

While not strictly speaking a part of the measures mitigating the effects of construction, during final restoration planting the Doyle Drive Project will avoid using plant species along or on the median of the roadway which would attract birds. The purpose of this is to reduce potential for vehicle-related bird mortality, and plants should not include seed or berry-producing genera such as *Acacia*, *Alnus*, *Cornus*, *Heteromeles*, *Prunus* or *Ribes*.

Implement a Special-status Bat Avoidance/Mitigation Plan.

To protect breeding bats at the Doyle Drive Project site, pre-construction surveys and avoidance measures will be implemented. Pre-construction surveys for breeding or roosting bat species, including Yuma myotis bat, are proposed in the event that bats occupy buildings or structures during the year preceding actual demolition and construction.

Implement Best Management Practices (BMPs) to minimize impacts on invertebrates.

The overall mitigation goal is to avoid and minimize temporary construction related impacts and long-term project impacts to natural communities. In regard to temporary construction related impacts, BMPs for construction that are summarized above and identified in the NES would be incorporated as part of the proposed project. Additionally, habitat for special-status invertebrates would be restored. No additional measures are proposed.

3.4.5 Invasive Species

This section describes plant and animal species within the project study area that are considered invasive species.

Regulatory Setting

The National Park Service (NPS) and Trust policies regarding the protection of native plant communities are described in Section 3.4.1. In addition, *Executive Order 13112*, issued in 1999, requires federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

The FHWA guidance, issued on August 10, 1999, directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the *National Environmental Policy Act* (NEPA) analysis for a proposed project.

Affected Environment

Disturbance of northern coastal scrub within the construction corridor is considered a combination of both human and natural events. It is very open and is subject to eroding soils as shown by existing erosion control mats in the sandy

hills beneath Doyle Drive. Invasive plant species typically colonize open and disturbed ground and can indicate a high level of disturbance (historical or ongoing).

The majority of the non-native introduced forest (understory scrub) and central coast arroyo willow scrub are highly disturbed, indicated by the presence of certain invasive plant species (e.g., cape ivy [*Delaria odorata*], English ivy [*Hedera helix*], and cotoneaster [*Cotoneaster* sp.]). Cape ivy is also present approximately thirty meters (100 feet) north of the Doyle Drive construction corridor, along with wild radish (*Raphanus sativus*), a moderately invasive species, which occurs on the northern coastal bluffs. French broom (*Genista monspessulana*) occurs below the aerial structure of Doyle Drive.

Temporary Impacts

Temporary disturbances resulting from construction activities may affect the distribution of invasive plant species in the study area.

Permanent Impacts

Invasive plant and animal species have evolved to reproduce in high numbers and use an environmental niche or ecosystem. Permanent impacts would vary, depending on the type of species. It is likely that various weedy, invasive plants would establish along portions of the Doyle Drive alignment even with judicious pre- and post-construction management. Under certain circumstances, invasive species can be totally eradicated from specific areas. More often, the control or management of invasive species is an ongoing, long-term practice.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures will be included in the project to address invasive species.

Implement Best Management Practices to limit the spread of invasive species.

The project will comply with Executive Order 13112, and subsequent guidance from the FHWA. Erosion control and landscaping included in the construction of the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or adjacent to the construction areas. Precautions may include: inspecting and cleaning construction equipment; implementing eradication strategies should an invasion occur; and discouraging colonization of invasive, non-native species by stabilizing disturbed soil areas affected by construction areas as soon as they are completed.