

The David and Lucile Packard Foundation

Preventing Extinctions: Seabird Conservation Through Island Restoration

SEABIRDS, ISLANDS, AND THE LARGER ECOSYSTEM

ISLANDS ARE HOME TO HIGH LEVELS OF BIODIVERSITY:

- 43% of the world's critically endangered animals breed on islands.
- 97% of all threatened seabirds breed on islands.
- 80% of species extinctions have occurred on islands.

SEABIRDS ARE AMONG THE MOST THREATENED ANIMALS ON EARTH:

- 29% of seabird species are on the IUCN Red List.
- 92% of island breeding threatened seabirds face threats from invasive species.

INVASIVE SPECIES HARM SEABIRD POPULATIONS:

- RODENTS / CATS: Prey on eggs, hatchlings, and sometimes adult birds.
- GOATS / SHEEP / RABBITS: Destroy habitats and nests.

PREVENTING EXTINCTIONS: SEABIRD CONSERVATION THROUGH ISLAND RESTORATION

THE PACKARD FOUNDATION supports organizations that work in partnership to remove introduced, invasive species from islands primarily in the Pacific Ocean. This approach is one of the most cost effective ways to prevent extinctions, preserve biodiversity, and restore ecosystems.

IDENTIFY STRATEGIC INVESTMENT

WE SELECT ISLANDS THAT HAVE A HIGH RETURN ON INVESTMENT TO BE RESTORED FIRST. THIS FORMULA INCLUDES:

- Presence of invasive species and threatened seabirds
- High feasibility of improving ecosystems
- Low risk of reinvasion
- Native species protected during island restoration
- Low cost

INVASIVE SPECIES ERADICATIONS HAVE A >85% SUCCESS RATE. OUR STRONG, SCIENCE-BASED APPROACH TO ISLAND RESTORATION INCLUDES:

DEVELOP RESTORATION PARTNERSHIPS → FEASIBILITY STUDIES & TRIALS → REMOVE INVASIVE SPECIES

REMOVE INVASIVE SPECIES

WE MEASURE THE IMPACT OF SUCCESSFUL ISLAND RESTORATIONS. EXAMPLES INCLUDE:

- 20% INCREASE OF NATIVE VEGETATION on Guadalupe Island after goats were removed.
- >90% DECLINE IN MORTALITY RATES of Black-winged shearwaters on Nantucket Island after invasive cat removal.

THROUGH LONG-TERM MONITORING, WE EXPECT TO SEE REBOUNDING SEABIRD POPULATIONS AND RESTORED ISLAND HABITATS.

Increased presence of breeding seabirds → Healthy island habitats

CASE STUDY: ANACAPA ISLAND (CALIFORNIA CHANNEL ISLANDS)

INVASIVE BLACK RATS WERE ENDANGERING NATIVE SEABIRDS:

Invasive rats were estimated to predate >95% of Scripps Murrelet eggs. Rats were preying upon seabird chicks, the Anacapa Island Deer Mouse, and other native reptiles, insects, and vegetation.

ASHY STORM-PETREL SCRIPPS'S MURRELET

In 2012, a collaborative partnership of government, NGO and university scientists successfully eradicated rats from the island. Over ten years later, Anacapa Island bird populations are increasing and the entire ecosystem has shown significant recovery.

For the first time, IUCN endangered Ashy Storm-Petrels are nesting on Anacapa Island.

The hatching success of threatened Scripps Murrelet nests has nearly tripled.

For information visit us at www.packard.org/learn/seabirds

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Seabirds, Islands, and the Larger Ecosystem

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<http://www.pnas.org/content/102/51/18497.full.pdf>

IUCN Red List

<http://www.iucnredlist.org/>

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<http://eradicationsdb.fos.auckland.ac.nz/>

Results of Guadalupe Island Restoration Phase I

<http://www.islas.org.mx/index.php?mod=proy&op=islagua>

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http://bio.research.ucsc.edu/people/croll/pdf/Keitt_2003_1.pdf

Case Study: Anacapa Island

For more information about this collaborative partnership among Island Conservation, the Channel Islands National Park, California Department of Fish & Game, and The National Oceanic & Atmospheric Administration to restore Anacapa Island visit:

<http://www.islandconservation.org/where/?id=2>

<http://www.nps.gov/chis/parknews/anacapa-island-recovery.htm>

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