Restoring ecological integrity to island ecosystems of Gwaii Haanas

Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site is home to many of Haida Gwaii’s 1.5 million nesting seabirds. An isolated marine archipelago, the region is renowned for its rugged coastline, temperate rain-forested landscape and distinct flora and fauna evolved through 14,000 years of isolation from the mainland. It is so disproportionately rich in rare and unique species that it is often referred to as the “Galapagos of the North”. Yet Gwaii Haanas’s biodiversity is under threat from a range of biological, climate and human impacts. One of the most significant threats to the ecological integrity of Gwaii Haanas is that of introduced species. Rats, first introduced to Haida Gwaii with the advent of maritime shipping in the late 1700s, are known to occur on at least 18 islands throughout the archipelago. In fact, native land mammal species are almost outnumbered by introduced ones!

Because island systems have been isolated for long periods of time, they are especially vulnerable to the impacts of introduced species. Rats have devastating effects on populations of nesting seabirds, forest songbirds and native small mammals. Recent research shows that rats can also affect invertebrate populations, and as a consequence, unleash a cascade of far-reaching effects in ecosystems such as changes to soil fertility and plant composition. Parks Canada and the Haida Nation are committed to the ecological restoration of island ecosystems in Gwaii Haanas and the restoration of seabird populations. Restoration programs will have significant ecological and social benefits not just for nesting seabirds and the biodiversity of Haida Gwaii, but also for the people who live on Haida Gwaii and beyond.
In 2009, Gwaii Haanas launched SGin Xaana Sdiihtl’lx a which translated from the Haida language means “Night Birds Returning” and which refers to the fact that Ancient Murrelets arrive and depart from their underground nests only at night.

The project aims:

“to restore nesting seabird populations and improve the ecological integrity of island ecosystems in Gwaii Haanas, while building awareness and understanding among Canadians about the impacts of introduced species on Gwaii Haanas’ natural and cultural heritage.”

Removing introduced Norway rats and black rats from islands which supported historically significant seabird colonies of Ancient Murrelets, a Species-at-Risk, and both Leach’s and Fork-tailed Storm Petrels, is a necessary first step for restoration of these seabird colonies which are also culturally significant to the Haida people whose traditional diet includes seabirds. Over the next four years, this ecological restoration work will concentrate on Arichika Island, the Bischof Islands, Murchison and Faraday.

Building on previous successful colony restoration initiatives in Haida Gwaii, including on Langara Island and St. James Island, Gwaii Haanas will collaborate with both on-island partners and international experts to establish baseline population data, and to gauge ecosystem response to the removal of rats by monitoring populations of nesting seabirds, songbirds, small mammals and intertidal foragers. Automated acoustic listening devices to measure seabird populations have been established on affected islands, and scientists will use these to study the frequency and distribution of seabird calls and determine species presence and absence. Over the coming years a number of other restoration techniques such as the construction of artificial nesting burrows to encourage seabirds to re-colonize the islands will be employed.

Working with partners

Parks Canada and the Haida Nation will work collaboratively with a range of partners to implement this program including Simon Fraser University, Island Conservation, Coastal Conservation, Canadian Wildlife Service, Laskeek Bay Conservation Society and the Research Group on Introduced Species.

The project is funded by the federal government as part of Parks Canada’s Action-on-the-Ground program, a $90 million nation-wide initiative that encourages Canadians to engage in a range of activities that support conservation and promote the ecological integrity of Canada’s national parks and natural and cultural heritage.

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