



# RECOVERY PLANNING FOR STELLER SEA LIONS



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# RECOVERY PLANNING FOR STELLER SEA LIONS - OVERVIEW

- Recovery Planning - what do we mean? Why do we do it?
- Agency Guidance on Recovery Planning
- Recovery plans/conservation plans
- Case study: SSL Recovery Plan Process
  - History
  - Recovery Team
  - Rationale of Plan Development
    - Plan Content
      - Basic
    - Highlighted Actions
    - Peer Review Results
- Recovery Implementation
- Working with Tribes



# Rationale of Plan Development *or* Why Develop a Recovery Plan?



# Rationale of Plan Development: Requirements and Goals

Section 4(f) of the ESA directs NMFS to develop and implement recovery plans for threatened and endangered species, unless such a plan would not promote conservation of the species.

Goal - to restore a listed species to the point where it is no longer endangered or threatened

# Key Documents

- National Marine Fisheries Service Interim Endangered and Threatened Species Recovery Planning Guidance Version 1.2 September 2007
- Steller Sea Lion Recovery Plan Revised March 2008
  - <http://fakr.noaa.gov/protectedresources/stellers/recovery.htm>
- Other recovery and ESA related documents
  - <http://www.nmfs.noaa.gov/pr/laws/policies.htm>

# Recovery Guidance:

- Provides information to ensure consistency among recovery plans and their usefulness to potential partners in recovering species.
- Stresses the importance of involving stakeholders in the recovery process.
- NMFS also follows additional policies, guidances, and regulations associated with recovery of species.

# Recovery Plan vs. Conservation Plan

- MMPA: conservation plans should be completed for any species or stock designated as depleted, which includes those that are listed as endangered or threatened under the ESA (16 U.S.C. 1383b(b)).
- MMPA: “depleted” - a marine mammal species or stock that is below its optimum sustainable population (OSP) level or that is listed as threatened or endangered under the ESA.
- For species, such as SSLs, that are also listed as threatened or endangered under the ESA, the same plan may serve both purposes (see section 2.2.5 Integration of MMPA and ESA).

# MMPA on Conservation Plans

## CONSERVATION PLANS; PREPARATION AND IMPLEMENTATION.

- (1) The Secretary shall prepare conservation plans—
  - (A) by December 31, 1989, for North Pacific fur seals;
  - (B) by December 31, 1990, for Steller sea lions; and
  - (C) as soon as possible, for any species or stock designated as depleted under this title, except that a conservation plan need not be prepared if the Secretary determines that it will not promote the conservation of the species or stock.
- (2) Each plan shall have the **purpose of conserving and restoring the species or stock to its optimum sustainable population**. The **Secretary shall model such plans on recovery plans required under section 4(f) of the Endangered Species Act of 1973 (16 U.S.C. 1533(f))**.



# More Recov. Plan vs. Conserv. Plan

- OSP level - the number of animals that will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.
  - Thus, in some cases, may be different threshold for a depleted designation under the MMPA than for a threatened or endangered listing under the ESA.
- For marine mammals that are depleted due to their listing under the ESA, a recovery plan can serve the dual purpose of compliance with the requirement for a recovery plan under the ESA and for a conservation plan under the MMPA;
- Guidance for recovery plans is consistent with requirements for a conservation plan.

# ESA: Components of Recovery Plans

Each plan must include:

- Descriptions of site specific management actions necessary for recovery
- Objective, measurable criteria that, when met, would result in removing the species from the list of endangered and threatened species (Recovery Criteria)
- Estimates of time and cost to carry out the recommended recovery measures

# General Recovery Plan Content

Each plan should also include:

- Current status of the species
- Factors affecting the species (threats assessment)
- Needed recovery actions
- Implementation schedule and recovery task prioritization

# Recovery Plans

- Recovery Plans are guidance and planning documents.
- Recovery planning is a dynamic and iterative process.
- The goals and objectives of a plan can only be achieved with a long-term commitment to support the actions that are recommended.
  - We don't just put this plan on the shelf and forget about it

# 5-Year reviews

- NMFS conducts periodic reviews of species to ensure that they are listed appropriately.
- Because the ESA requires such reviews to be conducted at least once every 5 years, they're referred to as 5-year reviews.

# RECOVERY PLAN FOR THE STELLER SEA LION

Eastern and Western Distinct Population Segments  
(*Eumetopias jubatus*)

REVISION



National Marine Fisheries Service  
National Oceanic and Atmospheric Administration

# Steller Sea Lion Recovery Team



<b>Team Member</b>	<b>Affiliation</b>
Dr. Robert J. Small – Chair	Alaska Department of Fish and Game
Dr. Shannon Atkinson	Alaska SeaLife Center/University of Alaska Fairbanks
Ms. Linda Behnken	Alaska Longline Fishermen's Association
Mr. Vernon Byrd	U.S. Fish and Wildlife Service
Mr. Donald Calkins	Alaska SeaLife Center
Dr. Douglas Eggers	Alaska Department of Fish and Game
Mr. Dave Fraser	F/V Muir Milach
Mr. Lowell Fritz	National Marine Fisheries Service
Dr. Tom Gelatt	National Marine Fisheries Service
Dr. David Hanson	Pacific States Marine Fisheries Commission
Ms. Lianna Jack	Alaska Sea Otter and Steller Sea Lion Commission
Mr. Denby Lloyd	Alaska Department of Fish and Game
Dr. Tom Loughlin	National Marine Fisheries Service
Ms. Donna Parker	F/V Arctic Storm
Mr. Ken Pitcher	Alaska Department of Fish and Game
Dr. Alan Springer	Institute of Marine Science/University of Alaska Fairbanks
Mr. Ken Stump	Citizen
Dr. Andrew Trites	North Pacific Universities Marine Mammal Research Consortium
Dr. Terrie Williams	University of California Santa Cruz
Ms. Kate Wynne	University of Alaska

# SSL Recovery Plan History -1

**1992:** 1<sup>st</sup> SSL Recovery Plan released: encompasses entire species range

**1997:** two distinct population segments (DPSs) designated  
most recovery actions in original plan were completed

**2001:** NOAA Fisheries assembled new recovery team to assist it in updating recovery plan

**2006**

**February** - Recovery Team completed draft revision; solicited peer review

**March** - Recovery Team submitted revised plan to NOAA Fisheries

**May** - NOAA Fisheries released draft plan for **public review and comment**



# SSL Recovery Plan History -2

## 2006

**August** - NOAA Fisheries received detailed comments from 18 individuals and organizations during the 100-day comment period

## 2006-07

NOAA Fisheries **revised** draft Plan, incorporating changes recommended by **peer reviewers** and the public and incorporating new information

**May** - NOAA Fisheries released revised draft for **public review and comment**

**August** - NOAA Fisheries received 8,058 letters of comment

## 2007-08

NOAA Fisheries revised and finalized plan in response to:  
new information, public comment, and review

**2008: March** - NOAA Fisheries releases **Final Revised Recovery Plan for Steller Sea Lions**

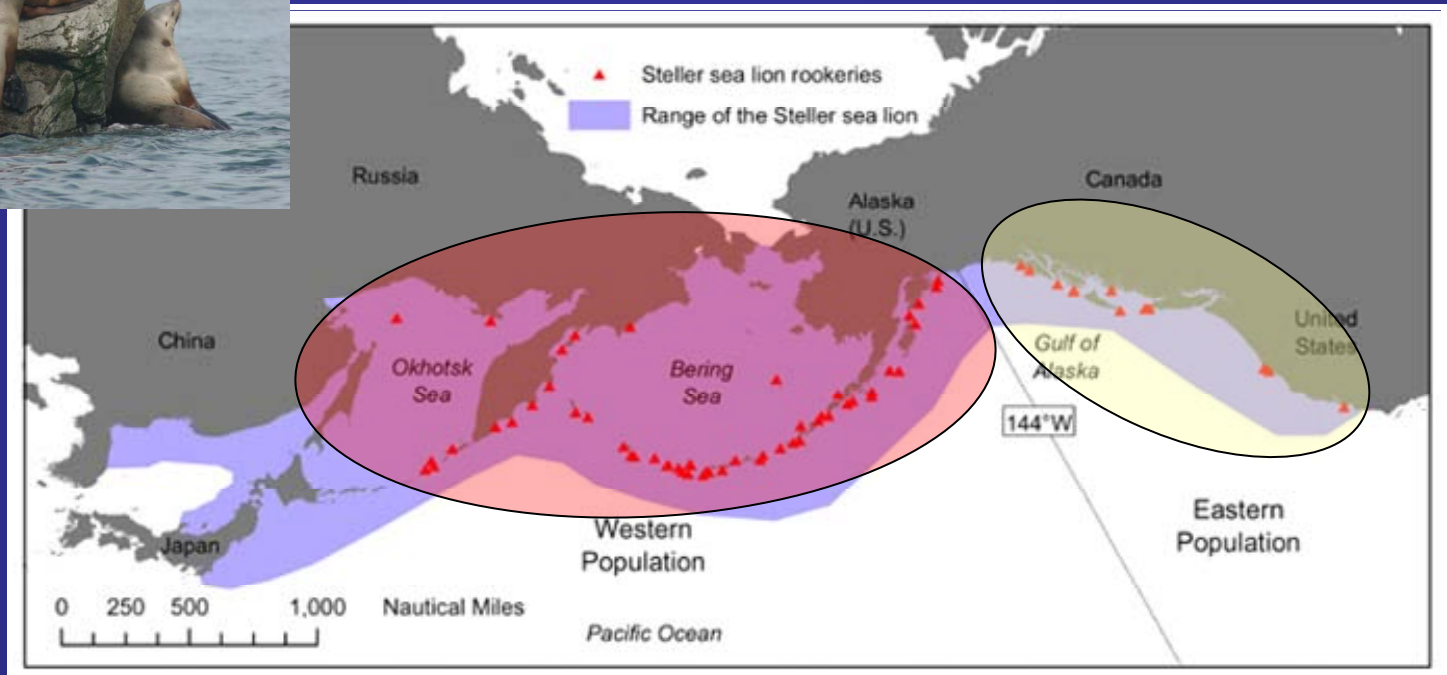
# SSL Recovery Plan Content

- Population structure and distribution: eastern and western DPS
- Western Population Status and Ecology
- Review of Conservation Actions
- Threats Assessment
- Criteria for Downlisting/Delisting
- Recovery Actions (78 for wDPS)
- Estimates of Time/Cost to Recovery

# Steller Sea Lion DPS Delineation



## Western and Eastern Distinct Population Segments



# Conservation Measures Already Undertaken to Reduce Threats

Threats addressed with conservation actions:

- Intentional and Illegal Killing
- Incidental Takes in Commercial Fisheries
- Reduced Prey Availability due to Fisheries
- Subsistence Takes
- Research-Related Mortality
- Disturbance
- Pollution and Debris Entanglement

# Chapter III: Factors Potentially Influencing wDPS

Plan describes factors affecting sea lion survival and reproduction rates.

## Top-Down

- Predation
- Commercial harvest
- Intentional shooting
- Entanglements
- Incidental catch by fishing gear
- Disturbance
- Disease



## Bottom-Up

- Reductions in prey biomass, availability or quality
- Environmental variability
- Disturbance
- Disease, parasites
- Contaminants

# Chapter IV: Threats Assessment

- Recovery Team reviewed the factors likely influencing recovery of the sea lion population
- Threats assessment was used to evaluate likelihood that various factors will affect recovery
- Each threat was ranked on a relative scale that weighs the relative likelihood of impact, degree of uncertainty, feasibility of mitigation, etc.

# Conceptual Definition of Threat Levels

**High:** threat with **substantial** impacts to recovery requiring mitigation and/or further research to identify extent of impacts

**Medium:** threat with **moderate** impacts; mitigation could improve the likelihood of recovery, but in and of itself threat has limited impact on population trajectories

**Low:** source of mortality that is unlikely to have much impact on population trajectory

# Relative Impacts of Threats: western DPS

Threat	Relative Impact	Uncertainty	Mitigation Feasibility
Environmental Variability	Potentially High	High	Low
Competition from Fisheries	Potentially High	High	High
Killer Whales	Potentially High	High	Low
Toxic Substances	Medium	High	Medium
Incidental Take (Fisheries)	Low	Medium	Medium
Illegal Shooting	Low	Medium	Medium
Entanglement	Low	Medium	Medium
Disease/Parasitism	Low	Medium	Low
Disturbance/Vessels	Low	Medium	High
Disturbance/Research	Low	Low	High



## Example of Policy-related Decision in Plan Killer Whale Threat Rating and Discussion

- To be deliberately precautionary, NMFS returned (back to Team's ranking) ranking of Potential Threat from Killer Whale Predation to **“potentially high”** from **“medium”**; This reflects the high level of disagreement, controversy, and uncertainty associated with this potential threat
- Did not decrease discussion as per expert peer review recommendation

# Chapter V: Recovery Goals and Strategy for the Western DPS

Goals - consistent with the ESA, downlist and then delist wDPS

Strategy - 4 actions are especially important to recovery:

1. Continue population monitoring and research on key threats to reduce and minimize uncertainty
2. Maintain current (or equivalent) fishery conservation measures [Action 2.6.6]
3. Design and implement an adaptive management program to evaluate fishery conservation measures [Action 2.6.8]
4. Develop a Recovery Implementation Plan

# Downlisting/Delisting Criteria Development

Plan must include "objective, measurable" criteria (biological) and listing factor (threats) criteria [ESA 4(a) & 4(f)]

## PVA

Recovery Team commissioned PVA to estimate risk of extinction based on recovery scenarios (Dr. Goodman; detailed in Plan Appendix)

- PVA process helped Team focus on development of criteria, but biological recovery criteria were not developed directly from PVA

## Weight of Evidence Approach:

1. Review and synthesize all available biological and ecological information
2. Determine key demographic parameters, other factors that would indicate species is no longer at risk of extinction
  - performance of the population over substantial time period, and
  - reduction of threats

# Considerations in Selecting Recovery Criteria for wDPS

## Population Performance Benchmarks:

- Listing under ESA was due to population trends not population numbers
- IUCN Endangered Criteria: 50% decline in 3 generations (which is 30 years for SSLs)
- eDPS has shown a 3% yearly increase in population for 30 years, no environmental signal; wDPS increased at 3% between 2000-04, so this is a reasonable scenario for recovery
- 3% annual growth rate recommended in Plan is less conservative than default maximum growth rate of 12% used in PBR

# Listing Factor (Threats) Criteria

Five standard listing factors must be addressed in any reclassification of a species (required by ESA Section 4(c)(2)(B):

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) Inadequacy of existing regulatory mechanisms; and
- (E) Other natural or manmade factors affecting its continued existence

Recovery is based on reduction or removal of threats and improvement of species' status during the period in which it is listed

# Plan Contains Criteria for Downlisting and De-Listing

- Downlisting criteria (from endangered to threatened – for wDPS)
- De-listing criteria (from threatened to de-listed) – for both eDPS and wDPS

# Example of Recovery Criteria: Delisting criteria for the wDPS of SSLs

1. Population for the U.S. region of the DPS has increased (statistically significant) for 30 years (at an annual growth rate of 3%), based on counts of non-pups. Based on an est. population size of ~ 42,500 animals in 2000, this would represent ~103,000 in 2030.
2. Population trends (non-pups) in at least 5 of 7 sub-regions are stable or increasing, consistent with the trend under criterion #1. The population trend in any two adjacent subareas cannot be declining significantly; and the trend in any one subarea cannot decline by more than 50%

Subareas: EGOA, CGOA, WGOA, EAI, CAI, WAI, Russia/Asia

3. Listing factor (threats) criteria are met



# Recovery Action Implementation for wDPS

78 Actions in 5 categories  
Estimated \$430 million cost to full recovery

1. **Baseline Population Monitoring: 11 actions; \$3.1 Million\***
  - Completion of annual surveys to estimate trends for pups and non-pups is the only **Priority 1 Action** identified in the Plan
2. **Ensure Adequate Habitat and Range for Recovery: 23 actions; \$10.1 Million\***
3. **Protect from Over-Utilization for Commercial, Recreational, Scientific, or Educational Purposes: 10 actions; \$1.7 Million\***
4. **Protect from Diseases, Contaminants, and Predation: 18 actions; \$2.9 Million\***
5. **Protect from Other Natural or Manmade Actions and Administer the Recovery Program: 16 actions; \$2.3 Million\***



# Chapter VI: Eastern DPS Threats Assessment/Conservation Actions

- Plan reviews the factors likely influencing the sea lion population (productivity & mortality factors):
  - Predation
  - Harvest & intentional lethal take
  - Entanglement in debris
  - Reduced prey biomass & quality
  - Toxic substances
  - Climate change
  - Parasitism & disease
  - Disturbance
- None of the factors were identified as a current threat to recovery (looking forward)
- Prior threats, primarily in the form of intentional lethal take (shooting), have been adequately addressed by conservation actions



# Chapter VII: Eastern DPS Recovery Plan Delisting Criteria

1. Population should increase at 3% (on average) for 30 years (which is 3 generations)
2. Listing factors (threats) criteria prescribed by ESA must be met



# Chapter VII: Eastern DPS Recovery Actions

Recovery actions are limited to:

- (a) initiation of status review; and then
- (b) developing a post-delisting monitoring plan



# Plan is Available

## Copies of Plan available:

(1) Download from: NMFS Alaska Region  
website: <http://www.fakr.noaa.gov/>.

(2) E-mail: [lisa.rotterman@noaa.gov](mailto:lisa.rotterman@noaa.gov). Include  
in the subject line "request copy of SSLRP";  
Please specify hardcopy, pdf emailed or pdf  
on CD.

(3) Mail: P.O. Box 21668, Juneau, AK 99802;



QUESTIONS?