

Newell's Shearwater, Hawaiian Petrel, and Band-Rumped Storm-Petrel Recovery: Five-year Action Plan

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¹Developed the 2009-2014 plan on which this revision is based

PREAMBLE

This document is for use by government agencies, land managers, researchers, and other stakeholders to guide research and management and develop funding for a unified and standardized approach to the recovery of the Newell's Shearwater, Hawaiian Petrel, and Band-rumped Storm-petrel. Development of this document was led by a team of seabird biologists from the State of Hawaii's Division of Forestry and Wildlife, the UH Pacific Cooperative Studies Unit, USGS, National Park Service, and the U.S. Fish and Wildlife Service's Pacific Islands Office. Our intent is to ensure that the objectives and actions outlined here are embraced by those involved in land management and the conservation of these species, whether through management, research, outreach, regulation, or a combination of approaches. In this way, we hope to provide a plan that will guide efficient progress toward the recovery of these species by focusing attention on agreed-upon priorities.

The Band-rumped Storm-petrel is a candidate for listing under the Endangered Species Act. Currently we have little information about this species upon which to base goals and actions. We anticipate many of the actions described here will also benefit the Band-rumped Storm-petrel, but acknowledge species-specific information and management needs will change as we gather more information.

Our Vision of Recovered Newell's shearwater and Hawaiian petrel:

Self-sustaining populations of Newell's Shearwaters, Hawaiian Petrels, and Band-rumped Storm-petrels exist across their historical range on the Main Hawaiian Islands, including all currently known breeding sites, such that the existing genetic and behavioral diversity is represented.

Strategy: Protect and enhance existing colonies, reestablish extirpated colonies, create new colonies in suitable areas, and mitigate existing and new threats by (a) implementing and monitoring prioritized management actions at the species level, and (b) undertaking targeted research and outreach to facilitate and support these actions.

Long-term objectives:

- 1) Sustain current intra- and inter-island distribution.
- 2) Re-establish/expand distribution.
- 3) Elucidate and address threats on land

- 4) Elucidate and address threats at sea.
- 5) Implement / maintain standardized monitoring at appropriate scales to assess population status and trends, response to management, and threats.
- 6) Ensure that access to colonies, long-term staffing and funding commitments are in place.

5-year Objectives:

1) Determine and maintain current intra- and inter-island distribution.

a) Determine distribution of the species on the 8 main Hawaiian Islands

Actions

- i. Consolidate all historical and current records of these species to determine historic distribution and identify potential sites to survey to estimate abundance or current activity.
 - (a) Give information to BNA
 - (b) Develop a sharesite for this information
- ii. Determine criteria for survey priority and rank potential survey sites by island.
 - (a) Criteria include but not limited to habitat suitability, distance from light attraction and collision risks, new reports of birds from fallout records and audio/visual surveys, and time since last survey; priority should be given to known sites that haven't been surveyed within the last 5 years
- iii. Develop a catalog of standard methods and metrics to determine colony presence and aerial extent of breeding areas in different habitat types at a scale that allows detection of change over time.
 - (a) Incorporate acoustic monitoring in measuring colony presence/absence, colony density and colony change over time.
 - (b) Follow up with ground surveys at sites with bird activity.
- iv. Search for sites identified in 1)a)i and 1)a)ii.

b) Examine current management activities and determine needs

- i. Identify all agencies, organizations, researchers, etc. that are currently working with target species.
- ii. Identify types of activities being conducted by these(above) groups
- iii. Identify population status of target species in currently managed areas
- iv. Identify immediate (right now), intermediate (within 5 years) and long-term needs of currently managed areas
- v. Obtain information from each area on successes/failures of management, including specifics on management techniques

c) Provide comprehensive threat abatement on each island

Actions

- i. For each island, maintain a catalog of all Newell's Shearwater, Hawaiian Petrel, and Band-rumped Storm-petrel colonies and rank these based on habitat quality, predator threats,

- terrestrial threats away from the colony, existing management, feasibility of threat abatement, and importance of the colony.
- ii. For each island's colonies, develop analyses of existing threats and approximate budget to address threats and update these analyses at the end of the Action Plan term, or as needed.
 - iii. At all sites possible, undertake effective threat mitigation, including predator control and habitat restoration, where effects of mitigation can be measured using established metrics such as colony extent, burrow density, burrow occupancy, reproductive effort, change in call rates over time (using song meters) or some other metric of bird activity.
 - iv. Assess threat abatement in conjunction with colony response
 - v. Support multi-lateral plans and agreements to ensure that long-term commitment to threat abatement is in place.
 - vi. Support the development and implementation of novel predator control technologies and techniques.

d) Identify, minimize, and monitor anthropogenic terrestrial threats to seabirds away from colonies, including existing and proposed infrastructure, and predators at fallout sites

Actions

- i. Maintain Save Our Shearwaters (SOS) program on Kauai, SOS Maui and develop funded response programs for downed seabird on other islands.
- ii. Expand surveys for fallout on all islands and SOS efforts to improve assessment of the number of birds affected, increase the number of birds rescued, and document causal factors of fallout geospatially and descriptively, and undertake studies to determine the survival of birds released. This should not be limited to the fledgling season, but should include assessing risk of fallout to breeding adults in any area where bright lights are near to breeding colonies.
- iii. Encourage wind companies and other utilities to site new facilities in areas with low seabird use (in terms of breeding, transit and off-shore feeding/rafting).
- iv. Identify problem lights (according to magnitude, spectral signature and orientation) and structures, encourage and facilitate modification, or implement seasonal "off" periods for problem lights, or removal of lighting and structures that cause collision, e.g., wind farms and power lines, and fallout through voluntary and regulatory means. Encourage siting of this infrastructure away from known breeding colonies.
- v. Support public outreach and community involvement, e.g., mailers in utility bills, volunteer opportunities, and public service announcements, on all islands with fallout issues.
- vi. Provide technical guidance to public and private entities to minimize anthropogenic threats posed by new and existing projects.
- vii. Reach out to private, county, state and federal parties with light pollution and infrastructure issues which are causing or potentially causing fallout or collision and seek their compliance with the law by minimizing their threats and mitigating with appropriate HCP participation or section 7 consultation.
- viii. Monitor rate of collision with powerlines on each island using established metrics and techniques, i.e., acoustic monitoring.

- ix. Continue to explore the use of new promising technology for reducing powerline collisions, such as the use of 'laser fences' and the attachment of bird diverters (such as Fireflies) to problem powerlines. If this proves effective, encourage the use of these technologies on identified problem powerlines.
- x. Identify and address threats at key fallout sites, e.g., local cat colonies, heavy vehicular traffic

2) Re-establish/expand distribution through social attraction and/or translocation

a) Identify recent historic range See 1)a

b) Identify unoccupied sites most likely to sustain colonies where birds can be re-established/established. See also 1)a)i

Actions

- i. Develop a list (and/or maps) of suitable but unoccupied areas on each Main Hawaiian Island.
- ii. Develop ranking criteria for prioritizing the list of locations on each island based on likelihood of success and threats at each site; e.g., feasibility of predator-proof fence construction, proximity of site to a known flyway that could be a source population for social attraction, distance from off-site terrestrial threats that increase the risk of light attraction/fall-out and/or collision with structures such as power lines and wind farms and large urban centers etc.

c) Identify currently managed sites where projects to enhance seabird nesting activity may be implemented

Actions

- i. Talk to land managers to determine and develop interest in social attraction or translocation projects.

d) Use established successful protocols for social attraction and translocation, and refine as needed.

e) Identify and rank source colonies for all proposed translocation projects.

f) Implement translocation of late stage HAPE/NESH chicks where feasible from colony sites with great predation risk (particularly during fledging) to predator-free sites to ensure greatest maximum fledging success. Note that source colonies should have some measure of predator control in place to minimize risk of predation to burrows being monitored for translocation purposes.

g) Standardize and document husbandry methods

h) Strive to attain 100+ translocated chicks of each species within five years at 1-2 sites

3) Elucidate and address threats at sea

a) Expand upon known techniques such as stable isotope and stomach content analysis (from dead collected birds) to determine diet

b) Investigate at-sea distribution to:

- i. Determine foraging range (by sex, age class, season, and breeding status)

- ii. Determine distribution outside the breeding season
- iii. Determine potential overlap with threatening processes, e.g., fishing, food-web changes associated with climate change and commercial fishing, proposed offshore infrastructure, vessel traffic; and
- iv. Identify jurisdiction and potential for protection within species' marine ranges.

4) Implement, document, and maintain standardized monitoring protocols at species, island, and colony scales¹

a) Determine population status

Actions

- i. Evaluate current data sets to assess the scale of information they provide, including but not limited to survey, monitoring, molecular, and morphological data.
 - a. Estimate population size derived from at-sea data supplemented by GLS and satellite transmitter research
 - b. Collect information to permit assessment of inter-annual trajectories and long-term trends on multiple scales using tools such as radar and song meters,
 - c. Identify the extent of individual known colonies for as many groups as possible on each island,
 - d. Collect breeding density and annual reproductive success information from one breeding group of each species on each island, and
 - e. Conduct one demographic study for each species (on any island) to establish baseline data on vital rates, e.g. adult survivorship.
- ii. Investigate methods to improve existing monitoring, and develop more cost-effective and refined techniques for monitoring species' status.

b) Management Actions and Threats

Actions

- i. Support current efforts and work with current managers to maintain and evaluate current management.
- ii. Review current monitoring protocols to assess the effectiveness of various classes of management activities (predator control and eradication, alien plant control, strike minimization, light attraction, etc.) and develop and revise as necessary.
- iii. Ensure that proposed management actions include standardized monitoring at the correct scale to measure effectiveness/contribution to recovery.
- iv. Develop appropriate monitoring at habitat level to measure the effectiveness of large-scale management activities, e.g., habitat restoration.
- v. Support new technology to address known threats and share this information.

¹ The actions under this goal are currently out of reach for BRSP, except for i)c

5) Implement inter-agency structure / plans / resources to ensure that long-term commitments to recovery are in place.

- a) Establish roles and dedicated staff within each agency responsible for implementing actions described in this plan. Encourage agencies to ensure there is a representative on this working group.*

Actions

- i. Identify necessary staff positions that are not directly funded by agencies, and work to secure funding to create new positions.

- b) Establish more formally a working group, or a Recovery Team, to facilitate implementation of actions to meet objectives 1 through 4 and update funding and management prioritization. Ensure members from each agency are actively involved in the planning process.*

Actions

- i. Convene an annual planning and decision-making meeting to assess accomplishments and adapt actions lists as necessary.

- ii. Evaluate progress and update the Action Plan annually.

- c) Develop a list of funding sources and update annually*

- d) Identify opportunities to combine resources (funding/personnel/adjacent lands).*

- e) Sign MOUs or MOAs for actions undertaken that are deemed to be critical to recovery.*

- f) Undertake meeting in four years to evaluate progress toward achieving these objectives and to revise the Hawaii Endangered Seabird Action Plan as needed for the following five-year increment.*