



# NFWF

## 2015 Killer Whale Research and Conservation Program Grant Slate

### NFWF CONTACT

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## SeaWorld



### ABOUT NFWF

The National Fish and Wildlife Foundation (NFWF) protects and restores our nation's fish and wildlife and their habitats. Created by Congress in 1984, NFWF directs public conservation dollars to the most pressing environmental needs and matches those investments with private funds. Learn more at [www.nfwf.org](http://www.nfwf.org)

### NATIONAL HEADQUARTERS

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Killer whale

### OVERVIEW

The Killer Whale Research and Conservation Program supports efforts to advance the knowledge and conservation of killer whales with a primary focus on activities that aid in the recovery of the Southern Resident killer whale Distinct Population Segment (DPS). The program may also support catalytic projects in other killer whale populations.

Initial support under the Program is in the following three key strategies:

- **Increase prey availability** - The Southern Resident population diet relies heavily on Pacific salmon, with Chinook salmon representing the majority of their summer diet, with other species including coho, chum and steelhead being targeted in the spring and fall. The program will seek projects that increase the health of the salmon runs that are important for killer whales.
- **Improve habitat quality** - The quality of killer whale habitat is affected by many different stressors including pollution, contaminants, and vessel traffic and noise. The program supports projects that reduce the source and the impact of these stressors, and therefore lead to improved habitat for killer whales.
- **Strengthen management through applied research** - The program supports research projects that address information gaps and catalyze effective management actions in key areas, such as improving monitoring of demographics and distribution, improving the health assessments of whales, and assessing the effectiveness of management interventions.

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**INCREASE PREY AVAILABILITY**

The Southern Resident population diet relies heavily on Pacific salmon, with Chinook runs representing the majority of their summer diet and other species including coho, chum and steelhead being targeted in the spring and fall. Projects selected under this strategy will increase the health of the salmon runs that are important for killer whales. In this category, \$160,084 in NFWF funds is being awarded, for a total on-the-ground impact of \$357,523.

**1) Portfolio Effects in Historic Chinook Hatchery Practices on Prey Availability for Southern Resident Killer Whales**

Grantee: NMFS Northwest Fisheries Science Center  
 NFWF Award Amount: ..... \$110,296  
 Matching Funds: ..... \$122,439  
**Total Project: ..... \$232,735**

The NMFS Northwest Fisheries Science Center will conduct the first synthesis of coastwide hatchery practices of Chinook salmon, 1950 to present, and identify trends and correlations to population changes that may be used to target particular actions to increase the prey base for killer whales. Since the mid-1980s, Chinook hatchery releases have been greatly reduced, and many of these releases have been fall-run Chinook; releases from spring and summer Chinook programs have slowly increased, but the effect of these changes is unknown.

**2) Salish Sea Marine Survival Project - Project Coordination**

Grantee: Long Live the Kings  
 NFWF Award Amount: ..... \$49,788  
 Matching Funds: ..... \$75,000  
**Total Project: ..... \$124,788**

Long Live the Kings will coordinate the Salish Sea Marine Survival Project: a comprehensive, international effort involving over 40 entities to determine why juvenile Chinook, coho and steelhead are dying in the combined marine waters of Puget Sound and the Strait of Georgia. Resolving this uncertainty, especially for stocks such as Fraser River Chinook, Puget Sound Chinook, and to some extent, steelhead, could result in significant improvements in prey availability for the Southern Resident killer whale population.



Coho salmon

**IMPROVE HABITAT QUALITY**

The quality of killer whale habitat is affected by many different stressors including pollution, contaminants, and vessel traffic and noise. This strategy supports projects that reduce the source and the impact of these stressors, and therefore enhance the quality of known critical habitat for killer whales. In this category, \$112,000 in NFWF funds is being awarded, for a total on-the-ground impact of \$309,332.

**1) Understanding Noise Exposure, Sound Use and Subsurface Behavior of Southern Resident Killer Whales**

Grantee: NMFS Northwest Fisheries Science Center  
 NFWF Award Amount: ..... \$112,000  
 Matching Funds: ..... \$197,332  
**Total Project: ..... \$309,332**

The NMFS Northwest Fisheries Science Center will use DTAG data to investigate fine-scale details of subsurface acoustic and movement behavior during different activities, especially those predictive of feeding to then determine potential effects of vessel and noise on killer whale behaviors. Results will inform adaptive management and mitigation measures needed to reduce sound exposure, vessel impacts, their effects on killer whale behavior and habitat, and evaluate existing regulations.





Killer whales

**STRENGTHEN MANAGEMENT THROUGH APPLIED RESEARCH**

The program supports research projects that address information gaps and catalyze effective management actions in key areas, such as improving monitoring of demographics and distribution, improving the health assessments of whales, and assessing the effectiveness of management interventions. In this category, \$313,484 in NFWF funds is being awarded, for a total on-the-ground impact of \$767,424.

**1) Developing a Killer Whale Standardized Health Assessment Protocol and Health Index (WA)**

Grantee: Regents of the University of California-Davis  
NFWF Award Amount: ..... \$60,543  
Matching Funds: ..... \$62,358  
**Total Project: ..... \$122,901**

The Regents of the University of California-Davis will identify indices and establish a standardized health assessment for killer whales, create a record-keeping database that will be seamless with NOAA's new Marine Mammal Health Map System, and create an individual animal health index. Project tools can be used with Southern Resident and reference killer whale populations to assess individual animal and population fitness, identify spatial and temporal stresses, help guide research, and assist with guidelines for potential intervention for individual animals.

**2) Research on the Impacts of Seasonal Prey Availability and Contaminants on Body Condition of Killer Whales (BC, WA)**

Grantee: Vancouver Aquarium Marine Science Centre  
NFWF Award Amount: ..... \$252,941  
Matching Funds: ..... \$391,582  
**Total Project: ..... \$644,523**

The Vancouver Aquarium Marine Science Centre will carry out a multidisciplinary study on Northern and Southern Resident killer whales off the coasts of southern British Columbia, Vancouver Island and Washington State. The multi-year study will assess killer whale body condition using aerial photogrammetry to be compared with available biopsy-based measures of contamination, nutrition, and health. Data will be collected annually across early and late seasons. Photogrammetry results will also be analyzed and related to prey availability, in this case Chinook salmon. Results will allow comparative analysis of these two threatened populations and provide quantitative data that will address knowledge gaps for two of the identified core environmental threats facing them: prey availability and contaminant-related toxicity.