

Chapter 59: [Biological Resources Protection](#)

General Requirements

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/bioresourcesReqGeneral.pdf>

1 Purpose

The purpose of these requirements is to ensure that SLAC adheres to all pertinent environmental regulations as well as best practices regarding *biological resources*.

They cover review for wildlife-related environmental concerns and implementation of related controls for general site operations and maintenance activities, construction (including excavation and demolition work), and landscaping.

They apply to workers, supervisors, construction managers, project managers, area/building managers, the Biological Resources Protection program manager, and Facilities and Operations.

2 Requirements

2.1 General

SLAC is subject to a number of biological resources protection requirements, which are administered or enforced through multiple regulations and agencies. Key applicable regulatory standards and corresponding SLAC requirements are summarized below. For a complete list, see Section 6.1, “External Requirements”, in [Chapter 59, “Biological Resources Protection”](#).

2.1.1 Endangered Species Act

The federal Endangered Species Act (FESA) is primarily administered by the US Fish and Wildlife Service (USFWS)¹ and establishes a framework for protecting *endangered* and *threatened species* and their *designated critical habitats*. The FESA prohibits the *take*² of protected species without an *incidental take permit*. Habitat modification or degradation significant enough to injure or kill wildlife by impacting breeding, feeding, or sheltering behaviors is also a form of take.

There are three federally threatened species that have the potential to occur at or near SLAC: central California coast steelhead (*Oncorhynchus mykiss irideus*), California red-legged frog (*Rana draytonii*), and

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- 1 The USFWS administers the FESA for non-marine species and the National Marine Fisheries Service (NMFS) has statutory authority over the FESA for marine species; no marine species occur at SLAC.
 - 2 *Take* is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (ESA, Section 3[18]).

California tiger salamander (*Ambystoma californiense*). Additionally, San Francisquito Creek is designated critical habitat for steelhead. There are no federally endangered species with the potential to occur at or near SLAC.

2.1.1.1 SLAC Implementation

For proposed actions that may affect a federally listed species and/or designated critical habitat, SLAC must initiate consultation with the USFWS under Section 7 of the FESA (see Figure 1).

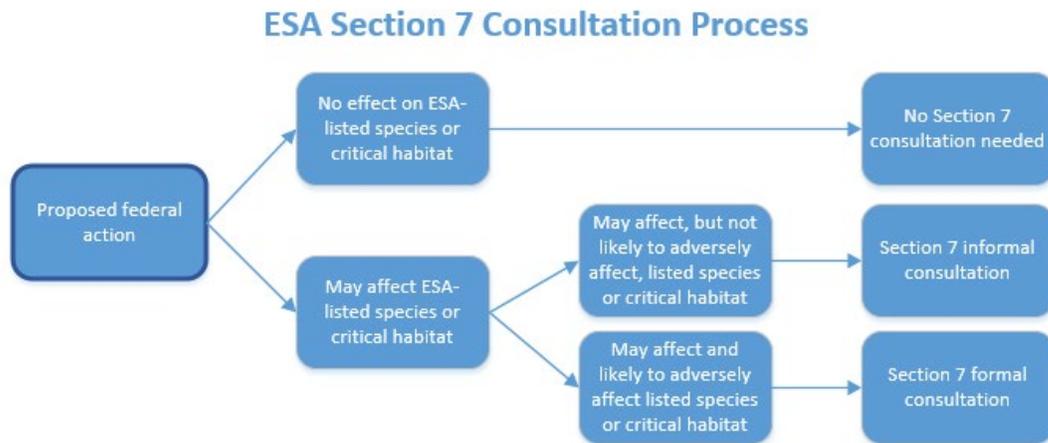


Figure 1 ESA Section 7 Consultation Process

2.1.2 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) makes it unlawful to take, possess, or transport any migratory bird or its parts (including feathers), nests, or eggs except under a valid permit. Disturbance that causes nest abandonment or loss of reproductive effort (for example, killing or abandonment of eggs or young) is considered a form of take. Almost all native birds are protected under the MBTA³.

Birds can nest in a variety of habitats, including in trees and shrubs, surfaces on or low to the ground, or inside or outside manmade structures. Activities such as construction, demolition, or outdoor renovations can be particularly disturbing to nesting birds. Nesting bird season is generally defined as January 1 through July 31 for raptors and February 15 through August 31 for birds.

2.1.2.1 SLAC Implementation

For proposed actions that have the potential to affect migratory birds or active nests (a nest that contains eggs or birds), SLAC should implement *avoidance and minimization measure (AMM)* to avoid take. These may include conducting nesting bird surveys, establishing buffer zones around active nests, and/or monitoring nests during activities.

3 European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columba livia*) are the only species expected to occur at SLAC that are not protected under the MBTA; all other species are protected.

SLAC personnel should notify the Biological Resources Protection program manager if a nest is found near an active work site, even if it does not look to contain eggs or young. The program manager can work with the project to establish AMMs if needed.

2.1.3 Sections 404 and 401 of the Clean Water Act

The Clean Water Act (CWA) establishes a regulatory framework to protect water quality in the United States. Section 404 of the CWA is administered by US Army Corps of Engineers (USACE) and regulates the discharge of dredged and fill material into a *water of the United States (WOTUS)*. Section 401 of the CWA is administered by the regional water quality control board (RWQCB) and requires that any agency applying for a federal permit allowing discharge of pollutants into a WOTUS, such as a Section 404 permit, also obtain a state water quality certification to ensure that the activity complies with state water quality standards.

2.1.3.1 SLAC Implementation

All WOTUS are subject to the CWA. For proposed actions that would result in fill or discharge to a WOTUS, such as San Francisquito Creek, SLAC must consult with and/or obtain a permit from the USACE (CWA Section 404) and a certification from RWQCB (CWA Section 401). The Biological Resources Protection program manager can assist in determining the jurisdictional status of a surface water at SLAC and whether a proposed activity requires permitting⁴.

2.1.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits the take of bald or golden eagles or their parts (including feathers), nests, or eggs without a federal permit.

2.1.4.1 SLAC Implementation

Bald and golden eagles are unlikely to occur or nest at SLAC but are known to occur in the San Francisquito Creek watershed area.

2.1.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires federal agencies to evaluate the environmental impacts of a proposed action and any reasonable alternatives, including those to biological resources, during planning and prior to making decisions.

2.1.5.1 SLAC Implementation

More information on SLAC's NEPA process can be found in SLAC's [NEPA Implementation Procedure](#).

4 A water can be considered *jurisdictional* based on several factors, including presence of a significant nexus with a WOTUS.

2.2 Procedures and Specific Requirements

2.2.1 Avoidance and Minimization Measures

The following is a partial list of *avoidance and minimization measures (AMMs)* that can be implemented to minimize disturbance to wildlife before or during activities at SLAC. It is not a comprehensive list of all AMMs. The Biological Resources Protection program manager can implement or assist in implementing AMMs and will determine which measures are appropriate depending on the nature and location of the activity:

- **Nesting bird survey.** For high-impact activities occurring outdoors (or indoors, if in an area that is readily accessible from the outside) during nesting bird season, conduct a nesting bird survey prior to the start of work, if needed.
- **Buffer zone.** If an active nest is present near a work site, establish a buffer zone (for example, 50 feet) around the nest and minimize or avoid activities within the buffer.
- **Biological monitoring.** If work near an active bird nest is not avoidable, monitor the nest during work to ensure that the activity does not result in disturbance or harm.
- **Pre-construction biological survey.** If construction or demolition activities are planned in undisturbed areas, conduct a biological resources survey prior to the start of work, if needed.
- **Site selection.** Sites for new construction should be selected to minimize fragmentation of or disturbance to existing natural landscapes to the extent possible by situating new facilities near or adjacent to existing development.
- **Work schedule.** When possible, high-impact work should be scheduled to avoid the nesting bird season (February 15 through August 31) and, for applicable activities (such as demolition of abandoned buildings, work on large, hollowed trees), scheduled to avoid the roosting bat season (April 1 through August 31).
- **Foot traffic.** Foot and vehicular traffic on natural, undisturbed areas should be minimized to the extent possible.

2.2.2 Landscaping

In landscaping and revegetation activities, including hydroseeding, the use of local, native plant species should be prioritized. *Invasive species* should not be used or spread at SLAC. Groundskeeping personnel should avoid disturbing active bird nests prior to trimming or removing. The Biological Resources Protection program manager can perform nesting bird surveys and should conduct reviews of plant and hydroseed lists for planned landscaping activities. Project managers should refer to SLAC's [Landscape Vegetation and Planting Guidance](#) for best management practices as well as a list of preferred plant species. Tree protection falls under SLAC Facilities and Operations in accordance with its [Tree and Shrub Protection Guideline](#).

2.2.3 Weed Abatement and Vegetation Management

For the purposes of general housekeeping and minimizing fire risk, SLAC uses several weed abatement and vegetation management methods to control vegetation growth around the site. Mechanical control includes abatement methods such as mowing, cutting, or hand removal. Chemical control is conducted through

herbicides, such as glyphosate-based agents. Mechanical control is the preferred method of vegetation control as there is less potential for environmental impact.

If chemical methods are used, the following guidelines should be followed:

- Herbicides must be used in accordance with the product's instructions.
- Herbicides should not be used in or adjacent to waterways or drainages, as this may result in storm water runoff pollution and/or hillside erosion impacts.
- Spot application should be used, as opposed to broad application or spraying.
- Herbicides should not be applied if there is rainfall expected in the next 24 to 48 hours in order to minimize storm water contamination.
- Only herbicides with glyphosate as the active ingredient should be used; herbicides with other active ingredients should only be applied after coordination with the Biological Resources Protection program manager and/or Stormwater program manager.

If chemical methods of weed abatement and vegetation management are planned, the Biological Resources Protection program manager should be contacted to ensure that potential impacts to the ecosystem are avoided.

Biological resources protection measures for vegetation management under SLAC's 230-kilovolt (kV) transmission line are addressed in a separate Biological Site Evaluation⁵.

2.2.4 Wildlife Encounters

If potentially protected wildlife, such as a bird or bird nest, is found in an area where it may impact or be impacted by SLAC's activities:

1. Call the Biological Resources Protection program manager

If wildlife that presents an immediate safety hazard is encountered at SLAC, such as a venomous snake in a trafficked area or a mountain lion:

1. Call SLAC Site Security (ext. 5555)
2. Contact the SLAC building manager for the nearest buildings and notify them of the sighting

If someone has been seriously injured during a wildlife encounter at SLAC:

1. Call 911 for emergency medical treatment
2. Call SLAC Site Security (ext. 5555)
3. Contact the person's supervisor

2.2.5 Nuisance Wildlife

Burrowing rodents, noxious weeds, and other plants and animals can have harmful effects on the vegetation communities and landscaping at SLAC. Others, such as snakes or insects, can present safety concerns to

5 Biological Site Evaluation for the SLAC National Accelerator Laboratory 230kV Transmission Line Vegetation Management Program, July 2021

personnel. Nuisance wildlife should be addressed using methods that protect resources and workers at SLAC while being as humane and/or non-toxic as feasible.

Pest control techniques vary depending on the subject species and environment but should generally employ humane methods. Burrow fumigation is an example of a humane pest management practice for ground squirrels and rodents. (It is most effective in the spring when soil moisture is high.)

Baits that contain poison may be used when necessary but must not be placed such in a way that the bait can be accessed by non-target wildlife, which may be protected under state or federal law, or where it can enter drainages or waterways.

Traps are not recommended unless designed or monitored in a way that ensures the trapping is humane and non-target wildlife are not inadvertently impacted. Live-trapping and relocation may be used if safe to do so, including for larger mammals such as raccoons. Wildlife, however, should not be transported and released to a different site than where it was captured (that is, not outside of SLAC's site boundary), unless the animal is injured and is being taken to a certified wildlife rehabilitation center.

Pest control at SLAC should only be implemented by qualified Facilities personnel or a qualified vendor overseen by Facilities. Facilities should contact the Biological Resources Protection program manager for questions regarding which species may be protected under state or federal law. The program manager can provide recommendations for effective and compliant methods to control nuisance wildlife.

2.2.6 Surface Waters and Drainages

Many drainages, ditches, ponds, and other surface waters at SLAC may meet the *jurisdictional* definition under the CWA. Maintenance activities, such as trimming or management of vegetation in or near these waters, should be conducted so that there is no discharge of sediment or material, including branches and natural debris, into the water. Foot traffic in and around waterways should also be minimized to the extent possible. If a proposed activity in or near a surface water has the potential to discharge any material into the waterway, the project manager should contact the Biological Resources Protection program manager.

3 Forms

The following forms and systems are required by these requirements:

- None

4 Recordkeeping

The following recordkeeping requirements apply for these requirements:

- The Biological Resources Protection program manager maintains records of biological surveys and of significant wildlife sightings and incidents

5 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 59, “Biological Resources Protection”](#)
 - *SLAC Biological Resources Protection Manual*, March 2021. Prepared by Kleinfelder, Inc. for SLAC National Accelerator Laboratory (available from the Biological Resources Protection program manager)
 - [Landscape Vegetation and Planting Guidance](#) (SLAC-I-750-0A15E-001)
 - Biological Site Evaluation for the SLAC National Accelerator Laboratory 230kV Transmission Line Vegetation Management Program, July 2021. Prepared by Garcia and Associates for SLAC National Accelerator Laboratory (available from the Biological Resources Protection program manager)
- [Chapter 1, “General Policy and Responsibilities”](#)
 - [General Policy and Responsibilities: ESH Project Review Procedure](#) (SLAC-I-720-0A24C-001)
- [Chapter 26, “Stormwater”](#)

Other SLAC Documents

- [SLAC National Environmental Policy Act \(NEPA\) Implementation Procedure](#) (SLAC-I-750-0A16C-001)
- [Tree and Shrub Protection Guideline](#) (SLAC-I-708-406-001-00)