentation of enhancement actions that improve vegetation conditions for maintaining water quality (see monitoring for NACO2.1-2.4)	Change in proximity and extent of protected lands located near streams and wetlands and change in vegetation conditions relative to base conditions.

¹ Recommended corridor width in *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Caltrans and DFG, 2010) for meeting the movement needs of large wildlife species such as mountain lion and mule deer, which will also meet the needs of smaller wildlife species (e.g., reptiles, rodents).

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Objective LAND4.2: Reduce the loads of toxic contaminants into waters that support covered plants, amphibians, and fish, and aquatic foodweb processes.	
Review of monitoring reports submitted by funded entities.	Change in water quality parameters relative to base conditions.
Objective LAND4.3: Restore in-bank erosional and depositional processes on BRCP protected river and stream channels.	
Documentation of actions to remove riprap from channel banks under Conservation Measure CM12 (see Table 5.17).	Extent of riprap removed.
Natural Community-Level Objectives	
Objective NACO1.1: Protect 3,885 acres of existing unprotected blue oak savanna in minimum patch sizes of 300 acres in combination with other oak habitats that are distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO1.2: Protect 2,640 acres of existing unprotected blue oak woodland in minimum patch sizes of 300 acres distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO1.3: Protect 11,930 acres of existing unprotected interior live oak and mixed oak woodland communities in minimum patch sizes of 300 acres distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO1.4: Protect 30,555 acres of unprotected grassland without vernal pools within the Plan Area as indicated in Table 5-1.	
Objective NACO1.5: Protect 21,400 acres of unprotected grassland with vernal swale complex, vernal pool and altered vernal pool land cover types within the Plan Area as indicated in Table 5-1.	
Objective NACO1.6: Locate at least 14,850 acres of existing unprotected grassland with vernal swale complex, vernal pool, and altered vernal pool land cover types to be protected under Objective NACO1.5 within vernal pool species recovery core areas such that the species-specific recovery core area objectives for the covered vernal pool species are achieved (see Section 5.3.3, <i>Species-Level Goals and Objectives</i>).	
Objective NACO1.7: Protect 6,370 acres of existing unprotected cottonwood-willow riparian forest and valley oak riparian forest in minimum patch sizes of 25 acres along rivers and streams distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO1.8: Protect at least 25 small stands (under 25 acres) of riparian trees dominated by native tree species that could support nesting Swainson’s hawk and other raptors.	
Objective NACO1.9: Protect 495-8,310 acres of existing unprotected emergent wetlands distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO1.11: Maintain 2,530-35,920 acres of existing managed wetlands that support covered species habitat as wetlands distributed within the Plan Area as indicated in Table 5-1.	
Document (map) the extent of the natural community protected/maintained under the BRCP.	Acres of protected habitat patches relative to the natural community protection target. Number and size distribution of riparian tree patches protected relative to NACO1.5 and NACO1.6
Objective NACO1.10: Protect seeps that support emergent wetlands vegetation within BRCP protected grassland and oak savanna and oak woodland natural communities.	
Objective NACO1.12: Protect up to 25 ponds that support western pond turtle and western spadefoot toad habitat, including adjacent upland habitat extending at least 200 feet from ponds, within BRCP protected grassland, oak savanna and woodland, and wetland natural communities.	
Document (map) the number and location of seeps supporting emergent wetland vegetation and ponds protected under the BRCP.	Number of seeps protected Number of ponds protected

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Objective NACO1.13: Protect at least 10 linear miles of existing unprotected reaches of Pine Creek, Rock Creek, Mud Creek, Big Chico Creek, Lindo Channel, Little Chico Creek, Butte Creek, and Little Dry Creek (this objective may be achieved by protecting one or both banks of streams channels).	
Documentation of the extent of lands protected adjacent to each water course.	Linear miles of channel banks protected
Objective NACO2.1: Enhance the habitat functions of up to 5,120 acres of BRCP protected grassland with vernal swale complex and vernal pools with their adjacent grassland watershed.	
Objective NACO2.2: Enhance the habitat functions of up to 7,640 acres of BRCP protected grassland that do not support vernal pools.	
Document (map) the extent and location of protected vernal pools and swales and adjacent watershed grassland within and outside of vernal pool species recovery core areas.	Acres of protected vernal pool habitat outside and within each vernal pool species recovery core areas.
Objective NACO2.3: Enhance the habitat functions of up to 1,595 acres of BRCP protected cottonwood-willow riparian and valley oak riparian forest for covered and other native species.	
Objective NACO2.4: Enhance the habitat functions of up to 8,980 acres of BRCP protected emergent wetlands for covered and other native species.	
Objective NACO2.5: Enhance the habitat functions of channel bank and instream cover components of covered and other native fish species habitats along five linear miles of BRCP protected stream channel.	
Objective NACO2.6: Enhance the habitat functions of at least seven (7) BRCP protected ponds for covered and other native species.	
Document (map) the extent and location on protected riparian, emergent wetland, stream channel and ponds and describe enhancement actions implemented relative to baseline conditions	Acres of protected habitat enhanced Location and extent of implemented action
Objective NACO3.1: Restore 89.5 acres of vernal pools that function as habitat for covered and other native species distributed within the Plan Area as indicated in Table 5-12.	
Objective NACO3.2: Restore 536 acres of cottonwood-willow riparian forest along rivers and streams distributed within the Plan Area as indicated in Table 5-12.	
Objective NACO3.3: Restore 140 acres of valley oak riparian forest along rivers and streams distributed within the Plan Area as indicated in Table 5-12.	
Objective NACO3.4: Restore 23 acres of willow scrub along rivers and streams distributed within the Plan Area as indicated in Table 5-12.	
Objective NACO3.5: Restore 70 acres of emergent wetland distributed within the Plan Area as indicated in Table 5-12.	
Objective NACO3.6: Create and manage 160 acres of seasonal managed wetland as greater sandhill crane winter roosting habitat distributed within the Plan Area as indicated in Table 5-12.	

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Document (map) the extent of restored habitat under each natural community goal	Acres of habitat restored Actions implemented to restore habitats
Objective NACO4.1: Annually maintain 0 to 78,140 acres of land in rice production, depending on the amount of giant garter snake and greater sandhill crane habitat under objectives NACO1.9 and NACO1.11 distributed within the Plan Area as indicated in Table 5-1.	
Objective NACO4.2: Annually maintain 8,760 acres of irrigated pasture and irrigated cropland distributed within the Plan Area as indicated in Table 5-1.	
Document (map) annually location and acreage of land in rice production, irrigated pasture and irrigated cropland	Acres of rice fields, irrigated pasture and irrigated cropland Size distribution of rice fields, irrigated pasture and irrigated cropland
Objective NACO4.3: Enhance habitat conditions for covered species on BRCP maintained agricultural lands.	
Document habitat enhancement actions implemented on BRCP maintained agricultural lands	Acreage of enhanced agricultural lands Type and location of enhancement actions
Objective NACO5.1: Protect 50% of critical winter range habitat designated for the East Tehama Deer Herd, the Bucks Mountain Deer Herd, and the Mooretown Deer Herd (Figure 3-20) that is provided by blue oak savanna, blue oak woodland, live oak woodland, and mixed oak woodland.	
Objective NACO5.2: Protect 25% of winter range habitat designated for the East Tehama Deer Herd, the Bucks Mountain Deer Herd, and the Mooretown Deer Herd (Figure 3-20) that is provided by blue oak savanna, blue oak woodland, live oak woodland, and mixed oak woodland.	
[To come]	[To come]
Species-Level Objectives	
Objective SPEC3.1: Protect and, where covered species will benefit, enhance covered species habitats in the quantities and locations indicated for each covered species in Table 5-2.	
Document (map) habitat protected and enhanced for covered species	Extent and location of protected habitat for covered species under the BRCP.
Objective SPEC4.1: To the extent practicable, protect all unprotected active bald eagle nest sites from activities that could result in nest site abandonment and from disturbances that could reduce nesting success.	
Objective SPEC4.2: To the extent practicable, protect all unprotected active American peregrine falcon nesting sites from activities that could result in loss or degradation of the nesting habitat or nest site abandonment and from disturbances that could reduce nesting success.	
Document protection of active nest sites of bald eagles and peregrine falcons	Map active nest sites Document actions implemented to prevent disturbance of nesting eagles.
Objective SPEC4.3: To the extent practicable, protect all unprotected occupied bank swallow nesting colonies along Butte Creek and Big Chico Creek from anthropogenic activities that could result in the loss of the colony or degradation of the habitat.	
Objective SPEC4.4: To the extent consistent with flood control requirements, protect 20 linear miles of channel banks along Big Chico Creek and Butte Creek that support dynamic bank formation and erosion processes that create bank swallow nesting habitat.	
Document (map) bank swallow nesting colonies and suitable habitat patches; document actions to protect existing colonies and potential bank habitat	Extent and locations of existing colonies Extent and location of protected channel segments suitable to support nesting habitat
Objective SPEC5.1: Protect at least 400 acres of any combination of existing unprotected grassland, oak woodland and savanna, and riparian habitats in minimum blocks of 100 acres that support Blainville’s horned lizard habitat distributed within the Plan Area.	
[To come]	[To come]
Objective SPEC6.1: To the extent consistent with achieving natural community and covered species goals and objectives, bring under protection habitat areas within the Plan Area that are found to support breeding populations of California red-legged frog over the term of the BRCP.	

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Document (map) the occurrence of red-legged frogs in the plan area and map potential habitat	Number of RLF occurrences, population size, extent of occupied habitat, potential breeding habitat
Objective SPEC7.1: Increase the supply of spawning gravels recruited into creeks supporting Chinook salmon and steelhead runs compared to existing conditions.	
Document (map) existing spawning gravel beds for creeks supporting Chinook salmon and steelhead in the plan area. Document actions taken to increase supply of spawning gravels	Extent of spawning gravels for salmonids.
Objective SPEC7.2: Remove, modify, or screen up to 25 of the 42 currently unscreened diversions on Big Chico Creek and Butte Creek that pose a high risk for entrainment of juvenile salmonids.	
Document actions implemented to reduce salmonid entrainment	Number and type of modifications on stream diversions Number of juvenile salmonids entrained
Objective SPEC8.1: Protect 20,770 acres of modeled western spadefoot toad breeding/upland habitat distributed among the CAZs as indicated in Table 5-2 with at least 13,700 acres located within the Chico, Doe Mill, Honcut, Oroville, Vina Plains, Palermo, and/or Richvale Recovery Core Areas.	
[To come]	[To come]
Objective SPEC8.2: Protect 650 acres of modeled Ferris' milkvetch habitat distributed among the CAZs as indicated in Table 5-2.	
[To come]	[To come]
Objective SPEC8.3: Protect the three known unprotected occurrences of Ferris' milkvetch in the Plan Area and 50% of new occurrences located over the term of the BRCP, up to protection of five new occurrences.	
[To come]	[To come]
Objective SPEC8.4: Protect 21,400 acres of unprotected modeled Ahart's dwarf rush habitat distributed among the CAZs as indicated in Table 5-2 with at least 465 acres located within the Honcut Recovery Core Area.	
[To come]	[To come]
Objective SPEC8.5: Protect the remaining 15 unprotected occurrences of Ahart's dwarf rush in the Plan Area and 50% of new occurrences located over the term of the BRCP, up to protection of five new occurrences.	
[To come]	[To come]
Objective SPEC8.6: Reintroduce Ahart's dwarf rush to at least two extant vernal pools on soil types from which surveys indicate that the species has been extirpated.	
[To come]	[To come]
Objective SPEC10.1: Protect 21,400 acres of unprotected modeled vernal pool tadpole shrimp and vernal pool fairy shrimp habitat distributed among the CAZs as indicated in Table 5-2 with at least 14,850 acres located within the Chico, Doe Mill, Oroville, and Vina Plains Recovery Core Areas.	
[To come]	[To come]
Objective SPEC10.2: Protect at least 150 acres of vernal pools that support Conservancy fairy shrimp habitat located within the Vina Plains Recovery Core Area.	

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
[To come]	[To come]
Objective SPEC10.3: Protect the three known unprotected occurrences and up to five new occurrences (protect each newly discovered occurrence up to five new occurrences and additional occurrences thereafter, as appropriate) of Conservancy fairy shrimp that may be located in the Plan Area over the term of the BRCP.	
[To come]	[To come]
Objective SPEC10.4: Reintroduce Conservancy fairy shrimp to at least two extant vernal pools where status surveys indicate that the species has been extirpated.	
[To come]	[To come]
Objective SPEC10.5: Avoid removal of occupied Conservancy fairy shrimp habitat or loss of habitat function for the Conservancy fairy shrimp that could result from implementation of the covered activities.	
[To come]	[To come]
Objective SPEC10.6: Protect 21,400 acres of modeled Greene’s tuctoria habitat distributed among the CAZs as indicated in Table 5-2 with at least 13,700 acres located within the Oroville, Vina Plains, and/or Richvale Recovery Core Areas.	
[To come]	[To come]
Objective SPEC10.7: Protect the two known unprotected occurrences of Greene’s tuctoria in the Plan Area and at least four currently unknown occurrences or new occurrences that may become established over the term of the BRCP.	
[To come]	[To come]
Objective SPEC10.8: Avoid the direct removal or damage of Greene’s tuctoria plants associated with implementation of the covered activities until at least eight Greene’s tuctoria occurrences are protected (see Objective SPEC10.7).	
[To come]	[To come]
Objective SPEC10.9: Reintroduce Greene’s tuctoria to at least two extant vernal pools on soil types from which surveys indicate that the species has been extirpated.	

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
[To come]	[To come]
Objective SPEC10.10: Protect 21,400 acres of modeled hairy Orcutt grass habitat distributed among the CAZs as indicated in Table 5-2 with at least 13,650 acres located within the Oroville and Vina Plains Recovery core Areas.	
[To come]	[To come]
Objective SPEC10.11: Protect up to seven currently unknown and unprotected occurrences of hairy Orcutt grass that may be located within the Plan Area over the term of BRCP. Protection of new occurrences would be accomplished by focusing any of the applicable natural community protection requirements at the time a new occurrence is located to protecting the occurrence.	
[To come]	[To come]
Objective SPEC10.12: Avoid the direct removal or damage of hairy Orcutt grass plants associated with implementation of the covered activities until at least eight hairy Orcutt grass occurrences are protected (see Objective SPEC10.11).	
[To come]	[To come]
Objective SPEC10.13: Reintroduce hairy Orcutt grass to at least two extant vernal pools on soil types from which surveys indicate that the species has been extirpated.	
[To come]	[To come]
Objective SPEC10.14: Protect 21,400 acres of modeled slender Orcutt grass habitat distributed among the CAZs as indicated in Table 5-2 with at least 7,035 acres located within the Vina Plains and/or Palermo Recovery Core Areas.	
[To come]	[To come]
Objective SPEC10.15: Protect the two known unprotected occurrences of slender Orcutt grass in the Plan Area and at least six currently unknown occurrences or new occurrences that may become established over the term of the BRCP.	
[To come]	[To come]
Objective SPEC10.16: Avoid the direct removal or damage of slender Orcutt grass plants associated with implementation of the covered activities until at least eight slender Orcutt grass occurrences are protected (see Objective SPEC10.11).	
[To come]	[To come]
Objective SPEC10.17: Reintroduce slender Orcutt grass to at least two extant vernal pools on soil types from which surveys indicate that the species has been extirpated.	
[To come]	[To come]
Objective SPEC10.18: Protect 21,400 acres of modeled Hoover’s spurge habitat distributed among the CAZs as indicated in Table 5-2 with at least 13,675 acres located within the Oroville and Vina Plains Recovery Core Areas.	
[To come]	[To come]
Objective SPEC10.19: Protect the only known unprotected occurrence of Hoover’s spurge in the Plan Area and at least four currently unknown occurrences or new occurrences that may become established over the term of the BRCP.	
[To come]	[To come]
Objective SPEC10.20: Avoid the direct removal or damage of Hoover’s spurge plants associated with implementation of the covered activities until at least eight Hoover’s spurge occurrences are protected (see Objective SPEC10.15).	
[To come]	[To come]

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Objective SPEC10.21: Reintroduce Hoover’s spurge to at least two extant vernal pools on soil types from which surveys indicate that the species has been extirpated.	
[To come]	[To come]
Objective SPEC11.1: Protect the eight known occurrences that comprise the only known population of veiny monardella in the Plan Area located in the Neal Road Drop-Off and Recycling Facility UPA, protect the first four of any new occurrences located over the term of the BRCP, and protect two of the next four new occurrences that may be subsequently located over the term of the BRCP.	
[To come]	[To come]
Objective SPEC11.2: Avoid the direct removal or damage of veiny monardella plants associated with implementation of the covered activities until at least 12 veiny monardella occurrences are protected (see Objective SPEC11.1).	
[To come]	[To come]
Objective SPEC11.3: Protect 30 unprotected known occurrences of Butte County checkerbloom located in the Cascade Foothills CAZ.	
[To come]	[To come]
Objective SPEC11.4: Protect up to 30 unprotected and currently unknown occurrences of Butte County checkerbloom that may be located north of the Big Chico Creek drainage.	
[To come]	[To come]
Objective SPEC11.5: Protect the two remaining unprotected known occurrences of California beaked-rush in the Cascade Foothills CAZ and 50% of new occurrences located over the term of the BRCP, up to protection of five new occurrences.	
[To come]	[To come]
Objective SPEC11.6: Protect two known unprotected occurrences of Ahart’s paronychia in the Sierra Foothills CAZ and 50% of new occurrences located over the term of the BRCP, up to protection of five new occurrences.	
[To come]	[To come]
Objective SPEC11.7: Protect up to five currently unknown and unprotected occurrences of lesser saltscale that may be located within the Plan Area over the term of BRCP.	
[To come]	[To come]
Objective SPEC11.8: Protect two known unprotected occurrences of Butte County golden clover located in the Cascade Foothills CAZ and 50% of new occurrences located over the term of the BRCP, up to protection of five new occurrences.	
[To come]	[To come]
Objective SPEC11.9: Protect nine known occurrences of Red Bluff dwarf rush that are currently unprotected within the Plan Area distributed among the CAZs as indicated in Table 5-2.	
[To come]	[To come]
Objective SPEC12.1: Maintain and enhance habitat conditions that support active Swainson’s hawk, white-tailed kite and peregrine falcon nest sites and bald eagle nest and winter roost sites that are located on existing protected lands	
[To come]	[To come]
Objective SPEC12.2: Maintain and enhance habitat conditions that support occupied western burrowing owl nesting burrows that are located on existing protected lands.	
[To come]	[To come]

Table 5-21. Biological Objective Monitoring Actions and Metrics (continued)

<i>Monitoring Action</i>	<i>Monitoring Metrics</i>
Objective SPEC12.3: Maintain and enhance habitat conditions that support giant garter snake and western pond turtle breeding and aquatic movement habitats on existing protected lands.	
[To come]	[To come]
Objective SPEC12.4: Maintain and enhance habitat conditions that support existing occurrences of Ferris’ milkvetch, Ahart’s dwarf rush, Greene’s tuctoria, Hoover’s spurge, Butte County checkerbloom, California beaked-rush, Ahart’s paronychia, lesser saltscale, Butte County golden clover, and Red Bluff dwarf rush that are located on existing protected lands.	
[To come]	[To come]

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