

**Comparison of DRAFT BDCP Natural Community Goals and Objectives with Adjacent Plans**

Natural Communities	BDCP	San Joaquin HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano HCP	South Sacramento HCP
All	<p><b>Goal NAC01:</b>                      Protect, enhance, and restore natural communities to provide habitat and ecosystem functions to increase the natural production (reproduction, growth, and survival), abundance, and distribution of native Delta species.</p>			<p><i>Overall Goals:</i>                      (1) Establish and manage in perpetuity a biologically sound and interconnected habitat reserve system that mitigates impacts on Covered Species resulting from Covered Activities and provides habitat for existing, and new viable populations of Covered Species.                      (2) Implement an adaptive management program that responds to changing circumstances affecting Covered Species and their habitats.                      (3) Preserve open space and habitat that may also benefit local, non-listed and transitory wildlife species not identified within the NBHCP.                      (4) Ensure that direct impacts of Authorized Development upon Covered Species are avoided or minimized to the maximum extent practicable.</p> <p><i>Overall Objectives:</i>                      (1) Minimize conflicts between wildlife and human activities, including conflicts resulting from airplane traffic, roads and automobile traffic, predation by domestic animals, and harassment by people.                      (2) Maintain and operate flood control, irrigation and drainage facilities in a manner that minimizes take of Covered Species and promotes vegetative cover that enhances habitat values for Covered Species, consistent with the Water Agencies' legal obligations.                      (3) Ensure connectivity between TNBC reserves to minimize habitat fragmentation and species isolation. Connections between reserves will generally take the form of common property boundaries between reserves, waterways (primarily irrigation and drainage channels) passing between reserves and/or an interlinking network of water supply channels or canals.                      (4) Within individual TNBC reserves, provide a mosaic of habitats that support both wetland and upland species, and that are configured to support species that utilize both types of habitat.                      (5) Implement monitoring programs with qualitative and/or quantitative monitoring methods to evaluate management objectives and strategies for the reserve system. TNBC</p>	<p><b>Goal LAN 1.</b> Preserve contiguous functional landscapes by protecting large blocks of habitat that encompass the full suite of ecological diversity, maintain connectivity among natural communities, and functionally buffer the natural communities from direct and indirect impacts from anthropogenic pressures.  <b>Objective LAN 1.1</b> Preclude development in areas that have or contribute to important conservation values, as determined in the Conservation Analysis (Section 4.0), for each Natural Community and Covered Species.  <b>Objective LAN 1.2</b> Establish reserves within high priority areas or areas identified as having high conservation value in the Conservation Analysis (Section 4.0) for each natural community and Covered Species.  <b>Objective LAN 1.3</b> Plan Participants will provide funding and seek grants and other funds from third party government and non-government sources to acquire and manage additional high priority conservation lands through fee title and/or conservation easements as part of the Plan Participants' ongoing open space acquisition and farmland protection activities.  <b>Objective LAN 1.4</b> Through a combination of land acquisition, conservation easements and cooperative agreements, protect and maintain important landscape corridors between representative natural communities within the Plan Area.</p> <p><b>Goal LAN 2.</b> Maximize values, productivity, and carrying capacity of reserves and preserves and contribute to the recovery of Covered Species through appropriate restoration and management activities.  <b>Objective LAN 2.1.</b> Increase potential for successful restoration by encouraging restoration activities near high quality preserves.  <b>Objective LAN 2.2</b> Implement an adaptive management and monitoring program that minimizes the effects of negative pressures on Covered Species and natural communities and contributes to the refinement of the conceptual models developed in the Conservation Analysis (Section 4.3).  <b>Objective LAN 2.3.</b> Provide adequate funding for management and monitoring of reserves in perpetuity.  <b>Objective LAN 2.4</b> Develop programs to reduce</p>	<p><b>Goal 1: Preserve habitat to protect and sustain viable populations of covered and common species within the SSHCP Study Area</b></p> <p><b>Goal 2: Restore and/or create habitat to support covered and common species within the SSHCP Study Area</b></p> <p><b>Goal 3 – Establish Landscape Linkages that maintain connectivity between preserves within the SSHCP Study Area</b></p> <p><b>Objective 3.1:</b> Conserve landscape linkages (corridors) between preserve areas measuring at least 1,000 feet in width.</p>

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All				shall develop each monitoring plan and shall submit the plan for review by NBHCP TAC and approval by the Wildlife Agencies prior to implementation. (6) Increase the diversity and abundance of Covered Species on reserve lands. (7) Revise the reserve design and management based on the most current biological data.	or control problematic invasive exotic plant and animal species that degrade natural communities and/or compete with Covered Species. <b>Objective LAN 2.5</b> Develop a community outreach program to educate the public on the progress and conservation efforts conducted as part of the HCP and coordinate with the Wildlife Agencies to help meet recovery criteria for Covered Species and the natural community within the Plan Area. <b>Objective LAN 2.6.</b> The Plan Participants will provide a contingency fund that can be used to address potential, but unknown pressures on native plant and animal species populations such as outbreaks of new diseases, increased predation, or competition with invasive species.  <b>Goal LAN 3.</b> Avoid and minimize adverse impacts on Natural Communities and Covered Species through the implementation of best management practices (BMPs). <b>Objective LAN 3.1</b> Operation and maintenance activities conducted by Plan Participants on public facilities shall be conducted in compliance with procedures of the Operations and Maintenance Manual to the maximum extent practicable (Appendix C).  <b>Objective VPG 2.3.</b> Preserve 40-50% of occurrences and expand populations through restoration, when possible, of extremely rare or range-limited species.	
Waterways	<b>Objective NAC01.1:</b> Increase hydrologic connectivity of Delta waterways with existing and historical floodplains to support habitat and food production for associated native species.		<b>Goal 30: Maintain and enhance instream aquatic habitat for covered species and native fish</b> <b>Objective 30.1.</b> Promote the natural disturbance regime (e.g., flooding, sediment deposition, and scour) <b>Objective 30.2.</b> Reduce water temperature and temperature variation <b>Objective 30.3.</b> Increase inputs of organic matter where appropriate <b>Objective 30.4.</b> Reduce sediment input and downstream sediment transport and deposition, where appropriate <b>Objective 30.5.</b> Maintain and enhance instream structural diversity, where appropriate <b>Objective 30.6.</b> Improve stream flow and connectivity for native aquatic wildlife <b>Objective 30.7.</b> Control or reduce non-native animals including bullfrogs and		<i>(Some repeated for another habitat type)</i> <b>Goal RSM 1.</b> Maintain and enhance the natural hydro-geomorphic processes, essential ecological processes, functions, and values, species diversity and habitat heterogeneity of riparian, stream and freshwater marsh habitat within the Plan Area. <b>Sub-Goal RSM 1.1.</b> Preserve high quality riparian habitat and expand the extent of riparian vegetation throughout the Plan Area. <b>Sub-Goal RSM 1.2.</b> Conserve, and where possible, restore more natural stream behavior, including flood plains, meandering over time and natural flood regimes. <b>Sub-Goal RSM 1.3.</b> Improve connectivity and habitat quality along riparian corridors, particularly in areas that provide linkages between other open space areas and natural communities within the County. <b>Sub-Goal RSM 1.4.</b> Maintain water quality standards to the maximum extant practicable such	<i>(Some repeated for another habitat type)</i> <b>Objective 1.1:</b> Protect 8,132 acres of habitat within the UDA (Cottonwood Woodland, Cropland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Stream/Creeks, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).  <b>Objective 1.2:</b> Protect 32,077 acres of habitat outside the UDA (Blue Oak Woodland, Cropland, Freshwater Marsh, Irrigated Pasture, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Streams/Creeks, Swales, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).  <b>Objective 1.3:</b> Establish habitat corridors and preserves to protect the ecological functions of

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Waterways			fish		<p>that waters within the Plan Area are restored to and maintain their chemical, physical and biological integrity.</p> <p>The following objectives are designed to achieve Goal RSM 1 and sub-goals RSM 1.1-1.4:</p> <p><b>Objective RSM 1.2.</b> Avoid and minimize impacts to existing riparian, stream and freshwater marsh systems to the maximum extent practicable.</p> <p><b>Objective RSM 1.3.</b> Provide for a net increase in the quantity and quality of riparian, stream and freshwater marsh habitat in the Plan Area. Net increase in quantity and quality will be assessed every five years and compared to the baseline conditions determined during the initial riparian habitat assessment.</p> <p><b>Objective RSM 1.5.</b> Control problematic invasive exotic plant and animal species along a minimum of 30 miles of stream habitat within the County, particularly targeting Conservation Area RSM 2 stream reaches.</p> <p><b>Objective RSM 1.6.</b> Restore and expand riparian and flood plain habitat along a minimum of 2.5 miles of existing stream and flood channels within Conservation Area RSM 3 in order to provide for more naturalized channel processes to occur and riparian vegetation to establish.</p> <p><b>Objective RSM 1.7.</b> Incorporate 100 foot setbacks between the edge of the riparian vegetation (or top of the stream bank where no riparian vegetation is present) and new urban development projects along third or higher order streams and lower order streams that support riparian vegetation, to allow for restoration of riparian vegetation, natural stream behavior and maintenance of the riparian corridors linking other high value conservation areas and natural communities within the Plan Area.</p> <p><b>Objective RSM 1.8.</b> Maintain natural flooding levels and natural hydrological patterns or processes within Priority Drainages and Watersheds within Zone 1 of the Plan Area.</p> <p><b>Objective RSM 1.9.</b> Establish stormwater management practices to control the peak flow rates of stormwater discharge associated with specific design storms and reduce the generation of stormwater, in order protect stream channels from degradation.</p> <p><b>Objective RSM 1.10.</b> Minimize increases in stormwater runoff rates from urban development in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and to maintain the integrity of stream channels.</p>	<p>196 linear miles along select stream reaches outside of the UDA.</p> <p><b>Objective 1.4:</b> Within the UDA, protect 15 linear stream miles in corridors along undeveloped portions of select stream reaches.</p> <p><b>Objective 1.5:</b> Within the UDA, protect corridors along all other stream and swale systems.</p> <p><b>Objective 2.1:</b> Restore and/or create 1,232 acres of habitat in the SSHCP Study Area for mitigation (Blue Oak Woodland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, and Vernal Pools).</p>

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Waterways					<p><b>Objective RSM 1.11.</b> Minimize development-related non-point source pollution derived from stormwater runoff which could degrade local water quality and adversely effect Covered Species inhabiting receiving waters within and downstream of the Plan Area.</p> <p><b>Objective RSM 1.12.</b> Maintain the total annual volume and seasonal timing of surface water runoff which flows from any specific site during and following development so as to maintain the pre-development hydrologic regime (to the maximum extent practicable).</p> <p><b>Goal RSM 2.</b> Contribute to the recovery of Covered Species associated with Riparian, Stream and Freshwater Marsh Natural Community within the Plan Area through the preservation and expansion of existing populations, and allowing for future population expansion and re-colonization into restored areas.</p> <p><b>Objective RSM 2.1.</b> Identify potential migration barriers, locations and quality of gravel beds for spawning, and monitor water temperatures to better identify potential breeding and rearing habitat for salmonids within the Plan Area within 5 years of adopting the HCP.</p> <p><b>Objective RSM 2.2.</b> Conduct periodic surveys of selected streams (Green Valley and Wooden Valley watersheds) over several decades to determine the temporal patterns of population variability of steelhead and rainbow trout as well as chinook salmon and other native fishes. Other creeks (e.g., Alamo and Ulatis creeks) will be sampled periodically to determine their use by steelhead, rainbow trout, and salmon during years of favorable streamflows.</p> <p><b>Objective RSM 2.3.</b> Remove all existing in-stream barriers, to the maximum extent practicable, within Plan Participant's rights-of-way along important steelhead streams within 10 years of the adoption of the HCP and prevent the creation of new in-stream barriers.</p> <p><b>Objective RSM 2.4.</b> Provide for a net increase in the quality and quantity of suitable spawning habitat for salmonids within known salmonid streams within the Plan Area.</p>	
Waterways	<p><b>Objective NAC01.2:</b>                      Increase the extent and</p>				<p><b>Goal CM 1.</b> Maintain and enhance the natural hydro-geomorphic processes; essential ecological</p>	

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Tidal Marsh	spatial distribution of tidal marsh within the Planning Area and Suisun Marsh to support habitat and food production for associated native species.				<p>processes, functions, and values; species diversity; and habitat heterogeneity of coastal marsh habitat within the Plan Area.</p> <p><b>Sub-Goal CM 1.1.</b> Preserve high quality coastal marsh habitat throughout the Plan Area.</p> <p><b>Sub-Goal CM 1.2.</b> Restore coastal marsh habitats for the benefit of coastal marsh-dependent and other associated species throughout the Plan Area.</p> <p><b>Sub-Goal CM 1.3.</b> Preserve and improve corridors that provide transitions from bay/delta habitats through to adjacent high priority conservation areas, particularly coastal marsh areas adjacent vernal pool complexes and the foothills and mountainous terrain of the western portions of the County.</p> <p><b>Sub-Goal CM 1.4.</b> Maintain water and sediment quality standards and the hydrology of Suisun Marsh, Southhampton Marsh, and Napa River Marshes within the Plan Area.</p> <p><b>Sub-Goal CM 1.5.</b> Minimize indirect effects from Covered Activities on Coastal Marsh Ecosystems to the maximum extent practicable.</p> <p>The following objectives are designed to achieve Goal CM 1 and Sub-Goals CM 1.1-1.4:</p> <p><b>Objective CM 1.1.</b> Avoid and minimize impacts to Coastal Marsh habitat to the maximum extent practicable.</p> <p><b>Objective CM 1.2.</b> Minimize indirect effects to Coastal Marsh Ecosystems through the establishment of buffer zones to protect and enhance the hydrology and water quality of coastal marsh habitat, minimize edge habitat, human disturbance and other indirect affects of urban development.</p> <p><b>Objective CM 1.3.</b> Provide for a net increase in the quantity and quality of Coastal Marsh habitat in the Plan Area, through the implementation of programs to control invasive exotic plants and animals affecting coastal marsh habitat throughout the Plan Area. Plan Participants shall provide funding to treat between 100 to 170 acres of coastal marsh habitat each year or between 5,000 to 8,500 acres over the life of the HCP.</p> <p><b>Objective CM 1.4.</b> Plan Participants shall preserve and/or contribute to the preservation of transition habitat between coastal marsh and vernal pool and valley floor grassland habitat in the Peytonia Slough, lower Union Creek/Hill Slough, and Nurse Slough/Denverton Creek areas (Figure 4-26).</p>	
Tidal Marsh						

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Tidal Marsh					<p><b>Objective CM 1.5.</b> Mitigate direct, long-term losses of coastal marsh habitat by constructing and/or restoring tidally-influenced coastal marsh at a 3:1 ratio of acres restored to acres impacted.</p> <p><b>Objective CM 1.6.</b> Plan Participants will minimize dry season (May 1 through October 15) discharge into tributaries from stormwater sewer systems draining into Suisun Marsh, Southampton Marsh, and the marshes bordering the Napa River and San Pablo Bay to the maximum extent practicable.</p> <p><b>Objective CM 1.7.</b> Municipal Plan Participants shall comply with NPDES permit requirements established by the RWQCBs in order to minimize increases in nonpoint source pollution both during and after construction and to reduce water quality impacts of storm water runoff for the life of a development or redevelopment project.</p> <p><b>Goal CM 2.</b> Plan Participants shall maintain and where possible, through restoration, increase population levels and distribution of coastal marsh associated species in order to contribute to their recovery.</p> <p><b>Objective CM 2.1.</b> Avoid and minimize impacts from Covered Activities on populations of Covered Marsh Species to the maximum extent practicable.</p> <p><b>Objective CM 2.4.</b> Provide for a net increase in the quality and quantity of suitable spawning habitat for Delta smelt and Sacramento splittail within occupied sloughs and their tributaries within the Plan Area.</p> <p><b>Objective CM 2.5.</b> Provide for a net increase in the quality and quantity of suitable marsh habitat for salt marsh harvest mice within the Plan Area.</p> <p><b>Objective CM 2.6.</b> Prevent the destruction and disturbance of active nests of covered bird species during construction for new projects and during operation and maintenance activities on existing facilities.</p>	
Riparian Forest and Scrub	<p><b>Objective NACO1.3:</b> Increase the extent and spatial distribution of riparian forest and scrub within the Planning Area to support habitat and food production for associated native species and increase connectivity among</p>		<p><b>Goal 28: Preserve streams and riparian woodland /scrub in the inventory area</b></p> <p><b>Objective 28.1.</b> Protect a minimum of 5 linear miles of stream to compensate for permanent loss of habitat</p> <p><b>Objective 28.2.</b> Acquire riparian/scrub at a ratio of 2:1 (estimated to be 70 acres for maximum urban development area) and protect as part of the Preserve System</p>	<p><b>3. Upland Species/ Habitat Goals and Objectives</b> <i>(Repeated for another habitat type)</i></p> <p>The following are biological goals and objectives for the upland habitat established by the NBHCP for the following Covered Species: Swainson’s hawk; loggerhead shrike; burrowing owl; tricolored blackbird; bank swallow; California tiger salamander; and valley elderberry longhorn beetle.</p> <p>(1) Acquire, enhance and create a mosaic of</p>	<p><i>(Some repeated for another habitat type)</i></p> <p><b>Goal RSM 1.</b> Maintain and enhance the natural hydro-geomorphic processes, essential ecological processes, functions, and values, species diversity and habitat heterogeneity of riparian, stream and freshwater marsh habitat within the Plan Area.</p> <p><b>Sub-Goal RSM 1.1.</b> Preserve high quality riparian habitat and expand the extent of riparian vegetation throughout the Plan Area.</p> <p><b>Sub-Goal RSM 1.2.</b> Conserve, and where possible, restore more natural stream behavior,</p>	<p><i>(Some repeated for another habitat type)</i></p> <p><b>Objective 1.1:</b> Protect 8,132 acres of habitat within the UDA (Cottonwood Woodland, Cropland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Stream/Creeks, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.2:</b> Protect 32,077 acres of habitat outside the UDA (Blue Oak Woodland, Cropland,</p>

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Riparian Forest and Scrub	native habitats within and adjacent to the Planning Area.		<p><b>Goal 29: Enhance riparian woodland/scrub to promote native biological diversity and habitat heterogeneity</b>  <b>Objective 29.1.</b> Maintain or increase the cover, width, and connectivity of existing riparian vegetation consistent with current stream and habitat function  <b>Objective 29.2.</b> Reduce the biomass, cover, and extent of exotic plants in the Preserve System</p> <p><b>Goal 31: Restore streams and riparian woodland/scrub</b>  <b>Objective 31.1.</b> Restore at least 20 acres of riparian woodland/scrub in addition to that required above as compensation for habitat loss  <b>Objective 31.2.</b> Replace riparian woodland/scrub at a ratio of 1:1 in the Preserve System to compensate for its loss from covered activities (estimated to be 30 acres with maximum urban development area)  <b>Objective 31.3.</b> Restore species richness and diversity, vegetative cover, wildlife habitat function and hydrologic function</p>	<p>upland habitat types for breeding, foraging, and cover for species dependent on upland habitats.                      (2) Ensure reserve land connectivity with travel corridors for uplanddependent species.  <b>The habitat areas should encompass</b> grasslands, agricultural croplands, <b>riparian habitats</b>, and shelter and nesting habitat areas (fence rows, clusters of shrubs and small trees), as well as wetland areas to provide a year-round source of water for upland species. The upland areas should be configured to enhance natural species migration, minimize species isolation, and prevent future habitat fragmentation.</p>	<p>including flood plains, meandering over time and natural flood regimes.  <b>Sub-Goal RSM 1.3.</b> Improve connectivity and habitat quality along riparian corridors, particularly in areas that provide linkages between other open space areas and natural communities within the County.  <b>Sub-Goal RSM 1.4.</b> Maintain water quality standards to the maximum extant practicable such that waters within the Plan Area are restored to and maintain their chemical, physical and biological integrity.</p> <p>The following objectives are designed to achieve Goal RSM 1 and sub-goals RSM 1.1-1.4:</p> <p><b>Objective RSM 1.1.</b> Conduct a Plan wide assessment of riparian habitat quality to identify priority areas for acquisition, restoration, monitoring and management within 5 years of adopting the HCP.  <b>Objective RSM 1.2.</b> Avoid and minimize impacts to existing riparian, stream and freshwater marsh systems to the maximum extent practicable.  <b>Objective RSM 1.3.</b> Provide for a net increase in the quantity and quality of riparian, stream and freshwater marsh habitat in the Plan Area. Net increase in quantity and quality will be assessed every five years and compared to the baseline conditions determined during the initial riparian habitat assessment.  <b>Objective RSM 1.4.</b> Preserve 50 acres of riparian vegetation within Conservation Area RSM 1.  <b>Objective RSM 1.5.</b> Control problematic invasive exotic plant and animal species along a minimum of 30 miles of stream habitat within the County, particularly targeting Conservation Area RSM 2 stream reaches.  <b>Objective RSM 1.6.</b> Restore and expand riparian and flood plain habitat along a minimum of 2.5 miles of existing stream and flood channels within Conservation Area RSM 3 in order to provide for more naturalized channel processes to occur and riparian vegetation to establish.  <b>Objective RSM 1.7.</b> Incorporate 100 foot setbacks between the edge of the riparian vegetation (or top of the stream bank where no riparian vegetation is present) and new urban development projects along third or higher order streams and lower order streams that support riparian vegetation, to allow for restoration of riparian vegetation, natural stream behavior and maintenance of the riparian corridors linking other</p>	<p>Freshwater Marsh, Irrigated Pasture, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Streams/Creeks, Swales, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.3:</b> Establish habitat corridors and preserves to protect the ecological functions of 196 linear miles along select stream reaches outside of the UDA.</p> <p><b>Objective 1.4:</b> Within the UDA, protect 15 linear stream miles in corridors along undeveloped portions of select stream reaches.</p> <p><b>Objective 1.5:</b> Within the UDA, protect corridors along all other stream and swale systems.</p> <p><b>Objective 2.1:</b> Restore and/or create 1,232 acres of habitat in the SSHCP Study Area for mitigation (Blue Oak Woodland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, and Vernal Pools).</p> <p><b>Objective 2.2:</b> Restore and/or create an additional 1,500 acres of habitat in the SSHCP Study Area (Mixed Riparian Woodland and Valley Oak Riparian Woodland) beyond what is already required for compensatory mitigation.</p>

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Riparian Forest and Scrub					<p>high value conservation areas and natural communities within the Plan Area.</p> <p><b>Goal RSM 2.</b> Contribute to the recovery of Covered Species associated with Riparian, Stream and Freshwater Marsh Natural Community within the Plan Area through the preservation and expansion of existing populations, and allowing for future population expansion and re-colonization into restored areas.</p> <p><b>Objective RSM 2.1.</b> Identify potential migration barriers, locations and quality of gravel beds for spawning, and monitor water temperatures to better identify potential breeding and rearing habitat for salmonids within the Plan Area within 5 years of adopting the HCP.</p>	
<p>Ag lands</p> <p>Ag lands</p>	<p><b>Objective NACO1.4:</b> Preserve agricultural lands, including rice, alfalfa, field crops, and other irrigated croplands in and adjacent to the Planning Area that are managed to support habitat for native species.</p>			<p><b>3. Upland Species/ Habitat Goals and Objectives</b> <i>(Repeated for another habitat type)</i></p> <p>The following are biological goals and objectives for the upland habitat established by the NBHCP for the following Covered Species: Swainson’s hawk; loggerhead shrike; burrowing owl; tricolored blackbird; bank swallow; California tiger salamander; and valley elderberry longhorn beetle.</p> <p>(1) Acquire, enhance and create a mosaic of upland habitat types for breeding, foraging, and cover for species dependent on upland habitats.</p> <p>(2) Ensure reserve land connectivity with travel corridors for uplanddependent species.</p> <p><b>The habitat areas should encompass</b> grasslands, <b>agricultural croplands</b>, riparian habitats, and shelter and nesting habitat areas (fence rows, clusters of shrubs and small trees), as well as wetland areas to provide a year-round source of water for upland species. The upland areas should be configured to enhance natural species migration, minimize species isolation, and prevent future habitat fragmentation.</p>		<p><i>(Some repeated for another habitat type)</i></p> <p><b>Objective 1.1:</b> Protect 8,132 acres of habitat within the UDA (Cottonwood Woodland, Cropland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Stream/Creeks, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.2:</b> Protect 32,077 acres of habitat outside the UDA (Blue Oak Woodland, Cropland, Freshwater Marsh, Irrigated Pasture, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Streams/Creeks, Swales, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.7:</b> Preserve an additional 6,500 acres of Valley Grassland and 2,000 acres of Cropland habitat, outside of the Urban Development Area beyond what is required for mitigation to aid the conservation of certain covered species.</p>
	<p><b>Objective NACO1.5:</b> Preserve grassland communities in and adjacent to the Planning Area that support habitat for associated native species.</p>		<p><b>Goal 10: Preserve sufficient habitat in the inventory area to maintain viable populations of grassland-dependent covered species</b></p> <p><b>Objective 10.1.</b> Preserve 13,000 acres of annual grassland and 900 acres of alkali grassland</p> <p><b>Objective 10.2.</b> Protect native grassland alliances within the Preserve System</p>	<p><b>3. Upland Species/ Habitat Goals and Objectives</b> <i>(Repeated for another habitat type)</i></p> <p>The following are biological goals and objectives for the upland habitat established by the NBHCP for the following Covered Species: Swainson’s hawk; loggerhead shrike; burrowing owl; tricolored blackbird; bank swallow; California tiger salamander; and valley elderberry longhorn beetle.</p>	<p><i>(Some repeated for another habitat type)</i></p> <p><b>Goal VPG 1.</b> Establish and maintain a reserve system that enhances the essential ecological processes, functions, and values, and maintains species diversity and the potential for adaptation and evolutionary change of Valley Floor Grassland and Vernal Pool Ecosystems.</p> <p><b>Sub-Goal VPG 1.1.</b> To the extent possible, preserve large blocks of habitat containing large populations of the Covered Species.</p>	<p><i>(Some repeated for another habitat type)</i></p> <p><b>Objective 1.1:</b> Protect 8,132 acres of habitat within the UDA (Cottonwood Woodland, Cropland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Stream/Creeks, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.2:</b> Protect 32,077 acres of habitat</p>

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Grasslands			<p><b>Goal 11: Enhance grassland to promote native biological diversity and habitat heterogeneity</b>  <b>Objective 11.1.</b> Increase the relative cover of native grasses and forbs in native grassland vegetation alliances and other grassland types  <b>Objective 11.2.</b> Increase structural diversity by creating and maintaining a mosaic of grassland types and conditions  <b>Objective 11.3.</b> Reduce the biomass, cover, and extent of exotic plants (i.e., non-native invasive plants) in the Preserve System</p> <p><b>Goal 17: Protect in the Preserve System at least 11 unprotected occurrences of grassland-dependent covered plants</b>  <b>Objective 17.1.</b> Protect populations of covered plants that are at least as large and as healthy* as populations lost to covered activities</p> <p><b>Goal 18: Enhance populations of grassland-dependent covered plants</b>  <b>Objective 18.1.</b> Increase population size and distribution of grassland-dependent covered plants, where feasible and biologically desirable</p>	<p>(1) Acquire, enhance and create a mosaic of upland habitat types for breeding, foraging, and cover for species dependent on upland habitats.                  (2) Ensure reserve land connectivity with travel corridors for upland-dependent species.  <b>The habitat areas should encompass grasslands,</b> agricultural croplands, riparian habitats, and shelter and nesting habitat areas (fence rows, clusters of shrubs and small trees), as well as wetland areas to provide a year-round source of water for upland species. The upland areas should be configured to enhance natural species migration, minimize species isolation, and prevent future habitat fragmentation.</p>	<p><b>Sub-Goal VPG 1.2.</b> Establish preserves that, to the extent possible, preserve multiple populations of each Covered Species that may represent separate evolutionarily significant units.  <b>Sub-Goal VPG 1.3.</b> Establish a reserve system that incorporates a variety of sizes and physical/chemical conditions representative of the range of conditions of vernal pool and associated communities within the County.  <b>Sub-Goal VPG 1.4.</b> Preserve areas with high species diversity including extremely rare and/or range-limited species, such as Colusa grass, Solano grass, San Joaquin Valley orcutt grass, Ferris’s milk vetch, Conservancy fairy shrimp, Ricksecker’s water scavenger beetle, and Delta green ground beetle.  <b>Sub-Goal VPG 1.5.</b> Establish preserves that incorporate a broad range of soil conditions (edaphic) and that include “outlier” or “edge” populations.  <b>Sub-Goal VPG 1.6.</b> Preserve and improve corridors that provide transitions from bay and delta habitats through the vernal pool complexes and into the foothills and mountainous terrain of the western portions of the County and that link existing and future reserves and preserves established under the Solano HCP.  <b>Sub-Goal VPG 1.7.</b> Minimize indirect effects to Valley Floor Grassland and Vernal Pool Ecosystems through the establishment of buffer zones to protect and enhance the hydrology and water quality of pool complexes and minimize edge habitat, human disturbance, and other indirect affects of urban development.  <b>Sub-Goal VPG 1.8.</b> Manage preserves and reserves in order to minimize the effects of negative pressures on Valley Floor Grassland and Vernal Pool Natural Communities and associated Covered Species (Section 4.3.2).</p> <p>The following objectives are designed to achieve Goal VPG 1 and Sub-Goals VPG 1.1-1.7.</p> <p><b>Objective VPG 1.1.</b> Preserve 8,900 to 9,300 acres of Vernal Pool and Valley Floor Grassland habitat within high value vernal pool conservation areas (Figure 4-19) and/or priority areas for future protection identified in Figure 4-36.  <b>Objective VPG 1.2.</b> To the maximum extant practicable, minimize direct and indirect impacts, such as alterations to hydrology and water quality, to High Value Valley Floor Grassland and Vernal Pool Conservation Areas</p>	<p>outside the UDA (Blue Oak Woodland, Cropland, Freshwater Marsh, Irrigated Pasture, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Streams/Creeks, Swales, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.7:</b> Preserve an additional 6,500 acres of Valley Grassland and 2,000 acres of Cropland habitat, outside of the Urban Development Area beyond what is required for mitigation to aid the conservation of certain covered species.</p>
Grasslands						



Natural Communities	BDCP	San Joaquin HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano HCP	South Sacramento HCP
Seasonal Wetlands Vernal Pools Alkaline Sink Scrub					<p><b>Sub-Goal VPG 1.9.</b> Restore vernal pool habitats for the benefit of vernal pool-dependent and other associated species throughout the Plan Area.</p> <p>The following objectives are designed to achieve Goal VPG 1 and Sub-Goals VPG 1.1-1.7.</p> <p><b>Objective VPG 1.1.</b> Preserve 8,900 to 9,300 acres of Vernal Pool and Valley Floor Grassland habitat within high value vernal pool conservation areas (Figure 4-19) and/or priority areas for future protection identified in Figure 4-36.</p> <p><b>Objective VPG 1.2.</b> To the maximum extant practicable, minimize direct and indirect impacts, such as alterations to hydrology and water quality, to High Value Valley Floor Grassland and Vernal Pool Conservation Areas and/or areas adjacent to high value vernal pool areas that contribute to the quality and viability of vernal pool habitat.</p> <p><b>Objective VPG 1.3.</b> As compensatory mitigation for unavoidable impacts to vernal pools and other seasonal wetlands, the Plan Participants will provide for a net increase in the quantity and quality of the aquatic component of vernal pool habitats and the quality of the upland component.</p> <p><b>Goal VPG 2.</b> Maintain and where possible, through restoration, increase population levels and distribution of covered vernal pool associated species in order to contribute to their recovery.</p> <p><b>Objective VPG 2.1.</b> Preserve 35% of occurrences of covered vernal pool species within the Plan Area, with the exception of those species listed in Objectives VPG 2.2, 2.3, 2.4 and 2.5.</p>	
Non-tidal Perennial Aquatic and Emergent Marsh	<p><b>Objective NACO1.7:</b> Preserve non-tidal perennial aquatic and associated non-tidal perennial permanent emergent marsh communities in and adjacent to the Planning Area that support habitat for associated native species.</p>		<p><b>Goal 1: Preserve wetlands and ponds in the inventory area</b></p> <p><b>Objective 1.1.</b> Acquire perennial wetlands at a ratio of 1:1 of wetted acres (estimated to be 75 wetted acres with the maximum urban development area) and protect as part of the Preserve System</p> <p><b>Objective 1.2.</b> Acquire seasonal wetlands at a ratio of 3:1 of wetted acres (estimated to be 177 acres of seasonal wetland complex with the maximum urban development area) and protect as part of the Preserve System</p> <p><b>Objective 1.3.</b> Acquire alkali wetlands at a ratio of 3:1 of wetted acres (estimated to be 96 acres of alkali wetland complex with the maximum urban development</p>		<p><i>(Some repeated for another habitat type)</i></p> <p><b>Goal RSM 1.</b> Maintain and enhance the natural hydro-geomorphic processes, essential ecological processes, functions, and values, species diversity and habitat heterogeneity of riparian, stream and freshwater marsh habitat within the Plan Area.</p> <p><b>Sub-Goal RSM 1.2.</b> Conserve, and where possible, restore more natural stream behavior, including flood plains, meandering over time and natural flood regimes.</p> <p><b>Sub-Goal RSM 1.4.</b> Maintain water quality standards to the maximum extant practicable such that waters within the Plan Area are restored to and maintain their chemical, physical and biological integrity.</p> <p>The following objectives are designed to achieve</p>	<p><i>(Some repeated for another habitat type)</i></p> <p><b>Objective 1.1:</b> Protect 8,132 acres of habitat within the UDA (Cottonwood Woodland, Cropland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Stream/Creeks, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p> <p><b>Objective 1.2:</b> Protect 32,077 acres of habitat outside the UDA (Blue Oak Woodland, Cropland, Freshwater Marsh, Irrigated Pasture, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Streams/Creeks, Swales, Valley Oak Riparian Woodland, Seasonal Impoundment, Vernal Pool, and Valley Grassland).</p>

Natural Communities	BDCP	San Joaquin HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano HCP	South Sacramento HCP
<p>Non-tidal Perennial Aquatic and Emergent Marsh</p>			<p>area) and protect as part of the Preserve System in Zones 2, 5, and 6  <b>Objective 1.4.</b> Acquire ponds at a ratio of 2:1 of wetted acres (estimated to be 16 wetted acres with the maximum urban development area) and protect as part of the Preserve System  <b>Objective 1.6.</b> Acquire slough/channel at a ratio of 0.5:1 of wetted acres (estimated to be 36 wetted acres with the maximum urban development area) and protect as part of the Preserve System  <b>Objective 1.7.</b> Acquire aquatic (open water) at a ratio of 1:1 of wetted acres (estimated to be 17 wetted acres with the maximum urban development area) and protect as part of the Preserve System  <b>Objective 1.8.</b> Preserve and maintain contiguous wetland-upland complexes</p> <p><b>Goal 2: Maintain and enhance hydrogeomorphic and ecological function of wetlands and ponds to promote covered species, native biological diversity, and habitat heterogeneity</b>  <b>Objective 2.1.</b> Maintain or increase native emergent vegetation where appropriate  <b>Objective 2.2.</b> Reduce sediment deposition and transport where appropriate  <b>Objective 2.3.</b> Maintain or increase wetland and pond capacity and water duration as appropriate.  <b>Objective 2.4.</b> Maintain or increase flows to and connectivity among wetlands and wetland complexes as appropriate  <b>Objective 2.5.</b> Eliminate or reduce non-native animals  <b>Objective 2.6.</b> Eliminate or reduce exotic plants  <b>Objective 2.7.</b> Maintain or enhance upland habitat in close proximity to wetlands and ponds to support the life-history requirements of wetland-dependent covered species</p> <p><b>Goal 3: Restore wetlands and create ponds in Preserve System to compensate for permanent loss of these habitats</b></p>		<p>Goal RSM 1 and sub-goals RSM 1.1-1.4:  <b>Objective RSM 1.2.</b> Avoid and minimize impacts to existing riparian, stream and freshwater marsh systems to the maximum extent practicable.  <b>Objective RSM 1.3.</b> Provide for a net increase in the quantity and quality of riparian, stream and freshwater marsh habitat in the Plan Area. Net increase in quantity and quality will be assessed every five years and compared to the baseline conditions determined during the initial riparian habitat assessment.</p> <p><b>Goal RSM 2.</b> Contribute to the recovery of Covered Species associated with Riparian, Stream and Freshwater Marsh Natural Community within the Plan Area through the preservation and expansion of existing populations, and allowing for future population expansion and re-colonization into restored areas.  <b>Objective RSM 2.1.</b> Identify potential migration barriers, locations and quality of gravel beds for spawning, and monitor water temperatures to better identify potential breeding and rearing habitat for salmonids within the Plan Area within 5 years of adopting the HCP.</p>	<p><b>Objective 2.1:</b> Restore and/or create 1,232 acres of habitat in the SSHCP Study Area for mitigation (Blue Oak Woodland, Freshwater Marsh, Mixed Riparian Scrub, Mixed Riparian Woodland, Open Water, Seasonal Wetlands, Swale, Valley Oak Riparian Woodland, Seasonal Impoundment, and Vernal Pools).</p>

Natural Communities	BDCP	San Joaquin HCP	East Contra Costa HCP/NCCP	Natomas Basin HCP	Solano HCP	South Sacramento HCP
<p>Non-tidal                      Perennial                      Aquatic and                      Emergent                      Marsh</p>			<p><b>Objective 3.1.</b> Restore perennial wetlands in-kind at a ratio of 1:1 of wetted acres (estimated to be 75 wetted acres with the maximum urban development area)  <b>Objective 3.2.</b> Restore alkali wetlands in-kind at a ratio of 2:1 of wetted acres (estimated to be 64 acres of alkali wetland complex with the maximum urban development area)  <b>Objective 3.3.</b> Restore seasonal wetlands in-kind at a ratio of 2:1 of wetted acres (estimated to be 118 acres of seasonal wetland complex with the maximum urban development area)  <b>Objective 3.5.</b> Compensate for loss of slough/channel by either restoring slough/channel at a ratio of 1:1 where feasible or restoring riparian woodland/scrub in Zone 6 at a ratio of 0.5:1</p> <p><b>Goal 4: Restore wetlands and create ponds in the Preserve System to contribute to recovery of covered species</b>  <b>Objective 4.1.</b> Restore 10 wetted acres of perennial wetlands  <b>Objective 4.2.</b> Restore 5 wetted acres of alkali wetlands  <b>Objective 4.3.</b> Restore 20 wetted acres of seasonal wetlands</p>			