

# Hawaiian Monk Seals: Overview of Threats, Mitigation Actions, & Management

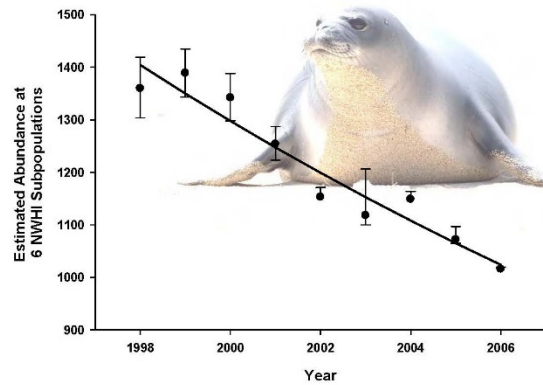


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Photo: Ilana Nimz



# RECOVERY PLAN FOR THE HAWAIIAN MONK SEAL (*Monachus schauinslandi*)

REVISION

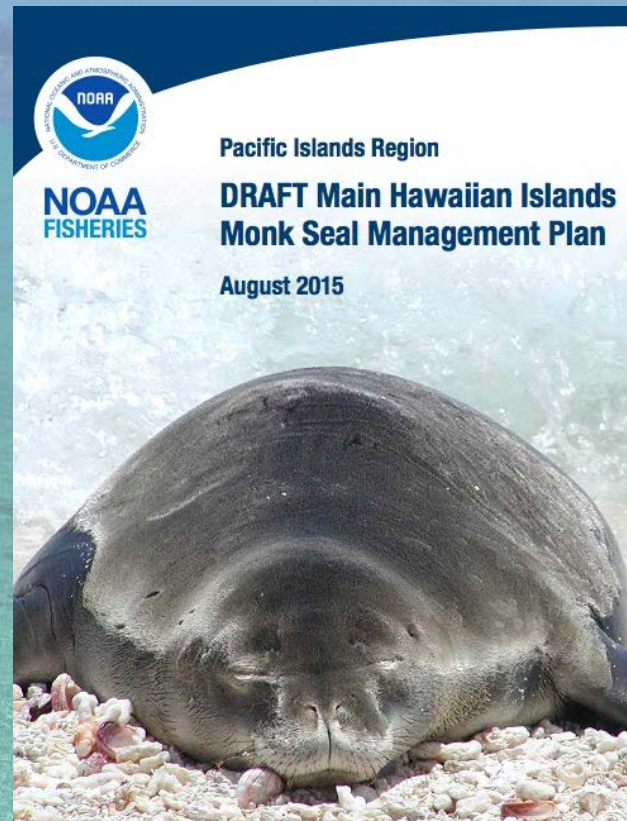


National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

August 2007



**SPECIES  
in the  
SPOTLIGHT:**  
Survive to Thrive





# Northwestern Hawaiian Islands





# Major Threats to Survival

Food Limitation  
Entanglement &  
Entrapment  
Male Aggression  
Habitat Loss/Climate  
Shark Predation



May, 2018 - East Island  
French Frigate Shoals



2018 -  
Hurricane



# Food limitation

(mostly juveniles)



# Mitigation

Rehabilitation

Translocation (~300 pups)





# Entanglement & Entrapment



## Mitigation

Since 1982 disentangled 379 seals

Since 2015 released 23 from behind  
Tern Island sea wall

Marine debris removal (800 metric tons)





# Male Aggression



## Mitigation

Hazing

Wound treatment

Translocation (pups and/or males)

Permanent captivity (males)



# Habitat Loss/Climate Change



An aerial view of Laysan Island after being struck by Hurricane Walaka last month. The island, home to endangered



# Shark Predation



## Mitigation

Translocation (73 since 2015)

Monitoring & antibiotics

Shark removal



# Main Hawaiian Islands





# Major Threats to Survival

Infectious Disease

Fishery Interactions

Intentional Killings

Disturbance & Habituation





# Disease: Morbillivirus

## Mitigation

Vaccination program

- Launched 2016
- 84 MHI
- 654 NWHI





# Disease: Toxoplasmosis



## A Cat-astrophic Threat for Seals

How *Toxoplasma gondii* makes its way from mountain to ocean

### A Microscopic Parasite

*Toxoplasma gondii* is a parasite that causes the disease toxoplasmosis.



### Develops in the Guts of Cats

*T. gondii* can infect any warm-blooded animal (including humans, birds, and seals), but only reproduces in the digestive system of a cat.

### Spreads Via Cat Feces

Millions of *T. gondii* eggs can be spread into the environment via the feces of just one cat and survive for many months. These eggs are the source of *T. gondii* infection in monk seals. It only takes one egg to cause an infection.



### Travels Through Waterways

Rainwater and runoff transport the eggs to the ocean through streams and gutters.



### Contaminates Natural Resources

*T. gondii* eggs contaminate water and soil, along with the plants that grow in it. Wildlife and livestock can consume the eggs and become infected. Even people can get infected by accidentally ingesting cat litter/fecal particles or consuming under-cooked meat or unwashed produce.

### Exacerbated by Human Behavior

People promote the spread of *T. gondii* by allowing pet cats to roam outdoors, abandoning unwanted cats, and nourishing feral cat populations.

### Impacts Marine Environment

Hawaiian monk seals become infected with *T. gondii* by consuming contaminated water or prey.



## Mitigation

Interagency working group

Outreach

Strategic plan



# Fishery Interactions



## Mitigation

Dehooking  
Disentanglement  
Net Removal  
Reporting  
Volunteer Network  
Community Engagement





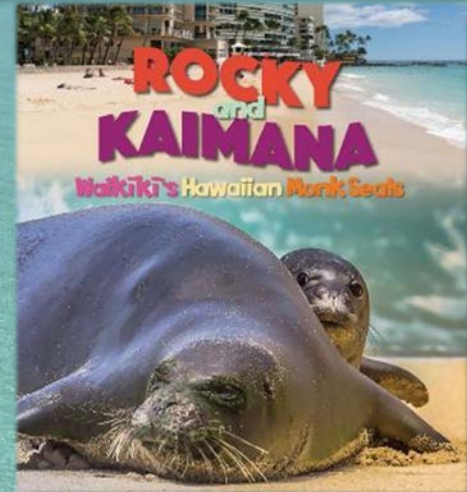
# Intentional Harm/Killing

## Mitigation

Community engagement projects (e.g., CritterCam)

Community in-reach

Outreach





# Seal Disturbance & Habituation



## Mitigation

Volunteer Network  
Reporting  
Outreach





# Payoff of Interventions

About one-third of monk seals are alive today because of direct interventions





# Partnerships







# Mahalo!

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