



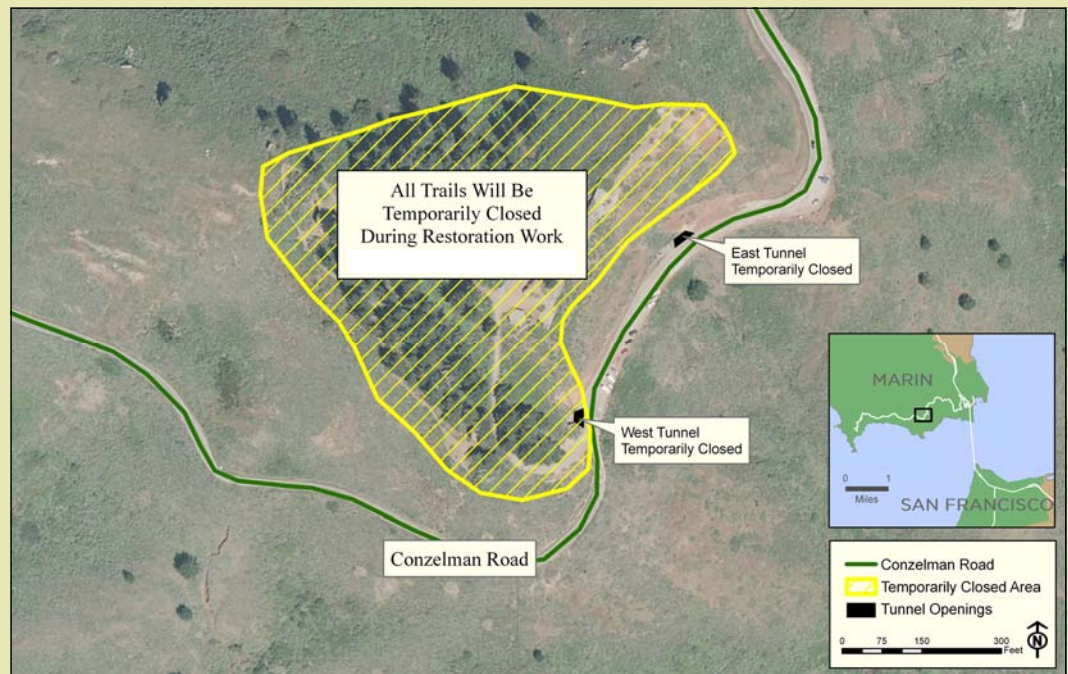
# TRAILS FOREVER

## Habitat Restoration and Trail Improvement Project at Hawk Hill (Battery Construction 129)

### What's Happening at Hawk Hill?

About 93 acres of habitat for endangered mission blue butterflies must be restored in the southern Marin Headlands to mitigate for impacts from road and trail construction that are a part of Project Headlands.

The National Park Service and the U.S. Fish and Wildlife Service considered numerous possible mitigation projects. Each project was ranked based on its likelihood of success, ability to sustain restored habitat, proximity to existing butterfly habitat, and benefits to other native plants and animals. Based on these criteria, removing non-native invasive vegetation—including the Monterey cypress and pine trees at Hawk Hill—and replanting native vegetation was the best option. Tree removal will begin in December 2011.



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This project also includes improvements to the cultural resources and visitor amenities:

**Cultural Rehabilitation**—Tree removal will restore historic views. Aging structures will be stabilized so that they can be explored and enjoyed.

**Recreation**—The restored site will provide increased educational and volunteer opportunities. Improved gathering and seating areas, restrooms, and interpretive programs will make visiting more comfortable and enjoyable.

**Safety**—New guard rails and curbs, improved signage and fencing, asphalt resurfacing, and replacement of decaying wooden steps will make the site safer.

**Accessibility**—Trail realignment and the addition of a trail that meets outdoor recreation accessibility standards will accommodate a broader range of park users.

## Why Here?

The majority of mission blue butterflies in the area have been found at the Rifle Range directly north of Hawk Hill, but there is also good mission blue habitat to the south. The trees on Hawk Hill are an insurmountable barrier for these small butterflies, preventing them from following natural shifts in the distribution of their host plants across these two areas.



A mission blue butterfly on lupine

The trees on Hawk Hill are not native and were not planted intentionally; they came in mixed with soil brought in by the military. After the Army left, the trees were allowed to mature and spread down the formerly grassy slopes. Many of these trees are beginning to show the effects of pitch canker and bark beetles and will likely die in the next three to ten years.

Sites within Hawk Hill where trees have been removed in the past—and where native vegetation was planted after tree removal—now support healthy butterfly habitat.

## Why Now?

In order to satisfy mitigation requirements, and to provide adequate habitat for mission blue butterflies throughout the project, most restoration must begin before road and trail construction is complete. Habitat restoration and weed control started on about 77 acres in 2009. The rest of the mitigation must be done at the same time as the road and trail construction.

## What About Other Native Species?

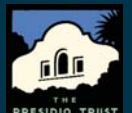
Removing invasive plants will not only help the endangered mission blue butterfly, it will also benefit native coastal scrub and grassland habitats and all the species that rely on them. The National Park Service and its partners will conduct bird and mammal surveys before the trees are removed and will work outside of breeding seasons to minimize any negative effects on wildlife.

It is possible that some migrant birds may no longer stop at Hawk Hill once the trees are gone. But birds have been successfully migrating along these coastal ridges for tens of thousands of years, and the trees have only been there since the 1970s. A number of other nearby open spaces with similar Monterey pine habitat are available to both birds and birdwatchers.



Native scrub and grassland habitat in the Marin Headlands

*Trails Forever* is a park-wide initiative sponsored by the Golden Gate National Parks Conservancy, National Park Service, and the Presidio Trust.



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