



Protecting Red-legged Frogs in the Golden Gate National Recreation Area

The Importance: *Habitat loss and invasive species have caused a precipitous decline in the number of threatened California red-legged frogs.*

The federally threatened California red-legged frog (*Rana draytonii*) was once a common sight in ponds and wetlands from Marin County to Baja California. It has been eliminated from 70 percent of this range, and is now found mostly in coastal watersheds from Marin south to San Luis Obispo County.



A California red-legged frog (*Rana draytonii*)

Their troubles began when the commercial demand for frog legs skyrocketed in the mid-1800s. Today, habitat loss is the primary threat, along with species that have been introduced into their remaining habitat. In particular, non-native bullfrogs and fish that prey on California red-legged frogs have contributed significantly to their decline. The protected habitats of Bay Area national parks including Point Reyes National Seashore, Pinnacles National Monument, and the Golden Gate National Recreation Area, are important refuges for this species.

The Projects: *The Golden Gate National Recreation Area and their partners have implemented extensive habitat enhancement projects in both San Mateo and Marin Counties. They and the U.S. Geological Survey are also monitoring frogs in both areas.*



New trails at Mori Point help reduce erosion and protect sensitive habitats

In consultation with the U.S. Fish and Wildlife Service (the agency responsible for endangered species protection), the National Park Service and its partners have undertaken a number of projects to help protect red-legged frogs and improve their habitats. Park frog populations are also being monitored to see how their numbers are changing, how they respond to habitat improvements, and how they use park landscapes.

San Mateo - Mori Point

Mori Point is home to breeding populations of California red-legged frogs. Prior to the National Park Service's acquisition of the land in 2004, a

large network of informal trails and intense recreational use had eroded the landscape and altered its hydrology. The restoration of Mori Point included building a system of well-defined trails, creating four ponds to promote frog breeding, and improving hydrologic connections between wetlands, uplands, and the new ponds. On-going restoration includes planting native wetland plants and managing invasive species.

Park biologists regularly count red-legged frog egg masses at Mori Point to track breeding activity and see how the population is doing. There were no breeding red-legged frogs at Mori Point before the creation of the new ponds in 2004, but egg mass numbers have increased from 0 to over 120 in the seven years since (Figure 1). In 2012, the park and U.S. Geological Survey also partnered on a project using radio transmitters to track the movements of 25 frogs. Over the course of the study, most stayed in the same ponds where they were originally caught—a good sign that the new ponds are good adult frog habitat.

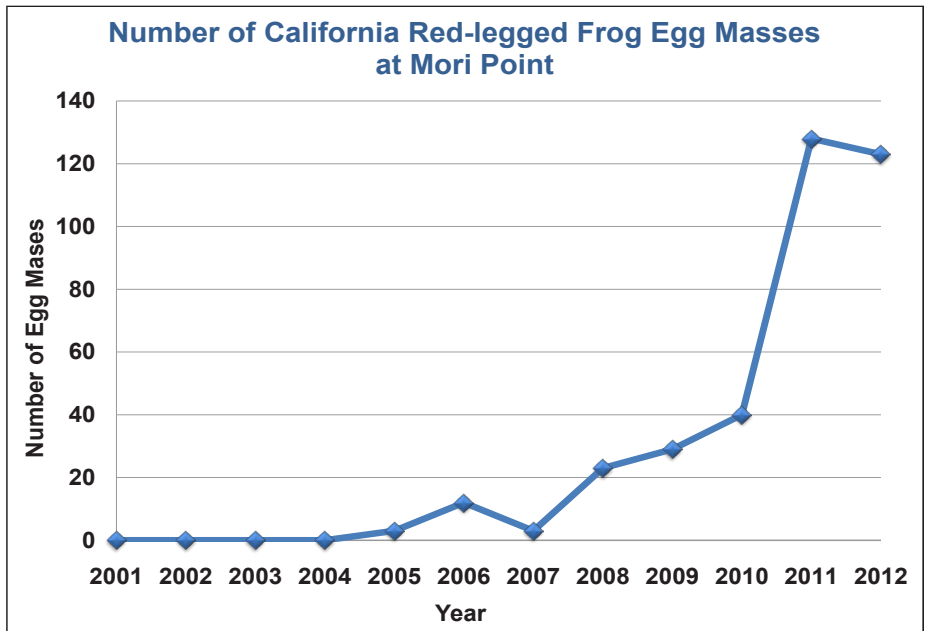


Figure 1. Red-legged frog egg mass numbers have increased from 0 to over 120 since ponds were built in 2004

Marin - Banducci

In 2003, levees at this former flower farm were removed to reconnect Redwood Creek and its historic floodplain. A pond was constructed within the floodplain, and in 2010 and 2011, California red-legged frog egg masses were salvaged from nearby sites and carefully placed into the ponds. Significant numbers of these eggs survived, and the young frogs have thrived and begun to spread into nearby areas. Small numbers of these frogs laid eggs in the winter of 2011-2012, and there will hopefully be more to come.



Red-legged frogs have already moved into new ponds built for them at Muir Beach

Marin – Muir Beach

Three ponds for breeding red-legged frogs were constructed in 2009-2010 as a part of the larger restoration of Redwood Creek at Muir Beach. Though red-legged frogs had not been seen in the watershed since 2005, they appeared throughout the restoration site soon after the reintroduction at Banducci just upstream. Park biologists anticipate that these frogs will also begin breeding in the near future.

Additional Resources:

For more information about red-legged frogs at Mori Point, contact Susie_Bennett@nps.gov, or for details about the populations in Marin contact Darren_Fong@nps.gov.