



Marine Mammal Commission

An independent agency of the U.S. Government



Marine Mammal Commission

2023 Annual Meeting

Peter Thomas

Executive Director, Marine Mammal Commission

ESA at 50: Challenges in a Changing Climate

Day 1

- Ecology and Ecosystem Dynamics Part 1: Shifting Distribution, Prey and Threats
- Ecology and Ecosystem Dynamics Part 2: Habitat Alterations

Day 2

- Marine Mammal Health in a Changing Climate
- Stock Assessments and Climate Change
- Whales on the Brink: Discussion with Regional NMFS Leaders



2021 – Present: Webinars & Workshops

- **Mississippi Bottlenose Dolphin Workshop**
 - January 11-13, 2021
- **Effects of Low-Salinity Exposure on Bottlenose Dolphins**
 - March 23, 2021
- **Federal Agency Approaches to Reducing Vessel Strike of Cetaceans**
 - April 12, 2022
- **Marine Mammal Stranding Response, Health Surveillance, and Conservation Webinar**
 - February 8, 2023
- **Marine Mammal Commission Workshop on Health Surveillance**
 - April 19-21, 2023
- **North Atlantic Right Whale Tagging Workshop**
 - September 12-14, 2023



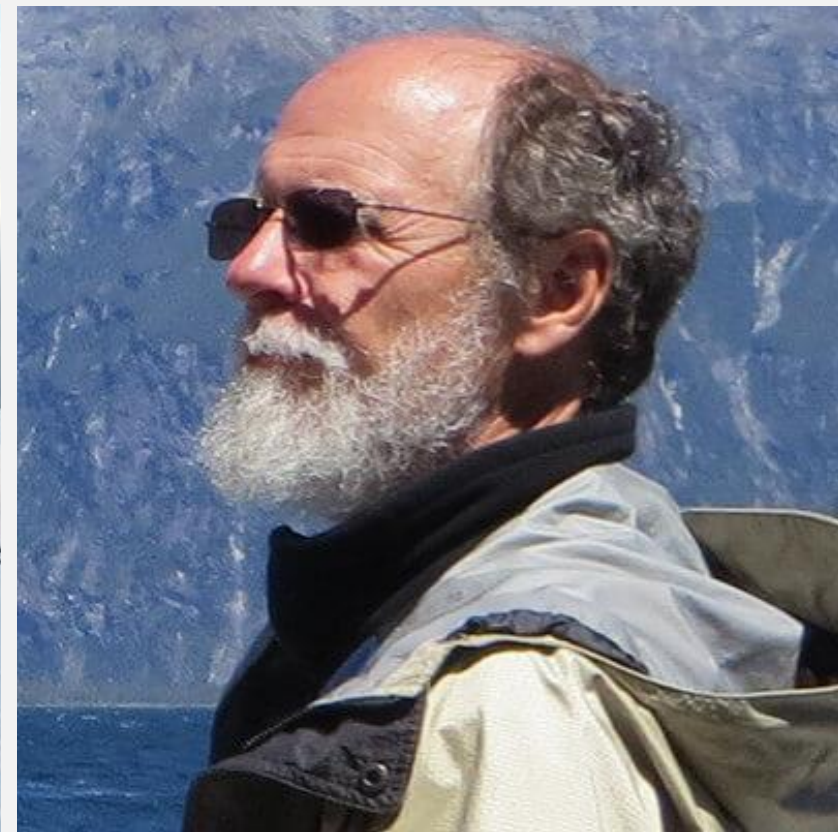












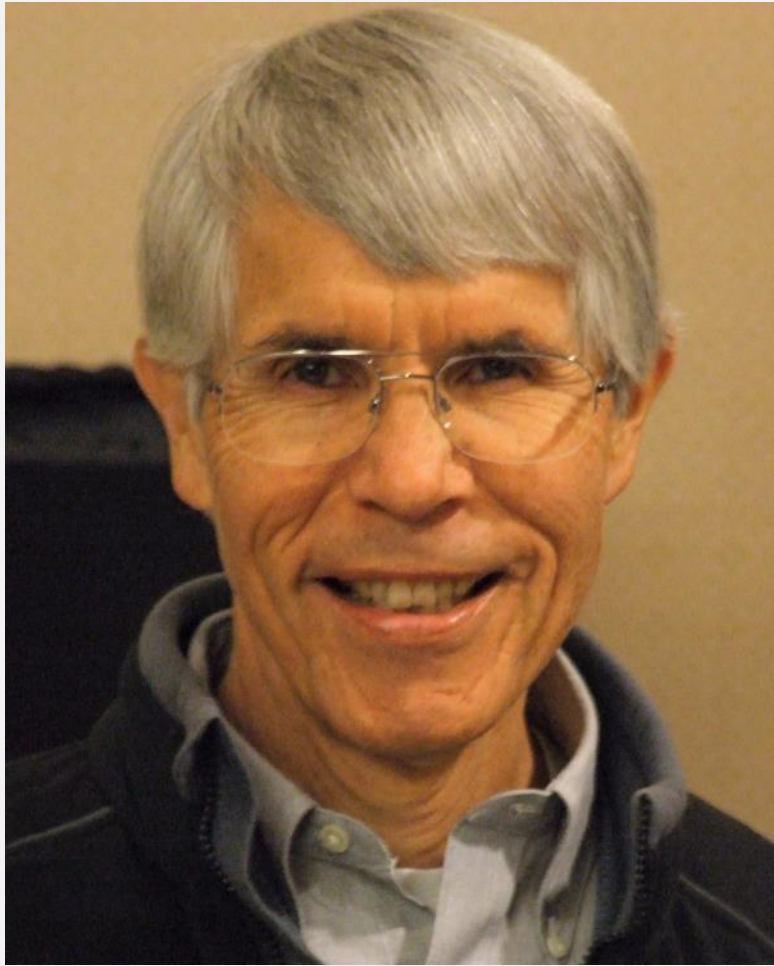
Dr. Daryl Boness, Chair Marine Mammal Commission 2010 – 2022



For about 1 penny per American per year, the Marine Mammal Commission has met its Congressional mandate to conserve marine mammals for 50 years.







Dr. Mike Tillman, Marine Mammal Commissioner 2010 – 2022





Commissioners



Committee of Scientific Advisors



Commission Staff





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A short history of the Commission's work on Climate Change

2000

IMPACTS OF CHANGES IN SEA ICE AND OTHER
ENVIRONMENTAL PARAMETERS IN THE ARCTIC

FINAL REPORT OF THE
MARINE MAMMAL COMMISSION WORKSHOP
GIRDWOOD, ALASKA, 15-17 FEBRUARY 2000

Edited By

Henry P. Huntington, Ph.D.
Huntington Consulting
P.O. Box 773564
Eagle River, AK 99577
USA

June 2000

Marine Mammal Commission
4340 East-West Highway, Room 905
Bethesda, MD 20814
USA



2004

Conrad Oozeva, Chester Noongwook, George Noongwook, Christina Alowa, and Igor Krupnik

Watching Ice and Weather Our Way



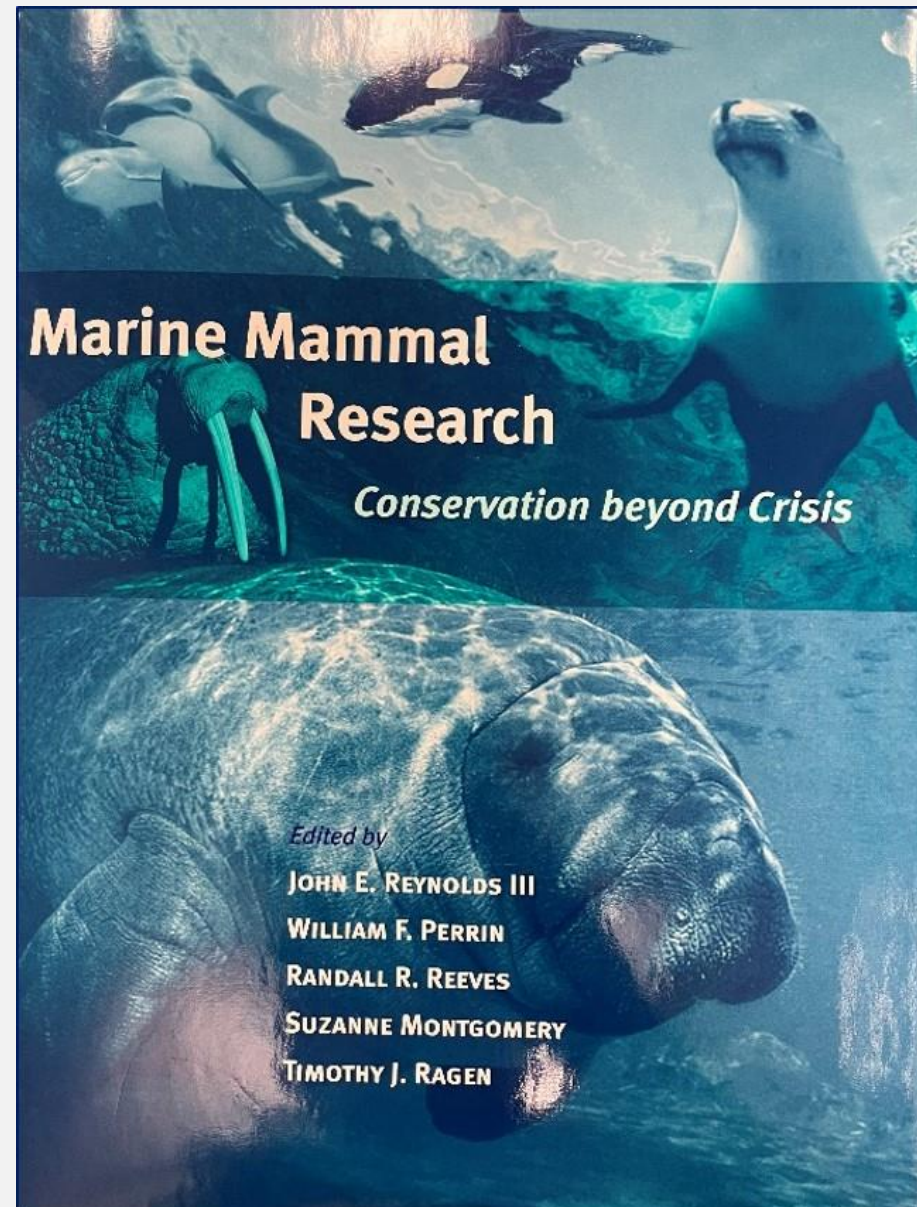
Sikumengllu Eslamengllu Esghapalleghput

Akulki, Tapghaghmii, Mangtaaqli, Sunqaanga, Igor Krupnik

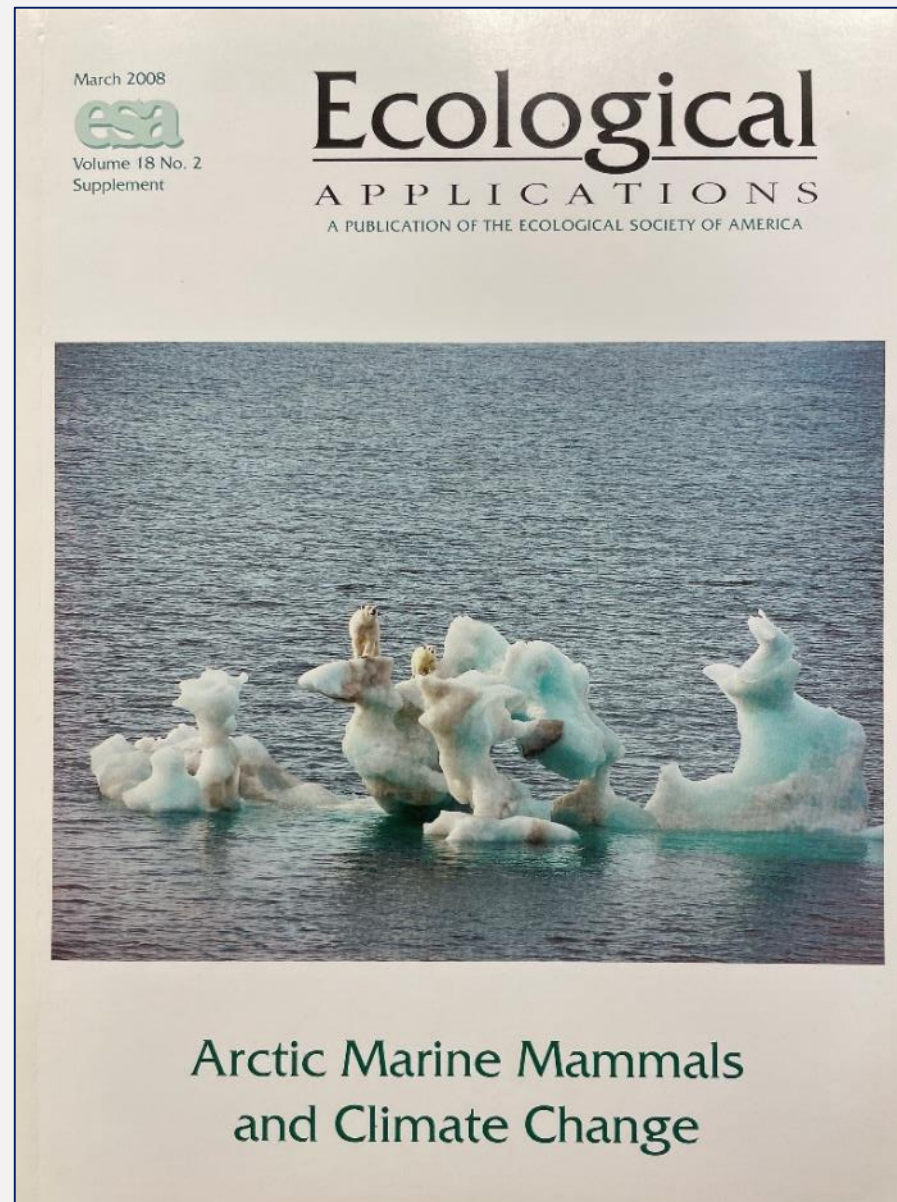


2005

- Long-Term Environmental Change and Marine Mammals
by Dr. Sue Moore



2008



2014






Ocean & Coastal Management

Volume 102, Part A, December 2014, Pages 55-57



Opinion paper

Linking marine mammal and ocean health in the 'New Normal' arctic

Sue E. Moore^a  , Frances M.D. Gulland^{b 1} 

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<https://doi.org/10.1016/j.ocecoaman.2014.08.011> 


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2018

PERSPECTIVE

Tracking arctic marine mammal resilience in an era of rapid ecosystem alteration

Sue E. Moore ^{1*}, **Randall R. Reeves**²

1 National Oceanic and Atmospheric Administration Fisheries, Office of Science and Technology, Seattle, Washington, United States of America, **2** Okapi Wildlife Associates, Hudson, Quebec, Canada

* sue.moore@noaa.gov



2022



Contents lists available at [ScienceDirect](#)

Climate Change Ecology

journal homepage: www.elsevier.com/locate/ecochg



A review of climate change effects on marine mammals in United States waters: Past predictions, observed impacts, current research and conservation imperatives



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^b Wildlife Health Center, School of Veterinary Medicine, University of California, One Shields Avenue, Davis, CA 95616, USA

^c National Oceanic and Atmospheric Administration, Pacific Islands Fisheries Science Center, Protected Species Division, Honolulu, HI 96818, USA

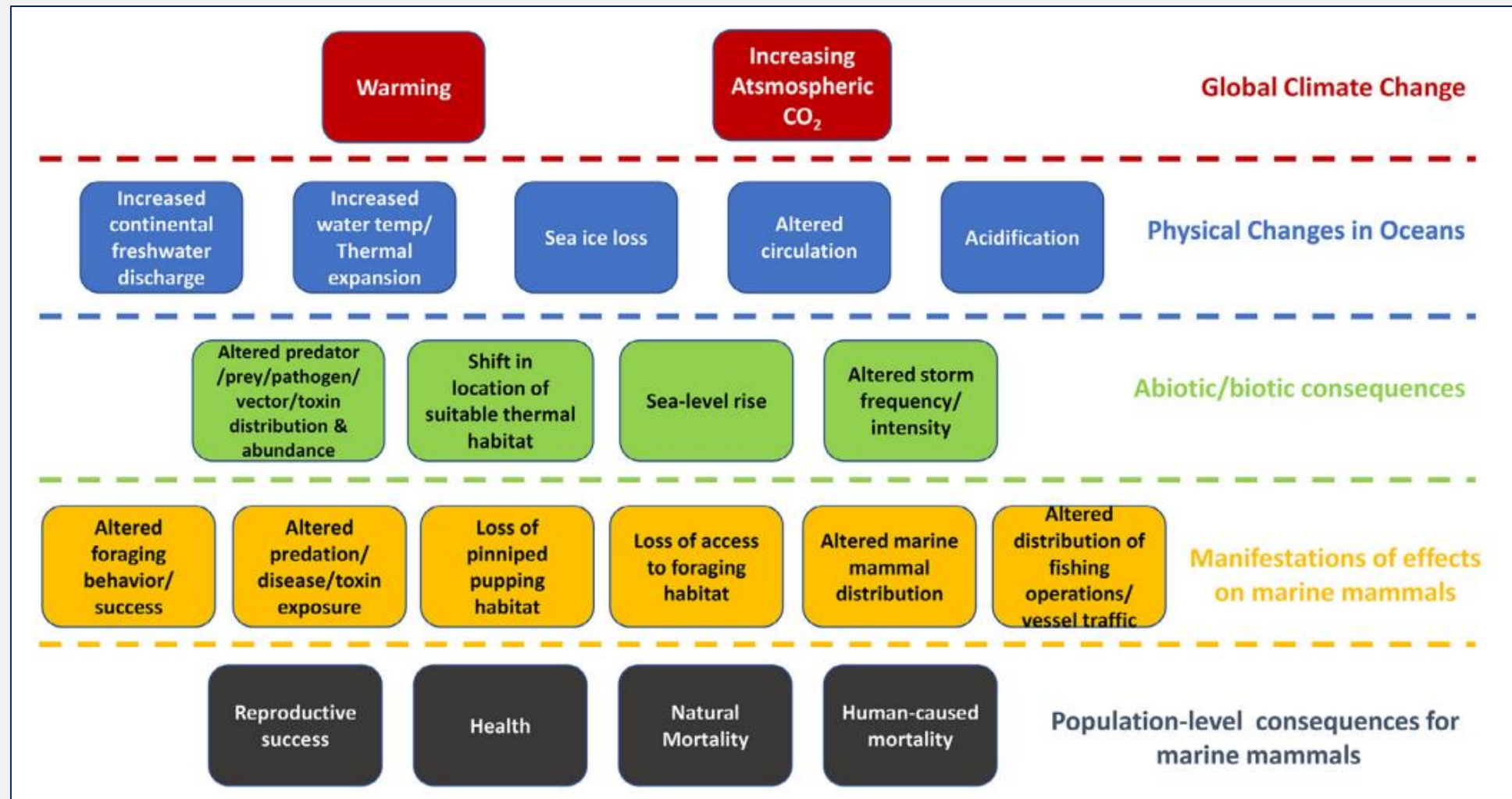
^d Maine Sea Grant, 5741 Libby Hall Suite 110, Orono, ME 04469, USA

^e Center for Ecosystem Sentinels, Department of Biology, University of Washington, Seattle, WA 98195, USA

^f Okapi Wildlife Associates, 27 Chandler Lane, Hudson, Quebec J0P 1H0, Canada



Climate Change Impacts on Marine Mammals



Gulland et al. 2022



ESA at 50: Challenges in a Changing Climate


- Shifting distributions, prey and threats
- Habitat alterations
- Marine mammal health and disease



ESA at 50: Challenges in a Changing Climate

Marine Mammal Stock Assessment Reports

- Section 117 of the MMPA requires the National Marine Fisheries Service and U.S. Fish and Wildlife Service to prepare and periodically update Stock Assessment Reports for all marine mammals in U.S. waters



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Marine Mammal Stock Assessments

Accounting for Climate Change

Background

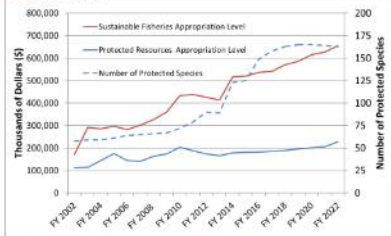
Section 117 of the Marine Mammal Protection Act of 1972 (MMPA) directs NMFS and FWS to prepare annual Stock Assessment Reports (SARs) for all marine mammals in U.S. waters. The SARs are to contain information on each stock's geographic range (and seasonal variations in range), abundance, trends in abundance, productivity rate, Potential Biological Removal level, and levels and sources of direct human-caused injury and mortality. When human-caused mortality and serious injury exceeds a stock's potential biological removal level, the SARs should identify other factors that may be impeding the stock's recovery, such as effects on habitat or prey.

The MMPA stock assessment mandate has been successful at describing what is known regarding the status of most U.S. marine mammal stocks. It has also been successful at advancing methods for identifying unique stocks and assessing their geographic range and abundance. However, funding levels for marine mammal stock assessments have not kept pace with current information needs.

Funding Facts

- NMFS funding to collect marine mammal stock assessment data comes from a line item that includes salmon, sea turtles, coral, and other Protected Species.
- Since 2005, the NMFS budget for Protected Species has increased by 30%, not accounting for inflation. NMFS funding for Sustainable Fisheries, in comparison, has increased by 120% (see Fig. 1).
- Meanwhile the number of Protected Species has nearly tripled, from 61 in 2005 to 163 in 2022.
- In fiscal year (FY) 2021, \$24.5M was spent by all federal agencies on marine mammal research with stock assessment and population dynamics.
- A minimum population abundance estimate is lacking for 77 of the 252 identified marine mammal stocks (31%), based on the most recent SARs.

Figure 1. Congressional Appropriations for NMFS Offices that Conduct Stock Assessments



Fiscal Year	Sustainable Fisheries Appropriation Level (Thousands of Dollars)	Protected Resources Appropriation Level (Thousands of Dollars)	Number of Protected Species
FY 2003	~100,000	~50,000	~25
FY 2004	~150,000	~50,000	~30
FY 2006	~200,000	~50,000	~40
FY 2008	~250,000	~50,000	~50
FY 2010	~300,000	~50,000	~60
FY 2012	~400,000	~50,000	~70
FY 2014	~500,000	~50,000	~80
FY 2016	~600,000	~50,000	~90
FY 2018	~700,000	~50,000	~100
FY 2020	~800,000	~50,000	~110
FY 2022	~900,000	~50,000	~120

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