

**State Water Resources Control Board
Division of Water Rights**

Guidance for Biological Surveys and Reports

This document is intended to provide consultants with general guidance regarding biological surveys and reports that may be required by Division of Water Rights (Division) staff. In order to ensure that all necessary information is gathered during the initial biological survey, the Division recommends that consultants follow the guidance presented below. Performing a biological survey twice can be avoided in most circumstances by knowing beforehand what may be expected by Division staff. The following guidance clearly describes what may be necessary in order for a biological survey to be considered complete by Division staff. Please note that this guidance is meant to represent a minimum level of work, and that site-specific conditions may require additional effort.

Though not required, the Division recommends that consultants adhere to the Template for Biological Survey Reports whenever possible. Use of this format will allow Division staff to quickly review the report. The format may also allow Division staff to locate important information without the need to consult with the author of the report as all of the information should be in a familiar location.

1) The survey must include a complete list of sensitive species/habitats generated from the [California Natural Diversity Database](#), [California Native Plant Society](#), or other reliable source to determine sensitive species in the area.

- a) The list should include the area that extends at least five miles from the project boundaries.
- b) The table or list of all sensitive species and habitats occurring within the 5-mile zone should include the ideal time for viewing/identifying as well as a brief description of typical habitat.
- c) The table or list should be reviewed in order to eliminate species that have no potential to occur on the site. Provide sound reasoning to support this determination.
- d) Surveys for the remaining species or habitat must be done using methods designed to identify each of these species individually. These methods may entail protocol-level surveys designed by the Department of Fish and Wildlife (DFW), the U.S. Fish and Wildlife Service (USFWS), or the National Marine Fisheries Service (NMFS).

2) Methods used during the field survey must be appropriate to the species or habitat being surveyed.

- a) Whenever possible, use the guidelines set forth by [DFW](#), USFWS, NMFS, [Point Reyes Bird Observatory](#) (PRBO) or other generally recognized organization. The following procedures provide guidance of a general nature and are used by Division staff when reviewing biological reports.
 - i) In general, diurnal bird surveys (excluding raptors, which will be discussed later) should begin approximately 20 minutes after local sunrise and continue for not more

than three hours. For more information, refer to the [California Avian Data Center](#) or the [Avian Knowledge Network](#).

ii) Amphibian surveys should be conducted, at a minimum, during one of the twilight times (dawn or dusk) and should enlist the assistance of a light source and binoculars.

(1) Auditory surveys are acceptable but surveyors must be qualified to make aural identifications of all the amphibious species in the area.

(2) A search for the larval stages of amphibians may need to be carried out, depending on the time of year the survey is done. Such a search should employ the use of a device such as a dip net to sample the water column and may require a “take” authorization from either DFW or USFWS or both.

iii) Survey for diurnal raptors on multiple days. Playback surveys can be extremely useful, especially in heavily wooded areas.

(1) Survey for diurnal raptors following the above mentioned protocols for diurnal birds unless using playback methods, in which case the survey can be carried out during any daylight hour. If surveying for multiple species at the same time using a playback method, design the survey to be sensitive to the size of the animals. Play the call of the smallest animal first, so as not to frighten it by playing a large competitor’s call first.

(2) Diurnal raptors can also utilize a number of distinct habitat types for different purposes. All of these habitat types should be considered when determining whether specific surveys should be performed.

iv) Nocturnal raptors should be surveyed whenever there is the possibility that a special status species exists in the area.

(1) Nocturnal raptor surveys should use a playback method. If this method is not used, significant reasoning should be used to describe why this method is inappropriate or unnecessary.

(a) These surveys should be conducted on multiple days.

(b) Begin no earlier than two hours after local sunset and end no later than two hours before local sunrise.

(c) If surveying for multiple species at the same time, design the survey to be sensitive to the size of the animals. For example, the call of the smallest animal should be played first, to not frighten it by playing a large competitor’s call first.

(2) Nest searches, pellet searches, or other methods may also be acceptable but only when accompanied by sound reasoning.

v) Whenever a special status mammal might exist on a property and its preferred habitat is present, a proper survey should be performed.

(1) A proper mammal survey almost always includes trapping.

(a) May need to develop a specific protocol in concert with local DFW and USFWS.

(b) Bats are a possible exception and can be surveyed with:

(i) Mist netting.

(ii) Ultrasonic detectors.

(iii) Night Vision equipment used at possible roosting sites.

(iv) Ground search for sign or evidence of existence.

(v) For all specific bat surveys, the investigator must be fully qualified (i.e., specific experience surveying for bats). DFG suggests that anyone handling bats be immunized against rabies.

(2) Tracks may only be used to confirm a particular species' presence, not absence.

vi) Fish

(1) Surveys should typically be conducted during the Winter/Spring (wet) seasons.

(2) Reports should include physical measurements of stream including temperature (including the time of day the temperature was taken), maximum depth, width, (mean with range) and flow rate.

(3) The report should include comments on turbidity, the percentage of cover at mid-day, substrate, emergent vegetation, floating vegetation, and fish present (including fish stocked by applicant/petitioner).

(4) Reports should include a determination of presence of fish upstream and downstream from point of diversion. Include existing or planned fish screens or migration barriers.

(5) Reports should include a determination of whether the stream is Class 1 (supports fish), Class 2 (supports no fish, but does support other aquatic life), or Class 3 (does not support any aquatic life).

vii) Invertebrates

(1) Pay particular attention to California Freshwater Shrimp.

(2) Adhere to protocols posted by DFW's [Survey and Monitoring Protocols and Guidelines](#).

(3) Many invertebrate species need species-specific survey protocols, so generic surveys may be inadequate.

(4) A sampling method should be utilized in order to accurately describe the aquatic invertebrate population. Acceptable methods include dip nets, water column samplers, etc.

viii) Plants

(1) When surveying for sensitive plant species, be sure to conduct the survey during the time of year that is best suited to identify each species (i.e. blooming season).

(a) This may result in more than one survey date.

(b) If known populations exist in the area, visit these populations to determine the most probable blooming dates for each species.

(c) Not all plants actually express every year.

(2) Consult DFG's [Survey and Monitoring Protocols and Guidelines](#).

ix) Habitat

(1) Habitat for special status species must be investigated and reported even if no individuals of that species occur on the property.

(2) Some types of habitat are protected and should be mapped and fully disclosed. Some examples include riparian and sycamore alluvial woodland. Also, serpentine soils are of high interest and should also be investigated.

(3) When wetlands are present (as defined by the U.S. Army Corps of Engineers in their [1987 Wetland Delineation Manual](#)), a qualified individual shall perform a complete and thorough wetland delineation.

(a) Results of this delineation must be presented in graphical form in the "Maps" appendix of the report.

(b) The results must also be discussed in the body of the report.

b) In addition to surveying specifically for sensitive species and habitats, a general survey should be conducted in order to accurately describe the biological setting present on the project site.

i) At a minimum, the general survey should include:

(1) Pedestrian survey that includes both a visual and auditory search for birds and mammals or their sign. A search of leaf litter and under rocks for amphibians or reptiles should also be conducted.

(2) Specific riparian avian census.

(3) Vegetative survey sufficient to identify habitat type and two to three dominant plant species. Findings of vegetative survey should be displayed in a site-map format or overlay.

- (4) Survey of downstream environment.
 - (a) Utilize the best method available.
 - (i) Aerial photographs and drive-by surveys are possibilities if access is restricted to downstream lands.
 - c) The individual who performs a survey, whether it is species-specific or general in nature, should be specifically qualified to perform that survey.
- 3) Whenever any Endangered, Threatened, Rare, or species of special concern are found, that information must be reported to DFW to be included in the [California Natural Diversity Database](#).