

**Appendix C1: NOAA Fisheries' Protected Resources  
Science Investment & Planning Process (PRSIPP)**



# NOAA Fisheries' Protected Resources Science Investment & Planning Process (PRSIPP): Overview, Accomplishments, Future



Lisa T. Ballance  
Director, Mammal & Turtle Research Division  
NOAA Fisheries, Southwest Fisheries Science Center

Economics of Protected Resources Workshop  
9 September 2014



on behalf of M. Srinivasan, L. Barre, J. Bengtson, S. Bettridge, K. Bisack, S. Brown, C. Fahy, M. Ford, L. Garrison, N. LeBoeuf, R. LeRoux, F. Parrish, E. Seney, M. Simpkins, T. Vardi  
NOAA Fisheries Science Centers, Regional Offices, HQ Offices of Science & Technology and Protected Resources

C1-2

## Some Context




U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 2

## Our Primary Mandates and Associated Information Needs

**Marine Mammal Protection Act** – Maintain populations at “Optimum Sustainable Levels” and as functioning elements of their ecosystem

- Stock structure
- Population size
- Human-caused mortality

**Endangered Species Act** – Prevent extinction and recover species

- Distinct Population Segments
- Population size
- Trends in abundance
- Threats

## Our Science Mission

1. **Assess** species relative to management objectives

2. Mitigate threats

3. Support users of our data

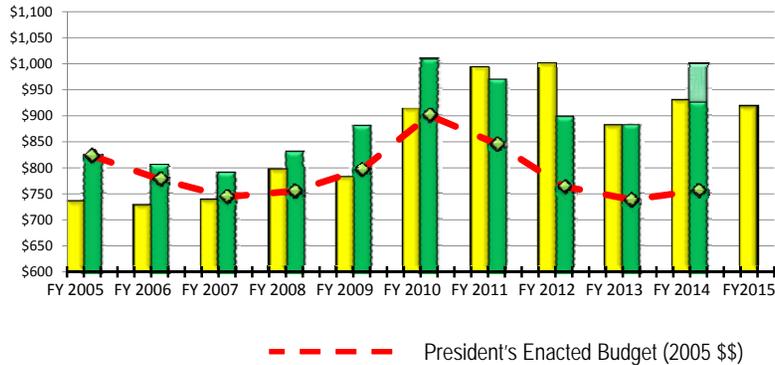
4. Educate and build capacity

5. Advance the science of management and conservation

Five components of assessment:

- Estimate abundance
- Monitor status and trends
- Clarify population structure
- Assess condition and health
- Place the above in an ecosystem context

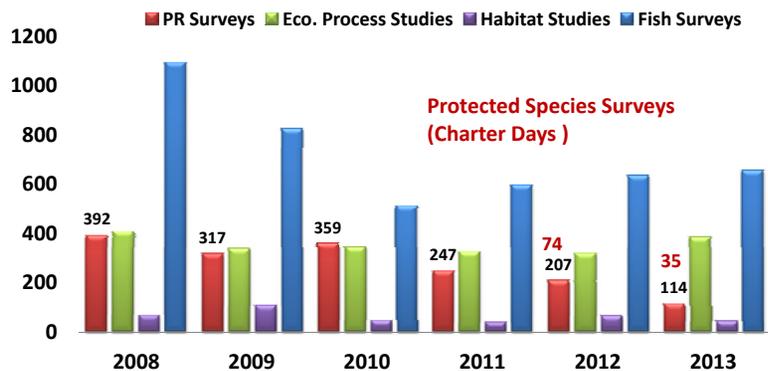
NOAA Fisheries' budget is trending up, but accounting for inflation, we are currently operating below 2005 levels.



Among the many consequences of this is that our base allocation can now barely cover our permanent labor costs (leaving little to nothing left for implementation of field and laboratory science).



For example, we have experienced a decreased number of days for NOAA ships to conduct marine mammal research (although this trend too is up for 2014).



At the same time, demands for protected species science and management actions are increasing.

93 Endangered or Threatened species (80 more proposed)

Annually

- 1200-1500 ESA Section 7 Consultations
- 500+ permit requests
- 100 marine mammal incidental take evaluations

In FY13, 80% of 400 protected species stocks lacked current and comprehensive information to inform management.

Of 243 marine mammal stocks, sustainable take estimates exist for only 152.



NOAA is an Environmental Intelligence Agency. (Dr. Kathryn Sullivan)

- We need steady investment in research infrastructure and data collection for development of strategic data products in support of resilient communities.



**Challenges**  
= **Opportunities**

NMFS science provides a baseline for assessing risk to protected species, especially from activities associated with energy and defense.

Uncertain science leads to reduced ability to deal with complex ecological problems, uncertain management and stewardship decisions, and often, greater expense.



## The Protected Resources Science Investment & Planning Process\*

**CORE MESSAGE:** The increased demand for protected species science to address urgent management and regulatory needs requires a “growth industry”-type investment, to ensure that the country’s priority defense and economic goals are achieved, while sustaining viable wild populations.

**\*PRSIPP – an improved business model**

## Goal

- Secure investment in science by identifying common needs and addressing them through enhanced partnerships (NMFS, NOAA, Federal Partners, & beyond)

Achieved through a simple and adaptive process-oriented approach

## Audience

- Ourselves
  - NMFS Science Centers, Regional Offices, Offices of S&T and PR
- NMFS Leadership Council
- Other NOAA Line Offices
- External Federal Partners (esp. energy and defense)



## Scalability

- Focal Taxa
  - Initial development mammal/turtle-centric
  - Deliberately scalable to other protected species
- Process designed to occur at multiple scales in space and time
  - Regional, National, Across multiple Federal Agencies
  - Annual and greater (corresponding to information need and budget cycle timelines of NMFS and other external partners)

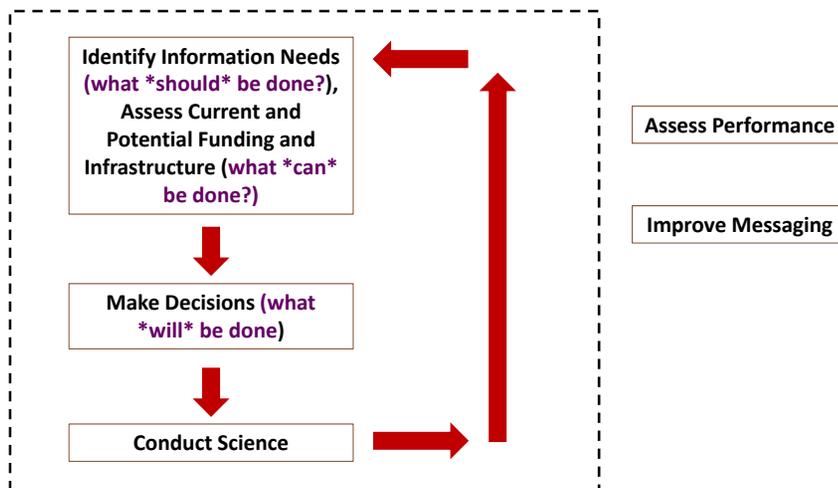


## Benefits

- Improved communication and match between science needs and science conducted
  - Regional level (Science Centers, Regional Offices, HQ)
  - Agency level (Science Board and Leadership Council)
  - External partners and constituents
- Increased transparency
  - w/r/t what science is conducted and why
- Enhanced collaboration, complementarity, and investment in science



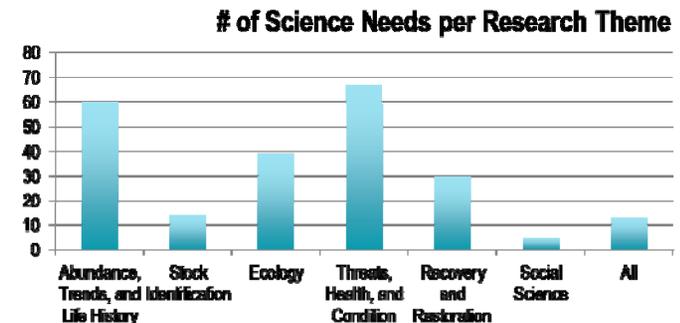
## The "Process"



## Accomplishments\*:

\*Since PRSIPP inception -2012

- Tighter linkages between science & management within NMFS
- Incorporation of management needs into science planning, prioritization, and implementation



## Accomplishments:

- Tighter linkages between science & management within NMFS
- Incorporation of management needs into science planning, prioritization, and implementation
- Tighter linkages within NOAA, across Federal Agencies



## Accomplishments:

- Tighter linkages
- Identification of “common information needs” – the basis for partnerships and leveraging of expertise, funding, infrastructure



## An example from “the process” in 2013

- A Common Information Need: NOAA Fisheries managers & scientists, other Federal agencies (energy & defense)
- Long-term data on marine mammal\* distribution and abundance, and an ecosystem context

\* Protected Species

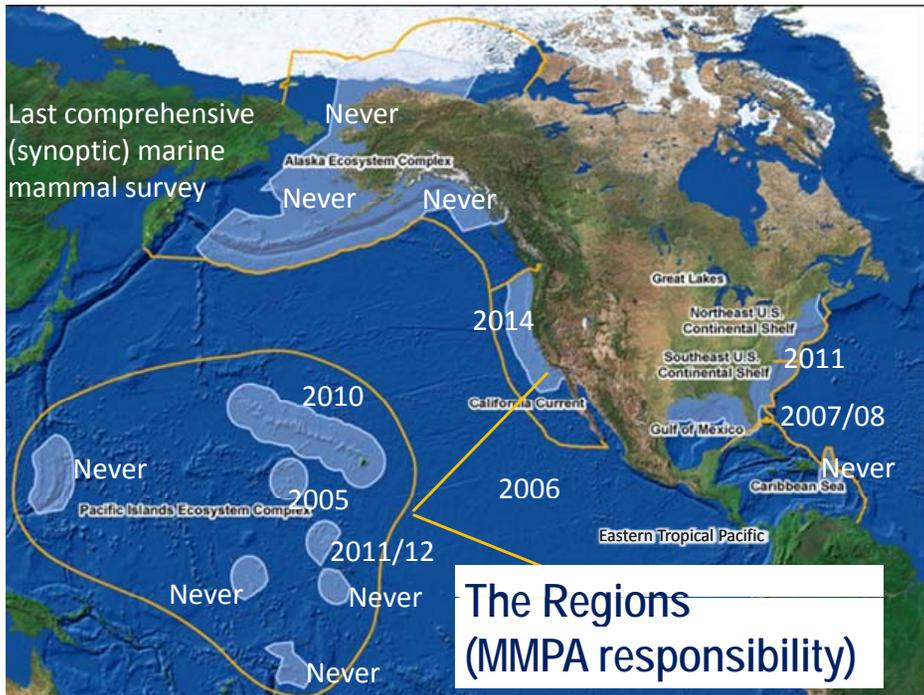


## Addressing a Common Need



- A proposal to conduct multispecies marine mammal & ecosystem assessment surveys





**The Regions  
(MMPA responsibility)**

## The Survey Model

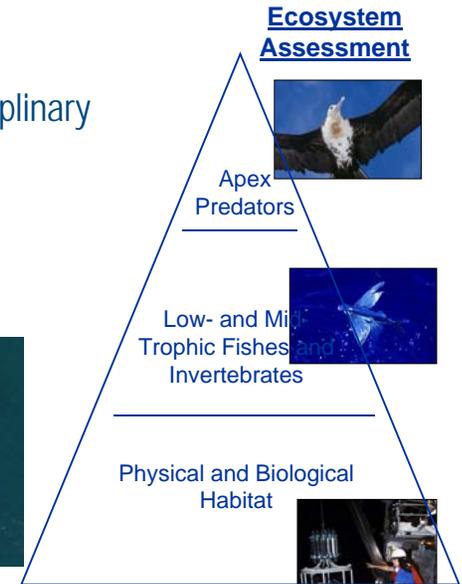
- A multispecies, multidisciplinary approach

**Abundance & Trends**

**Biology**

Population Structure

Health, Condition



## A Proposed Survey Cycle

- Accomplished with NOAA ships, leveraged funding from Federal partners
- **A successful model in the Atlantic and California Current (NOAA, energy, defense)**

Year	Regions to be Surveyed	Days Required
1	E Coast, W Coast, Bering Sea, Chukchi Sea, Palmyra & Kingman, Jarvis	488
2	E Coast, W Coast, Bering Sea, Chukchi Sea, Commonwealth of N Mariana Islands	534
3	Gulf of Mexico, Gulf of Alaska, Howland & Baker	328
4	Gulf of Mexico, Gulf of Alaska, Johnston	322
5	Caribbean, ETP, American Samoa, Wake	443
6	Caribbean, Hawaiian Archipelago	306

## Accomplishments:

- Tighter linkages
- Identification of "common information needs"
- Internal funding initiative



Lisa T. Ballance Ph.D. Annual Meeting of the U.S. Marine Mammal Commission  
 Director, Mammal & Turtle Research Division  
 NOAA Fisheries, Southwest Fisheries Science Center Washington D.C., 6-8 May 2014



on behalf of M. Srinivasan, L. Barre, J. Bengtson, S. Bettridge, K. Bisack, S. Brown, C. Fahy, M. Ford, L. Garrison, N. LeBoeuf, R. LeRoux, F. Parrish, E. Seney, M. Simpkins, T. Vardi, L. VanAtta  
 NOAA Fisheries Science Centers, Regional Offices, HQ Offices of Science & Technology and Protected Resources

### Accomplishments:

- Tighter linkages
- Identification of "common information needs"
- Internal funding initiative
- Elevated awareness and interest
  - Key presentations & meetings

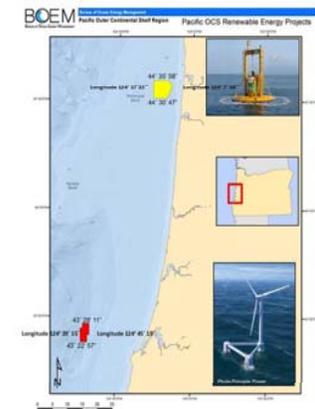
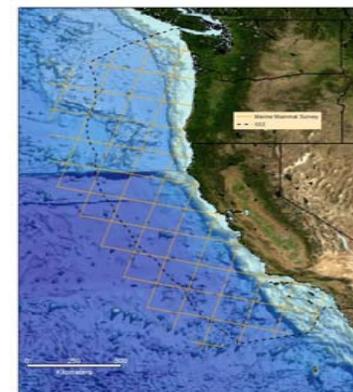


### Accomplishments:

- Tighter linkages
- Identification of "common information needs"
- Internal funding initiative
- Elevated awareness and interest
- Strengthened existing partnerships, creation of new ones



### Navy, BOEM, NOS partner with SWFSC to conduct a multispecies cetacean & ecosystem assessment survey in the California Current Ecosystem, fall 2014



# Accomplishments:

- Tighter linkages
- Identification of “common information needs”
- Internal funding initiative
- Elevated awareness and interest
- Strengthened/new partnerships
- Improved messaging

**Protected Resources Science Investment and Planning Process**

**NOAA FISHERIES**

**How does protected resources science differ from management?**  
Science provides the data and best research to support conservation and management of protected resources.

**Protected resources science involves:**

- Conducting stock assessments
- Understanding ecosystem over
- Identifying and mitigating threats

**Protected resources management involves:**

- Species conservation and recovery
- Permits and authorizations to conduct activities that may impact protected species and their habitats

**Why invest in protected resources science?**  
Protected resources data collection has remained static while the demand to inform urgent management and regulatory needs, such as petitions, consultations, and recovery planning has exponentially increased. Strategic investments that leverage available fiscal and scientific resources are needed to address the growing number of internal and external management responsibilities.

**What's at Stake?**

- 83 ESA-listed species, 80 more have been proposed
- 243 marine mammal stocks currently assessed
- 2,000+ 500 ESA Section 7 Consultations conducted annually
- Over 300 annual research permit requests
- 130 marine mammal incidental take evaluations

But, 80% of 400 protected species stocks lack current and comprehensive scientific data to inform management.

**A New Process for Investing in Protected Resources Science:**

Annual national review of science needs and science conducted

Engage regional stakeholders and Potential Funding Infrastructure with Federal partners

At least every 3 years — formally work with federal partners on their funding cycles, to complete science needs and science conducted

Identify Information Needs, Assess Current and Potential Funding Infrastructure

Conduct Science

Make Decisions

Assess Performance

Improve Messaging

Science from Under or Above the Sea

**Economics of Protected Resources Research & Management**

**NOAA FISHERIES**

**Economic value of marine protected species**  
Protecting a species through law and process implies that society considers these species to be valuable. Economics can be used to assess the costs (in market terms) that people incur for producing a species for future generations regardless of whether they ever see the species or not. These methods are known as contingent valuation.

**NOAA Fisheries economists recently conducted a study to measure the value the nation has for recovering eight marine species that are listed as threatened or endangered under the Endangered Species Act. Results show that society places a high value on recovering these species — \$13 billion for just three species (southern sea turtle, North Pacific right whale and North Atlantic right whale). This suggests that the benefits from recovering these species far outweigh the costs of current conservation measures aimed at reducing their risk of extinction and also justifies increased science funding to preserve these species.**

**Costs and benefits of regulations**  
NOAA Fisheries estimates that Americans are willing to pay \$4.38 billion annually for the recovery of the endangered North Atlantic right whale. In addition, this species helps support the whale watching industry that generated an estimated \$2.2 billion in sales in this industry and across the broader economy in 2002. In comparison, the recovery plans for this species implied restriction on the fishing and shipping industry at an annual cost of \$30.2 million.

**North Atlantic Right Whale**

**\$13 Billion**  
Value society gains from recovering threatened and endangered marine species.

**\$4.38 Billion**  
Heavy benefits

**\$30 Million**  
Current cost of regulations

**Protected species research** conducted by NOAA Fisheries economists can describe cost-benefit trade-offs of proposed management strategies and greatly inform the National Science Foundation for and the management of these species. Alternatively, a cost-effectiveness analysis can be used to compare conservation strategies to prioritize investments by assessing the ratio between costs and biological impacts. These studies can lead to real-life results.



# NOAA Fisheries PRSIPP: Benefits of our approach

- Consistent science planning and implementation agency-wide
- Move from 'Triage' to 'Proactive'
- Increased transparency on what science is conducted and why
- Improved communication and synergy between NOAA Fisheries science & management, and across Federal agencies
- Diversified support for science



Identification of common needs and strengthening partnerships will help us to work smarter and more efficiently.



Robert L. Pitman

