

Solano HCP Compliance Monitoring Table

Project Design, Review, and Approval Avoidance and Minimization Measure Requirements for Burrowing Owl	Project Impact/ Applicable Condition	Applicant Proposed Mitigation	Proposal Complies With Measure or Not
<p align="center">BURROWING OWL: DESIGN, REVIEW, AND APPROVAL AVOIDANCE AND MINIMIZATION MEASURES IN SECTION 6.3.9.1</p>			
<p>Note: Similar to the Swainson's Hawk Conservation Program, the focus of the Burrowing Owl Conservation Program involves establishing and maximizing foraging potential and protecting nesting habitat in agricultural and natural habitat areas outside of city growth areas, rather than trying to protect small isolated habitat areas in urban environments (see Section 6.4.9). Therefore, no special site design considerations are required for the burrowing owl.</p>			
<p align="center">BURROWING OWL: IMPLEMENTATION AND CONSTRUCTION AVOIDANCE AND MINIMIZATION MEASURES IN SECTION 6.3.9.2</p>			
<p>BO CON 1: Preconstruction Surveys- An Approved Biologist shall conduct preconstruction surveys in known or suitable habitat areas to identify and subsequently avoid nesting and wintering areas for burrowing owls for the entire project site, plus 500 feet of planned work activities and including access roads and staging areas. An initial preconstruction survey shall be conducted within 14 days of the anticipated start of construction, followed by a second survey within 24 hours of the start of construction. All surveys shall follow standard Solano HCP protocols. If a lapse in project-related construction work of 14 days or longer occurs during the nesting season, an additional preconstruction survey shall be required within 24 hours before project work may be reinitiated.</p>			
<p>BO CON 2: Vegetation Management- If burrowing owls or suitable nesting habitat are identified on site during the initial baseline surveys, applicants shall allow vegetation to grow over the entire project site (except for required fuel breaks) to a height of 36 inches or more above the ground, unless impracticable due to surrounding or adjacent land uses. The increased vegetation height, if in place by the beginning of the nesting season (e.g., retention of previous year's growth or planting during the previous winter), will discourage burrowing owl use of the site.</p>			
<p>BO CON 3: Construction Buffers and Exclusion- If BO CON 2 cannot be implemented or is not effective, the following measures shall be implemented for new construction activities:</p> <ol style="list-style-type: none"> 1. During the non-breeding season (September 1 through January 31), a circular exclusion zone with a radius of 160 feet shall be established around occupied burrows. 			
<ol style="list-style-type: none"> 2. If a buffer cannot be established during the non-breeding season, burrowing owls shall be evicted from the entire construction area using passive relocation techniques. The Applicant shall prepare an Exclusion Plan for review and approval by SCWA and the Resource Agencies that addresses the following minimum requirements: <ol style="list-style-type: none"> a. Protocols to confirm that the burrow(s) is unoccupied by burrowing owls and other species prior to destruction. Protocols shall include: <ol style="list-style-type: none"> 1) One-way doors in place a minimum of 48 hours prior to burrow excavation; 2) Twice daily monitoring to confirm evidence that owls have been excluded from the burrow; and 			

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3) Scoping of the burrows to confirm absence.			
<ul style="list-style-type: none"> b. Procedures for how the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow). c. Removal of other potential owl burrow surrogates or refugia on site. d. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take. e. Measures to make the site inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until activity is complete. f. Reports describing the exclusion activities shall be submitted to SCWA. 			
3. During the breeding season (February 1 through August 31), an Approved Biologist shall establish a circular exclusion zone with a radius of 250 feet around each occupied burrow. No construction-related activity (e.g., site grading, staking, surveying, any use of construction equipment) shall occur in the exclusion zone during the breeding season. Once the breeding season is over, passive relocation may proceed as described in Condition 2 above.			
<p>4. Construction buffer widths may be reduced from the 250 feet wide breeding season buffers and 160 feet wide non-breeding season buffers in accordance with the following requirements:</p> <ul style="list-style-type: none"> a. A site-specific analysis prepared by an Approved Biologist indicates that the nesting pair(s) or wintering owl(s) would not be adversely affected by construction activities. SCWA, in consultation with the HCP Technical Review Committee, must approve this analysis in writing before construction can proceed. 			
<ul style="list-style-type: none"> b. Monitoring by an Approved Biologist is conducted for a sufficient time (during all construction activities for a minimum of 10 consecutive days following the initiation of construction), the nesting pair does not exhibit adverse reactions to construction activities (e.g., changes in behavioral patterns, reactions to noise), and the burrows are not in danger of collapse due to equipment traffic. 			
<ul style="list-style-type: none"> c. Monitoring is continued at least once a week through the nesting/wintering cycle at that site, and no change in behavior by the owls is observed. This longer-term monitoring may be reduced to a minimum of 2 hours in the morning and 2 hours in the afternoon during construction activities; however, additional and more frequent monitoring may be required if any adverse reactions are noted. 			
<ul style="list-style-type: none"> d. Monitoring reports are submitted to SCWA. <p>Note for BO CON 3: If adverse effects are identified, construction activities shall cease immediately, and construction shall not be resumed until the Approved Biologist, in consultation with SCWA, has determined that construction may continue under modified restrictions or that nesting activity is complete.</p>			

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<p>BO CON 4: Active Relocation- Active relocation of burrowing owls may be implemented as part of the Burrowing Owl Conservation Program if the relocation action is approved by SCWA and the Resource Agencies. Active relocation may be used on sites under the following conditions: where BO CON 2 and BO CON 3 are impracticable; there is no adjacent habitat for owls to move into if passively relocated; or in order to establish owls on a reserve in the Valley Floor Grassland and Vernal Pool or Inner Coast Range Conservation Areas. Active relocation would be subject to the following requirements:</p> <ol style="list-style-type: none"> 1. A biological assessment report shall be prepared for the reserve site where owls will be relocated. The assessment will discuss in detail the suitability of the site to support both foraging and nesting burrowing owls. 2. A conservation easement shall be placed on the reserve site prior to attempted relocations. 3. A Burrowing Owl Management Plan for the reserve site shall be prepared and approved by SCWA and the Resource Agencies. 4. An assessment of the potential impacts to other burrowing owls in the vicinity shall be made. The proposed relocation must be found to have no impacts on the existing owl populations. 5. Impacts to other Covered Species shall be avoided at the reserve site. 6. A funding source shall be secured to fund the relocation, habitat maintenance, and monitoring of the relocated burrowing owls. 7. Approved Biologists shall be retained to carry out the monitoring program and prepare reports that will be submitted to SCWA. 			
<p>BURROWING OWL: MITIGATION MEASURES IN SECTION 6.4.9</p>			
<p>General Notes about Mitigation Requirements: Mitigation measures for impacts to burrowing owl are applicable to most Covered Activities in the Plan Area; however, all or portions of the mitigation for loss of foraging habitat may be addressed concurrently with habitat preservation and management requirements specified for other Natural Communities.</p>			
<p>BO MIT 1: Mitigation for Direct and Indirect Impacts to Foraging Habitat- Direct Impacts: Mitigation for the direct disturbance, destruction, or conversion of burrowing owl habitat for urban development or other permanent facilities shall be provided at a 1:1 ratio. Project sites that have been occupied during the nesting season at any time during the past 3 years or found to be nesting at the time of preconstruction surveys will be considered occupied by owls and require additional nesting habitat mitigation (see BO MIT 2). All burrowing owl habitat affected directly by the project will be subject to the compensation requirement. Mitigation lands used to satisfy mitigation measures for other Natural Communities and/or Covered Species (i.e., Valley Floor Grassland and Vernal Pool Natural Community [excluding the wetland restoration/construction component], Coastal Marsh Natural Community, Swainson's hawk, California red-legged frog, and Callippe silverspot butterfly) can be used to satisfy burrowing owl conservation if the reserve area meets the basic burrowing owl reserve management standards (Sections 7.3</p>			

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and 10.5.3) and criteria specified in Objective BO 1.2 (Section 5.10.1).			
BO MIT 1- Indirect Impacts: Indirect impacts to burrowing owl habitat from development in irrigated agriculture lands shall be mitigated through the preservation and management of foraging habitats at a ratio of 0.5:1 . Indirect impacts in valley floor grassland habitat are covered under mitigation requirements for the Valley Floor Grassland and Vernal Pool Natural Community, including VPG MIT 1 requirements. Indirect impacts in coastal marsh habitat are covered under mitigation requirements for the Coastal Marsh Natural Community, including CM MIT 2 requirements. Indirect impacts in Inner Coast Range habitat are covered under mitigation requirements for the California red-legged frog and Callippe silverspot butterfly protecting upland habitat within the Inner Coast Range Natural Community, including RLF MIT 1 and CSB MIT 1.			
Note for Exemption for BO MIT 1: In-fill projects on small, in-fill lots (which are not part of undeveloped lands greater than 5 acres of contiguous habitat) and which are bordered by contiguous urban development (based on conditions at the time the HCP is adopted) would have minimal effects on the extent and quality of burrowing owl habitat and are exempt from burrowing owl foraging habitat mitigation requirements unless a known or active nest is present. Additionally, project proponents are obligated to avoid destruction of active burrowing owl nests and take of burrowing owls in compliance with the Federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503.5 and to meet the requirements specified in BO CON 1, BO CON 2, BO CON 3, and BO MIT 3.			
BO MIT 2: Known Nest Sites- Covered Activities resulting in the take of a known or active burrowing owl nest site shall preserve an active nest site. Preservation of an active nest site may be achieved through purchase of occupied nest credits from an HCP-certified mitigation bank or approved project-specific reserve. If preserved active nest sites are unavailable, project proponents will provide funding (\$25,000 per nest at 2016 costs) to the SCWA Interim Nest Protection Program (see Section 11.1.2). Measure BO MIT 2 will be accomplished through payment of fees and will be managed by SCWA through a process similar to that described under Objective SH 2.2, through targeted acquisition and conservation easements of suitable nesting habitat. Alternatively, project proponents may preserve known nest sites in Solano County subject to the requirements and approvals specified in Section 10.5.			
BO MIT 3: Preservation of Important Nesting Habitat- Covered Activities in Zone 1 will provide funding (to be implemented in conjunction with Measure SH MIT 5 and Section 11.1.2) to contribute to targeted preservation through direct acquisition or conservation easement of 1,000 acres of nesting and associated nest buffer for burrowing owl and Swainson's hawk in the Swainson's Hawk Irrigated Agriculture Potential Reserve Area (Figure 4-27).			
BO MIT 4: Mitigation for Temporary Impacts- If construction activities associated with development-related Covered Activities (e.g., grading, staging areas, but excluding restoration and reserve management activities) result in the loss of occupied nesting or wintering burrows (e.g., closure, collapse due to ground disturbance, or disturbance in the construction buffer zones), mitigation shall be provided according to the following criteria at all times of the year: 1. Alternative Burrow Plan: Applicants shall provide an Alternative Burrow Plan for review and approval by SCWA and the Resource Agencies. The Plan shall include but is not limited to the following:			

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<ul style="list-style-type: none"> a. An assessment of available suitable burrows within 330 feet of the edge of the construction area if suitable contiguous habitat remains. b. Provisions to install artificial burrows if suitable donor burrows are not present. c. A maintenance and monitoring program that includes a minimum of 2 years following completion of the project that resulted in the temporary impact. The maintenance program shall include provisions to maintain artificial burrows, if required, in usable condition and vegetation height at 6 inches or less within 50 feet of the burrows. If the above measures cannot be implemented because sufficient habitat is not present in surrounding, contiguous lands to support burrowing owls or at the Applicant's discretion, temporary impacts shall be mitigated per the requirements of BO MIT 1 and BO MIT 2. d. Compliance with BO MIT 4 does not allow for the destruction or disturbance of an active nest site. 			
2. Temporary Impacts: All temporarily disturbed burrowing owl habitats shall be restored to original conditions within 1 year at a minimum 1:1 ratio .			

BA = Biological Assessment
 BMP = Best Management Practices
 CDFW = California Department of Fish and Wildlife
 Dixon RCD = Dixon Resource Conservation District
 DPS = Distinct Population Segment
 ESU = Evolutionarily Significant Unit
 HCP = Habitat Conservation Plan
 MMP = Mitigation and Monitoring Plan
 MPWD = Maine Prairie Water District
 NOAA NMFS = National Oceanic Atmospheric Association National Marine Fisheries Service
 NPDES = National Pollutant Discharge Elimination System
 O&M = Operation and Maintenance
 RD 2068 = Reclamation District 2068
 RSM = Riparian, Stream, and Freshwater Marsh
 RWQCB = Regional Water Quality Control Board
 SCWA = Solano County Water Agency
 SID = Solano Irrigation District
 SWPPP = Storm Water Pollution Prevention Plan
 USFWS = United States Fish and Wildlife Service