

COOPERATIVE AGREEMENT  
between the  
U.S. FISH AND WILDLIFE SERVICE  
and  
Island Conservation

FWS Agreement No.: 81640AJxxx  
Charge Code: 81640-9822-0618  
Amount Obligated: \$162,243  
Recipient Tax Identification No.: 91-1839907  
CFDA No.: 15.658  
Recipient DUNS#: 103200684  
Expiration Date: August 30, 2015

**I. TYPE OF AGREEMENT:**

☐ Grant  
☒ Cooperative Agreement  
☐ Fire Agreement

**II. TYPE OF ORGANIZATION**

☐ State, Local or Indian Gov.  
☒ Non-Profit Organization  
☐ Higher Education Inst.  
☐ Private Individual  
☐ Business Organization

**III. PARTICIPANTS:**

FWS Office  
Name: San Francisco Bay NWRC  
Address: 9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: 510-792-0222

Recipient Organization  
Name: Island Conservation  
Address: Long Marine Laboratory  
100 Shaffer Road COH  
City/State/Zip: Santa Cruz, CA 95060  
Phone: 831-359-4787

**IV. PROJECT OFFICERS:**

FWS Officer:  
Name: Mendel Stewart  
Address: 9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: 510-792-0222, x123  
Email Address: mendel\_stewart@fws.gov

Recipient:  
Name: Brad Keitt  
Address: 100 Shaffer Road  
City/State/Zip: Santa Cruz, CA 95060  
Phone: 831-359-4787  
Email : brad.keitt@islandconservation.org

FWS Project Manager:  
Name: Gerry McChesney  
Address: 9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: (510) 792-0222, x 222  
Email: gerry\_mcchesney@fws.gov

**V. PURPOSE/OBJECTIVE:**

This agreement is being implemented in order to benefit the public by cooperatively working with Island Conservation to implement a proposed house mouse (*Mus musculus*) eradication project on the South Farallon Islands within the Farallon National Wildlife Refuge (Farallon NWR). House mice are native to Eurasia and were introduced to the islands over 100 years ago. The South Farallon Islands have experienced considerable ecosystem degradation as a result of the presence of house mice. House mice on the Farallones experience strong population cycles; numbers peak in the fall, decline through winter, and are low in spring and summer. In the fall, high numbers attract migratory burrowing owls which then attempt overwintering on a diet of house mice. When mouse populations crash in late winter, owls switch to preying on Ashy Storm-Petrels (*Oceanodroma homochroa*), a rare species of seabird whose largest colony is on the South Farallon Islands. Mice also feed on a variety of other items including native invertebrates, plants and plant seeds. Mice likely compete for food with the endemic Farallon arboreal salamander, are likely responsible for reductions in invertebrate populations, and spread seeds of invasive non-native plants. The objective is to help restore the Ashy Storm-Petrel population and the native ecosystem on the Farallon Islands by eradicating introduced house mice. This project will benefit the public by helping to avoid further declines of Ashy Storm-Petrels which could result in endangered species listing and by restoring this ecosystem for future generations to experience.

**VI. BACKGROUND:**

This award has been advertised on Grants.gov under program announcement number *XXX (insert Grants.gov number or Grants.gov Notice of Intent to Award – if single source) (for example: Rural Fire Assistance national posting is DOI-GRANTS-011504-009)*, and the applicable SF424 (*or ACH form for individuals*) have been received from the recipient.

Between 1990 and 2003, multiple oil spills occurred off the central California coast near San Francisco, killing thousands of seabirds and affecting populations several species of seabirds and marine mammals. Several of these spills were linked to a sunken ship, the freighter *S.S. Jacob Luckenbach*, which sunk in waters between the San Mateo County, California mainland and the South Farallon Islands on July 14, 1953. In response to natural resource damages, the Luckenbach Trustee Council was formed consisting of several federal and state agencies. In November 2006, the Trustee Council finalized a Damage Assessment and Restoration Plan/Environmental Assessment. The Trustee Council followed this by submitting a claim for restoration of injured resources to the National Pollution Fund Center (managed by the U.S Coast Guard). The proposed project "House Mouse Eradication from the Farallon Islands" was identified as a priority project in the plan and funds were obtained for its implementation. Eradication of house mice is also identified as a priority in the Farallon NWR Comprehensive Conservation Plan (2009). On behalf of the Trustee Council, the U.S. Fish and Wildlife Service (Service) is taking the lead to implement the proposed eradication project and will work cooperatively with Island Conservation to the achieve the goal of restoration on the South Farallon Islands. Island Conservation has vast experience and expertise in eradicating introduced mammals such as rats, cats, goats, and rabbits from islands in California, Hawaii, Mexico, and other locations in the Pacific Ocean.

**VII. AUTHORITY:**

This agreement between the U.S. Fish and Wildlife Service ("the Service") and Island Conservation

("the Recipient") is authorized by the Fish and Wildlife Coordination Act, 16 U.S.C. Sections 661-666c; the Fish and Wildlife Act of 1956 16 U.S.C. 742a-742j; Oil Pollution Act of 1990, Public Law 101-380; Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C 9601, et seq.; and the Federal Water Pollution Control Act, 33 U.S.C 1251-1387.

#### **VIII. FUNDING INFORMATION:**

The Service will provide for the first portion of the work identified in the attached proposal and budget for the Farallon house mouse eradication project. Due to the complexity of this project, the Service anticipates that this project will span multiple years and specific activities will be identified as the project progresses. The Service expects that the total project cost will exceed \$800,000; however, funding will be transferred to Island Conservation in increments based on the anticipated upcoming activities. For the first allocation under this agreement, the Service will transfer to Island Conservation a total of \$162,243 for project planning purposes, including completion of a Final Environmental Assessment (EA), assist in development of a communications plan, and field trials of a non-toxic mouse bait. The funding amount reflects work to be performed in 2010 and early 2011 in accordance with the budget attached hereto. *(Include value of Recipient in-kind services or funding as appropriate).*

Nothing herein shall be considered as obligating the Service to expend funds or otherwise obligate the Service for the future payment of money in excess of appropriations authorized by law and administratively allocated for the activities associated with this agreement.

#### **IX. PERIOD OF PERFORMANCE:**

The period of performance of this agreement is from the date of last signature through August 30, 2015.

#### **X. SPECIFIC OBLIGATIONS OF EACH PARTY:**

A. The Service will:

1. Provide funds to Island Conservation for the accomplishments of the tasks identified herein as the responsibility of the Recipient;
2. Provide technical expertise to Island Conservation as it relates to the Federal listed species, migratory birds, and other natural resources on the South Farallon Islands;
3. Serve as the lead agency for the National Environmental Policy Act (NEPA) compliance;
4. Ensure that all necessary permits are secured as required by Federal and State agencies, including U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and California Department of Fish and Game;
5. Serve as the liaison between Island Conservation and the Luckenbach Trustee Council;
6. Secure approval from the Luckenbach Trustee Council for future project funding;
7. Review draft Environmental Assessment and other reports and provide comments in a

timely manner.

8. Provide access to and lodging at the Farallon National Wildlife Refuge and assist with project logistics;

9. Serve as the lead for communications with federal and state agencies, the public, and/or other interested groups about the proposed eradication operations.

10. As land manager make final decisions regarding management actions on refuge lands.

11. Provide technical assistance and participate in pre- and post-eradication introduced target species and biodiversity monitoring as available, including biosecurity.

12. Identify and document best practices for preventing invasion or re-invasion of introduced species (e.g. biosecurity) to the island.

B. Island Conservation shall:

1. Develop and implement specific project methods for house mouse eradication from the South Farallon Islands, following proven procedures that incorporate the most current information on successful eradication techniques for house mice and other similar rodents.

2. Develop and implement project methods in coordination with the Service, National Oceanic and Atmospheric Administration, California Department of Fish and Game, and PRBO Conservation Science to ensure that impacts to non-target species on the South Farallon Islands are minimized, and that animal welfare criteria are met;

3. Assist the Service with development of an Environmental Assessment for eradication of house mice from the South Farallon Islands;

4. Assist the Service with development of a Communications Plan on the eradication project for other federal and state agencies, other interested groups, and the public;

5. Furnish all materials, equipment, supplies, labor, travel, meals and lodging necessary to implement the project on the South Farallon Islands, unless otherwise agreed to in writing;

6. Secure permission for project activities with appropriate Service representatives, including but not limited to: island access; lodging quarters; equipment storage; communication plan; baiting methods; bird capture techniques; numbers of birds, salamanders, or other natural resources to be captured, handled, marked, or collected; reporting protocols; and helicopter use;

7. Comply with all access restrictions on the South Farallon Islands during the pre-eradication trial phase, including those designed to minimize disturbance to marine mammals, seabirds, and other natural resources, and for safety;

8. Provide all appropriate personnel to implement project, including staff with experience planning and implementing successful rodent eradication projects, and biologists to carry out field work;
9. Develop databases, data collection, and input procedures;
10. Modify methods as necessary to minimize impacts to non-target species during the proposed eradication phase with approval from the Service;
11. Develop and conduct a detailed monitoring program to document the effectiveness of the eradication efforts and confirm success;
12. Coordinate on a regular basis with the Service during the life of the project;
13. Submit progress reports and annual reports according to Section XI. Reporting Requirements;
14. Notify the Service Program Manager or Project Officer of developments that have a significant impact on activities covered by this agreement.

The Recipient's proposal and budget is hereby incorporated as an integral part of this project. Recipient shall furnish the necessary personnel, materials and services, and do all things required to accomplish the proposed objectives:

1. Complete an administrative draft of the Farallon Islands house mouse eradication Environmental Assessment;
2. In coordination with the Service and PRBO Conservation Science, develop a Communications Plan for the Farallon Islands house mouse eradication project.
3. Conduct trials using non-toxic mouse bait and other project assessments on the South Farallon Islands;
4. Continue comprehensive project planning and coordination in order to initiate the proposed eradication phase in fall 2011.

Any future deviations from the procedures or objectives specified in the Recipient's proposal must be presented to and approved by the Service for specific approval before implementation.

## **XI. REPORTING REQUIREMENTS:**

- A. Interim Progress and Financial Reports: The Recipient will submit an annual progress report of the activities which occurred and provide a description of the project accomplishments during each year, due March 31. The Recipient will submit an annual financial report of federal expenditures and unobligated balances on a Federal Financial Report form (**SF425**) due June 30 of each year. The annual progress report will summarize and discuss the following items:

1. Project goals and objectives during the timeframe;
2. Activities undertaken;
3. All data collected and analyses performed;
4. A description of all deviations from original protocols and Scopes of Work;
5. Recommendations on future activities.

Island Conservation will provide a draft annual progress report to the Service by March 31 of each calendar year of the project. Upon receipt of the draft annual report, the Service will have 30 days to provide comments back to Island Conservation. A final annual report then will be furnished by Island Conservation to the Service within 60 days of receipts and incorporate the Service's comments.

- B. Final Progress Reports: The Recipient will submit a final progress report within 90 calendar days after the agreement completion date as defined in the agreement or in the most current modification. Each report shall include:
1. The name of the recipient, the project title, the agreement number, date of the report, and the period of time covered by the report.
  2. A summary of significant activities and results for the period.
  3. A statement explaining any problems, delays or adverse conditions that materially impaired the ability of the Recipient to meet the objectives of the agreement. Include efforts undertaken for problem resolution.
- C. Final Federal Financial Report: The Recipient will submit a final financial report (SF425) within 90 calendar days after the agreement completion date as defined in the agreement or in the most current modification. The Final Federal Financial Report shall cover all financial transactions that occurred during the life of the award. The Recipient shall account for any real and personal property acquired with Federal funds or received from the Federal Government.
- D. All reports shall be submitted to:

FWS Project Manager:  
Name: Gerry McChesney  
Address: 9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: 510-792-0222, x222  
Email Address: gerry\_mcchesney@fws.gov

FWS Administrative Officer:  
Name: Cindy Ballard  
Address: 9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: 510-792-0222, x128  
Email Address: lucinda\_ballard@fws.gov

## **XII. INVOICING/ACCEPTANCE PROCEDURES:**

- A. Upon acceptance of the terms and conditions of this agreement, the Recipient may submit requests for payment using Standard Form 270, Request for Advance or Reimbursement, no more frequently than monthly. (Standard Form 271 must be used if agreement is for construction.) The Debt Collection Improvement Act of 1996 (P.L. 104-134) requires that all

federal payments made by an agency after July 26, 1996, must be made by electronic funds transfer unless the recipient certifies that they do not have an account at a financial institution or authorized payment agent. If the Recipient does not currently receive electronic funds, they are responsible for completing a Standard Form 3881 (ACH) and forwarding it to the Service Project Officer. The ACH form is available from the Service Project Officer or can be found on the OMB website at: <http://www.omb.gov>

- B. Should the Recipient be unable to complete the provisions of this agreement, all monies provided by the Service which prove to be cancelable obligations or unallowable costs in accordance with:
1. OMB Circular A-122 (Cost Principles for Nonprofit Organizations)
  2. OMB Circular A-133 (Single Audit Compliance)
- C. This agreement is intended to support a particular project for a specific period of time. Any portion of funds advanced to the Recipient that are not expended at the completion of the period of performance of this agreement shall be returned to the Service, along with any interest earned on that amount
- D. Requests for payment shall be submitted to the Service Project Manager at the following address:

FWS Project Manager  
Name: Gerry McChesney  
Address: San Francisco Bay NWRC  
9500 Thornton Ave.  
City/State/Zip: Newark, CA 94560  
Phone: 510-792-0222, x222  
Email: gerry\_mcchesney@fws.gov

### **XIII. APPLICABLE REGULATIONS:**

- A. The recipient must submit with this agreement assurances as listed on SF424B, Standard Form – Assurances Non-Construction Programs. In addition to the assurances, the recipient certifies compliance with the following applicable regulations incorporated by reference with the same force and effect as if they were provided in full text. Failure of a Recipient to comply with any provision may be the basis for withholding payments for proper charges made by the recipient and for termination of support.
1. OMB Circular A-102, Grants and Cooperative Agreements with State and Local Governments as codified at 43 CFR Part 12, Subpart C.
  2. 2 C.F.R. Part 215 (formerly OMB Circular A-110), Uniform Administrative Requirements for Grants and Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations as codified at 43 CFR Part 12, Subpart F.



3. 2 C.F.R. Part 220 (formerly OMB Circular A-21), Cost Principles for Educational Institutions.
4. 2 C.F.R. Part 225 (formerly OMB Circular A-87), Cost Principles for State, Local, and Indian Tribal Governments.
5. 2 C.F.R. Part 230 (formerly OMB Circular A-122), Cost Principles for Non-Profit Organizations.
6. OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations.
7. 43 CFR Part 12, Subpart D – Governmentwide Debarment and Suspension (Nonprocurement) and Governmentwide Requirements for Drug Free Workplace
8. 43 CFR Part 12, Subpart E – Buy American Requirements for Assistance Programs.
9. 43 CFR Part 18 – New Restrictions on Lobbying
10. 48 CFR Part 31.2 - Contracts with Commercial Organizations
11. 48 CFR Part 52.215.2 - Audit and Records - Negotiation

Copies of the above documents are available at the following websites:

<http://www.whitehouse.gov/OMB/circulars/index.html> or [www.doi.gov/pam/pamfaeg.html](http://www.doi.gov/pam/pamfaeg.html)

B. Small Business Policy: Reference 505 DM 3.5 C(1)(a). It is National policy to award a fair share of contracts to small and minority business firms. The Department of the Interior is strongly committed to the objectives of this policy and encourages all recipients of its grants and cooperative agreements to take affirmative steps to ensure such fairness.

1. The Recipient and Subgrantee shall take all necessary affirmative steps to assure that minority firms, women's business enterprises and labor surplus area firms are used when possible.
2. Affirmative steps shall include:
  - i. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
  - ii. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
  - iii. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;
  - iv. Establishing delivery schedules, where the requirement permits, which



- encourage participation by small and minority business, and women's business enterprises;
- v. Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce as appropriate, and
  - vi. Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in (2)(i) through (v) above.

#### XIV. TERMINATION

This agreement may be terminated by any party following 30 days written notification to other party(s).

#### XV. MODIFICATION PROCEDURES:

Modifications to this Agreement may be proposed by either party and shall become effective upon written concurrence of all parties. Work completed prior to written concurrence of all parties is done at the Recipient's risk, without expectation of reimbursement.

#### XVI. SPECIAL PROVISIONS:

**Seat Belt Policies and Programs:** Recipients of grants/cooperative agreements and/or sub-awards are encouraged to adopt and enforce on-the-job seat belt use policies and programs for their employees when operating company-owned, rented, or personally-owned vehicles. These measures include, but are not limited to, conducting education, awareness, and other appropriate programs for their employees about the importance of wearing seat belts and the consequences of not wearing them.

**Greening Policies and Programs:** In accordance with Executive Order 13101 "Greening the Government Through Waste Prevention, Recycling and Federal Acquisition," recipients of grants/cooperative agreements and/or sub-awards are encouraged to actively and systematically protect the natural processes that sustain life by whenever possible, incorporating environmentally preferable products in their activities. These measures include, but are not limited to, re-refined oil for all vehicles and heavy equipment, diverting solid waste from disposal in landfills through recycling and use of materials that reduce greenhouse gas emissions.

#### XVII. RELATED ATTACHMENTS:

- Exhibit A: Signed SF424
- Exhibit B: Project Budget
- Exhibit C: Statement of Work

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed as of the date therein written. *(All signature blocks need to be on one page with Grant/Agreement # in the top*

*right hand corner).*

**FOR THE U.S. FISH AND WILDLIFE SERVICE:**

By:    Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
         Title: \_\_\_\_\_

**FOR ISLAND CONSERVATION:**

By:    Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
         Title: Brad Keitt, Director of Conservation

**FWS CONTRACT SUFFICIENCY REVIEW:**

By:    Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
         Contracting Officer    FWS #

Agreement No. XXXXXAXXXX

EXHIBIT A  
SF 424

*Fillable SF424 can be found at this website: <http://www.acf.hhs.gov/programs/ofs/grants/sf424.pdf>*

Agreement No. XXXXXA

EXHIBIT B  
BUDGET

FWS Agreement No.: 81640AJxxx  
Charge Code: 81640-9822-0618  
Amount Obligated: \$162,243  
Recipient Tax Identification No.: 91-1839907  
CFDA No.: 15.658  
Recipient DUNS#: 103200684  
Expiration Date: August 30, 2015

		Environmental Compliance	R&D	Total
<b>FEDERAL SHARE</b>				
<b>Salaries &amp; Benefits</b>	Project Leader/Eradication Expert	\$11,901	\$15,990	<b>\$27,891</b>
	IC Executive Director	\$943	\$1,964	<b>\$2,906</b>
	US Director	\$8,585	\$2,547	<b>\$11,132</b>
	Project Support Coordinator	\$0	\$12,025	<b>\$12,025</b>
	IT Manager	\$2,008	\$856	<b>\$2,864</b>
	Science Writer	\$8,783	\$580	<b>\$9,363</b>
	IC Field Biologists	\$0	\$8,138	<b>\$8,138</b>
	<b>Subtotal</b>	<b>\$32,219</b>	<b>\$42,100</b>	<b>\$74,319</b>
Equipment	Traps	\$0	\$ 3,300	<b>\$3,300</b>
	<b>Subtotal</b>	<b>\$0</b>	<b>\$3,300</b>	<b>\$3,300</b>
Travel/Transport	Emergency evacuation insurance	\$0	\$325	<b>\$325</b>
	Travel of Technical Experts	\$5,226	\$6,972	<b>\$12,198</b>
	Housing of Technical Experts	\$1,620	\$4,379	<b>\$5,999</b>
	Rental vehicle	\$0	\$1,920	<b>\$1,920</b>
	Field per diem	\$1,031	\$4,230	<b>\$5,261</b>
	<b>Subtotal</b>	<b>\$7,877</b>	<b>\$17,826</b>	<b>\$25,703</b>
Materials and Supplies	Radio Collars (House Mice)	\$0	\$3,000	<b>\$3,000</b>
	Research Supplies: Helicopter PPE (Nomax clothing, gloves, helmets, eye protection)	\$0	\$1,124	<b>\$1,124</b>
	Bait and supplies	\$0	\$2,025	<b>\$2,025</b>
	Bait shipping & helicopter bucket transport	\$0	\$855	<b>\$855</b>
	<b>Subtotal</b>	<b>\$0</b>	<b>\$7,004</b>	<b>\$7,004</b>
Stakeholder Coordination and Public Outreach	Outreach Materials and Coordination	\$4,463	\$0	<b>\$4,463</b>
	<b>Subtotal</b>	<b>\$4,463</b>	<b>\$0</b>	<b>\$4,463</b>
Grants to Others	Non-Target Bird Mitigation/Risk Analysis	\$0	\$15,425	<b>\$15,425</b>
	<b>Subtotal</b>	<b>\$0</b>	<b>\$15,425</b>	<b>\$15,425</b>
Project Expenses	Professional services	\$1,883	\$ 3,745	<b>\$5,628</b>
	Occupancy expense	\$1,002	\$ 2,220	<b>\$3,222</b>
	Project services	\$315	\$ 767	<b>\$1,082</b>
	<b>Subtotal</b>	<b>\$3,200</b>	<b>\$6,732</b>	<b>\$9,932</b>
<b>Island Conservation Subtotal</b>		<b>\$47,759</b>	<b>\$92,387</b>	<b>\$140,146</b>
Island Conservation Overhead (15.7% of Sub-Total)		<b>\$7,530</b>	<b>\$14,567</b>	<b>\$22,097</b>
<b>TOTAL FEDERAL SHARE</b>		<b>\$55,289</b>	<b>\$106,954</b>	<b>\$162,243</b>
<b>ISLAND CONSERVATION SHARE</b>		<b>\$149,500</b>	<b>\$75,000</b>	<b>\$224,500</b>
<b>TOTAL PROJECT COST</b>		<b>\$204,789</b>	<b>\$181,954</b>	<b>\$386,743</b>

EXHIBIT C  
SCOPE OF WORK

**Mouse Eradication on the Farallon Islands**

**Overview**

The Farallon Islands, which are managed by the U.S. Fish and Wildlife Service as the Farallon National Wildlife Refuge, are a unique ecosystem of the Northeast Pacific Ocean. The largest islands of the group, the South Farallon Islands, include two main islands (Southeast Farallon and West End Islands) and several smaller islets. These islands host the largest seabird breeding colony in the contiguous United States, with about 250,000 birds of 13 species. Three species have their largest colonies in the world here: Ashy Storm-Petrel (*Oceanodroma homochroa*), Brandt's Cormorant (*Phalacrocorax penicillatus*) and Western Gull (*Larus occidentalis*). Five species of marine mammal also occur and breed here regularly. The islands also host an endemic subspecies of the Arboreal Salamander (*Aneides lugubris farallonensis*) and the endemic Farallon Camel Cricket (*Farallonophilus cavernicolus*).

Introduced house mice (*Mus musculus*) have been present on the South Farallon Islands since sometime in the 19th century. The only remaining introduced mammals on the islands, these mice have impacted the island's natural resources in several ways. Mainly, house mice indirectly impact the survivorship and population sizes of the smaller seabirds, especially the rare Ashy Storm-Petrel. More specifically, mice influence the overwintering of several migratory Burrowing Owls (*Athene cunicularia*) each year. When the mouse population crashes in late winter, owls switch to prey mainly on storm-petrels. Mice also likely impact the islands' salamanders through both predation and competition for resources, the islands' invertebrates through predation, and contribute to the expansion of introduced plants by spreading seeds.

To eliminate the impacts of introduced mice and help restore the native ecosystem of the South Farallon Islands, the U.S. Fish and Wildlife Service (USFWS), partnered with Island Conservation and PRBO Conservation Science, proposes to eradicate non-native house mice. The currently preferred technique for mouse eradication requires an aerial application of pelletized grain bait containing rodenticide across the island. Prior to commencing with the proposed eradication, a series of work objectives must be met, including: 1) finalize preparation of an Environmental Assessment (EA), in accordance with the National Environmental Policy Act (NEPA) and its associated regulations, to determine whether mouse eradication would have significant impacts on the quality of the human environment; 2) to trial the efficacy of the preferred technique; and 3) to further examine Burrowing Owl winter abundance, survivorship, and predation rates on sensitive species prior to eradication.

This scope of work describes tasks to be conducted in 2010 related to the proposed mouse eradication on the South Farallon Islands.

## **Description of Work**

The work tasks are structured in two distinct phases: Environmental Compliance and Research & Development. The methods for each phase are further described, and total costs summarized in the attached estimated budget.

### Environmental Compliance

In 2006, Island Conservation obtained funding to prepare an Environmental Assessment (EA), as required by the National Environmental Policy Act (NEPA), for non-native house mouse eradication on the South Farallon Islands. While the impacts analysis is nearly complete, its development has taken longer than anticipated due to long delays from other anticipated sources of funds, as well as personnel transitions both at FWS and IC. Furthermore, the analysis uncovered critical environmental issues that required additional scrutiny. The primary environmental issue identified during the NEPA analysis process is the potential vulnerability of gulls to non-target impacts from the mouse eradication. The Farallones are home to the world's largest colony of Western Gulls, and the population ecology of the Farallones western gull colony is unique. The importance of understanding the potential risk to gulls was underscored by the observation of numerous gull mortalities following a similar rodent eradication operation on Rat Island in the Aleutian Islands, AK. In preparation for implementation, completion of the environmental compliance process is essential. Completion of the draft EA and other associated permitting will be done in four phases: 1) administrative draft EA; 2) public draft; 3) final EA; and 4) additional compliance. Specifically, completion of the environmental impacts analysis and associated timeline include:

#### *Phase I: Administrative Draft*

1) Administrative draft EA for review and comment by FWS Regional Office, FWS Ecological Service, FWS Division of Migratory Birds Management, and external natural resource management agencies. These reviews will be contingent upon results from a comprehensive gull risk analysis (see below). Estimated completion July 2011;

2) Minimum Requirements Analysis (Wilderness Act), which will be incorporated into the EA during this work phase. Estimated completion July 2011;

3) Biological Assessments for Endangered Species Act (ESA) listed species, which will be incorporated into the EA during this work phase. Estimated completion July 2011; and

4) Gull Risk Analysis. In order to better understand the potential risk to western gulls, we will request the assistance of experts in risk analysis modeling to quantify potential impacts to gulls on the Farallones as a result of mouse eradication operations. The gull impact model would be used to enumerate the number of potential gull mortalities (both low and high-end estimates) following aerial bait application. The model would use input variables, including expected gull population size during time of proposed eradication, bait availability with eradication time window, toxicant environmental fate, and likelihood index for each possible gull exposure pathway based on dietary preference. Criteria for model analysis would include use of best



available scientific evidence, clear identification of model uncertainty and sources, and conservative estimate of anticipate impact (e.g. err on the side of overestimation). Model results would be applied to complete the comprehensive environmental compliance process for mouse eradication on the Farallones (refer to Phase 1). Duration of phase: Apr- June 2011. Number of people: risk model consultant (likely with subcontractor to avian population ecologist). Deliverables: completed gull risk assessment model report, with results incorporated into Draft EA.

Duration of phase: April-July 2011. Number of people: 1 key personnel to complete EA draft, not including personnel to conduct Gull Risk Analysis or personnel to provide review and comment. Deliverables: Draft EA

*Phase 2: Public Draft Release*

After administrative review of the EA is complete, and revisions and comments from reviewing parties have been incorporated, the EA will be circulated to the affected public for review as required by NEPA. A draft EA will be made available for public review, announced in the Federal Register, media outlets such as regional papers of record, and through directly contacting individuals and organizations that have expressed or are otherwise thought to have interest in the project. The public review period will include a public information session in which members of the public will be able to meet face-to-face with FWS and cooperator staff. Estimated circulation date for the Draft EA is March 2011.

*Phase 3: Final EA*

A Final EA will be prepared after the public comment period has closed, addressing the comments that FWS has received. The Final EA will be accompanied by a Finding of No Significant Impact (FONSI), signed by the appropriate decision-maker at FWS (likely the Project Leader for the SF Bay NWRC or the FWS Regional Director). Estimated date of FONSI is August 2011.

If, at any point during Phases 1 or 2, the FWS decision makers determine that a FONSI would not be appropriate (i.e., significant impacts to the environment appear likely), this Scope of Work will need to be revised substantially. The most likely course of action in this case would be the issuance of a Notice of Intent to prepare an Environmental Impact Statement, which would require additional public input and document preparation time and would add additional cost and time.

Duration of phase: Aug 2010 – Aug 2011 Number of people: 1 IC compliance specialist to manage EA circulation and revision, 1 IC Project Manager to contribute to public information session, 2 FWS personnel to administer FWS requirements for public EA circulation and collect & synthesize public comments, not including personnel to provide support for public information session and addressing comments. Deliverables: Public Draft EA, Final EA including public comments.

*Phase 4: Additional Compliance*

The proposed mouse eradication would be carried out in compliance with all applicable Federal and state laws and regulations. Therefore, in preparation for implementation applications for permission or authorization to conduct the eradication will be completed to coincide with the administrative draft of the Environmental Assessment (anticipated July 2011). These permit applications include:

- 1) Application for Manager's Permit from Gulf of Farallones National Marine Sanctuary
- 2) Application for incidental take of migratory birds (under the Migratory Bird Treaty Act)
- 3) Application for National Pollution Discharge Elimination System individual permit (under the Clean Water Act)
- 4) Application for Incidental Harassment Authorization (under the Marine Mammal Protection Act)

Duration of phase: Mar- July 2011. Number of people: 1 IC compliance specialist to complete permit applications, 1 FWS personnel to administer FWS requirements for permit application, not including personnel to provide review and comment. Deliverables: completed permit applications, as listed above.

Research and Development

This component of the project includes four main components: 1) communications plan; 2) biomarker trials; 3) introduction prevention plan; and 4) intertidal fish surveys.

*Communications Plan*

To support the primary goal of the project – to protect and restore the ecosystem of the South Farallon Islands by eradicating non-native house mice – the project partners will develop a strategic communications plan. The purpose of the communications planning is to:

- 1) support the environmental assessment with strategic communications to educate local and regional agencies, decision-makers, NGOs, and the public about the purpose and need for eradication and the expected long-term conservation benefits.
- 2) mitigate any potential opposition to eradication by garnering support from key audiences; and
- 3) develop a strategy for handling crisis communications.

The partners will create a communications team made up of at least one staff member each from Island Conservation, USFWS, and PRBO Conservation Science. In 2010, the team will create a plan and key messages and produce information to educate constituencies about the project (via web sites, printed materials, digital presentations, etc.). Communications planning will begin as soon as funding is available with key messages and background materials developed to coincide

with release of the Environmental Assessment. It is expected that the communications team, strategy development, and outreach will continue in follow-on years through implementation, eradication confirmation, and 1-5 years of recovery monitoring using additional funds. The Communications plan is a critical path element in the mouse eradication and must be completed prior to the EA release for public comment. If funding is delayed for the Communications plan this will inevitably delay the NEPA timeline, which may in-turn delay implementation of the eradication.

Duration of phase: May-Dec 2010. Number of people: 3-4 key personnel for the core communication team. Deliverables: communication plan and associated educational material. Equipment/supplies to be purchased: Website url, website development (contract), some printed materials.

#### *Biomarker trial*

Prior to the proposed eradication, a field trial that will be conducted on Southeast Farallon Island in Fall 2010 to assess the efficacy of mouse eradication at the target application rate of a preferred bait (using a placebo replica infused with the non-toxic biomarker pyranine), and to monitor non-target species exposure to broadcast pellets. Specifically during the trial the following will be evaluated:

- 1) mouse density and reproductive status using mark-recapture techniques;
- 2) mouse home range size and movement using radio telemetry;
- 3) mouse acceptance and palatability of preferred bait type using paired food choice trials;
- 4) the rate of bait removal using bait consumption plots to extrapolate a target application rate for the eradication;
- 5) determine the probability of eradication by assessing mouse exposure to a biomarker from a non,-toxic, biomarker-infused bait applied at the target application rate in study plots; and
- 6) and evaluate what non-target species are at risk of primary or secondary rodenticide exposure using a biomarker from a non,-toxic, biomarker-infused bait applied at the target application rate in study plots. In addition, we will hire an expert in pest management of buildings to assess structural issues with regards to mouse proofing and possible impacts from potential fumigation.

Duration of phase: field trial Nov- Dec 2010 Number of people: 4 from Island Conservation, with additional assistance from FWS and PRBO staff. Deliverables: field trial report, including considerations for eradication and non-target mitigation Equipment/supplies to be purchased: Sherman mouse traps; trap supplies; biomarker bait; bait application and monitoring supplies (bait application measuring devices, survey flags); UV lights for biomarker screening; dissection supplies; gull capture devices (box traps, spotlight, noose pole).