



DOING THE GROUNDWORK

Restoring Garry oak ecosystems



Gulf Islands National Park Reserve, Fort Rodd Hill National Historic Site and nearby areas of British Columbia contain tracts of Garry oak ecosystems ranging from shady woodlands to open meadows – that are home to many species found nowhere else in Canada. Some 43 species found in Garry oak ecosystems are listed under the Species at Risk Act (SARA). The good news is that through habitat improvement, protection, and species translocations, Parks Canada and its partners plan to help rare Garry oak ecosystem species survive.



Gulf Islands National Park Reserve of Canada and Fort Rodd Hill National Historic Site of Canada

Adult Taylor's checkerspot
© Nicole Kroeker Parks Canada

The remarkable Garry oak habitats are among the most threatened environments in Canada, existing mostly in and around Vancouver Island and the Gulf Islands. Settlement has greatly reduced the ecosystems' size and today, urban development continues to encroach. In all areas, problems are exacerbated by invasions of aggressive alien species.

Parks Canada staff, working with several partners including the Garry Oak Ecosystems Recovery Team, aims to assist the recovery of four plant species at risk by introducing them to carefully selected sites within the park reserve and Fort Rodd Hill National Historic Site. This involves on-the-ground habitat restoration, research and public education. Much of the job involves educating landowners, local governments and the public about species at risk and Garry oak ecosystems conservation.

Pulling out all the stops for Taylor's checkerspot

Taylor's checkerspot (*Euphydryas editha taylori*) appeared to have been extirpated from Canada until 2005, when it was observed on Denman Island located in the Gulf Islands north of the park reserve. Today, scientists are still searching for data. Invasion by non-native plants, fire suppression and drought are among the threats. But still, "there's a significant information gap," for the species, says Parks Canada Ecosystem Scientist Nicole Kroeker. And that means engaging scientists and volunteers in everything from tallying butterfly sightings on Vancouver Island and the Gulf Islands to researching habitat requirements and host plant preferences.

To boost the work, Parks Canada is making good use of funding from the Priority Investment Fund for Species at Risk Recovery. Among other initiatives to make Garry oak ecosystems accessible to all visitors on Vancouver Island, the Fund has supported studies on rare butterflies of Garry oak ecosystems. Parks Canada has also been working with a zoo in Portland, Oregon to support a captive breeding program for the Taylor's checkerspot butterfly.

Garry oak meadow on southeastern Vancouver Island © Nicole Kroeker Parks Canada



Taylor's checkerspot is the focus of international research and conservation because it needs help across its range. Designated endangered in Canada, it is also a candidate for listing under the United States Endangered Species Act. As well as the Oregon zoo, Parks Canada is cooperating with the Washington Department of Fish and Wildlife and other conservation groups towards Taylor's checkerspot recovery.

Recovering the golden paintbrush

A small-scale experimental translocation of the endangered plant, golden paintbrush (*Castilleja levisecta*) to an islet in Gulf Islands National Park Reserve will address key knowledge gaps about the species. This will also address species-specific population objectives presented in the Recovery Strategy for Multi-Species at Risk in Maritime Meadows Associated with Garry Oak Ecosystems in Canada.

The distribution of golden paintbrush is currently restricted to two small island populations off Victoria BC in Canada and nine populations in the United States. The translocation involves collecting seed from a Canadian donor site, "ex-situ" (off-site) propagation, establishing and treating experimental plots at translocation sites and monitoring. Golden paintbrush seeds have been collected and the experimental translocation will commence in Spring 2009.



Volunteers and Parks Canada personnel removing Himalayan blackberry, an exotic invasive species, on a small island in Gulf Islands National Park Reserve © Parks Canada

Engaging others

Outreach and cooperation are key to the recovery team's efforts. First Nations collaboration is essential, as well as partnerships with various levels of government and citizens' groups. The recovery team works diligently to get the word out about the need to protect and restore Garry oak habitats. Presentations, interpretive panels, and newsletter articles are among the communication tools. The recently published Garry Oak Gardener's Handbook received a National Citation from the Canadian Society of Landscape Architects. The handbook covers butterfly gardening among its many topics. It is inspiring our neighbours to create attractive Garry oak gardens.

Fingers crossed and planning for the long term

With these projects underway, Parks Canada is hopeful, but scientists like Nicole Kroeker acknowledge that there's still a great deal to do. "We are planning to introduce some rare plant species to the park reserve and Fort Rodd Hill National Historic Site," she says, but this is experimental with no guarantee of successfully creating a new population of plants.



Volunteers anticipating the return home after a long day of removing Himalayan blackberry, an exotic invasive species, on a small island in Gulf Islands National Park Reserve © Parks Canada

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