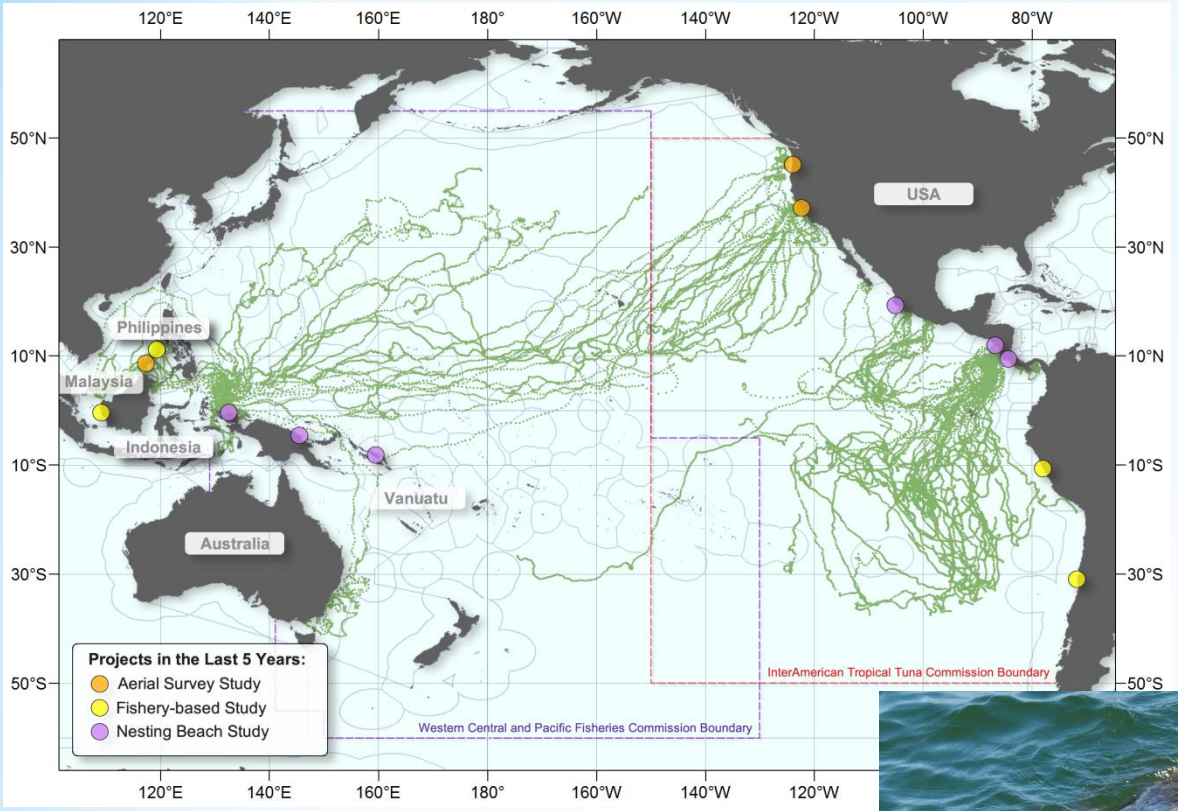
# Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle (*Dermochelys coriacea*)

PR ESA Program Review

19-22 April 2016

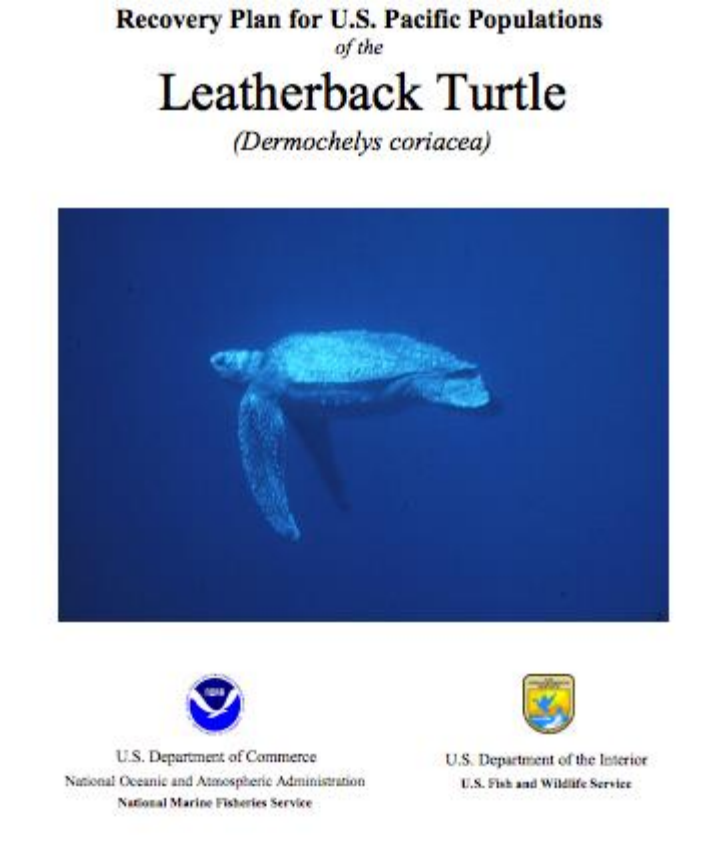
Silver Spring, MD

Photo credit – Scott Benson, SWC




# *Pacific Leatherbacks

Map from Bailey et al; Photo credit – Demian Bailey



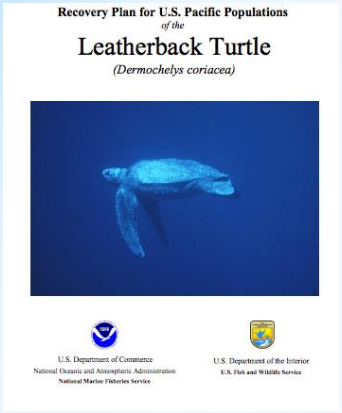

* Joint jurisdiction with U.S. Fish and Wildlife Service
* Plan Status – Finalized, January 1998
* Developed by a Recovery Team
* Species Distribution – Entire Pacific Ocean
* Species Listing Status -- Endangered

# * Plan Details

Photo credit – Scott Benson, SWC

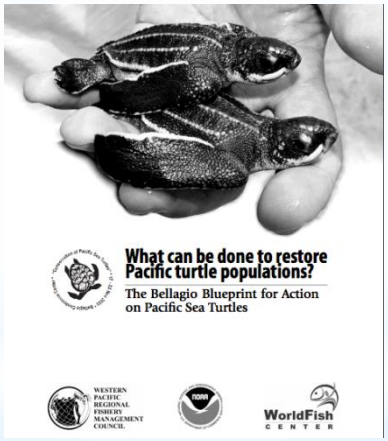
How effective is NOAA Fisheries at monitoring and implementing recovery?

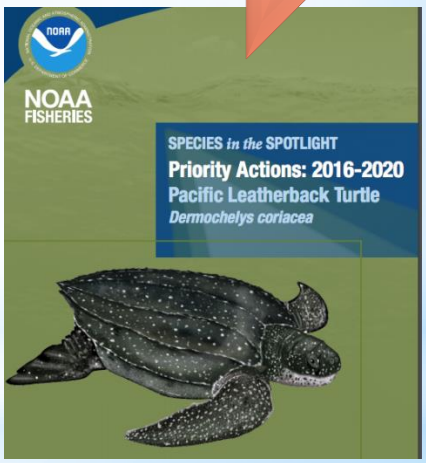
# *Program Review Question





1998 2004 2013 2016


# *Evolution of Pacific Leatherback Plans

# Recovery Monitoring

- 1.1.5 – Collect biological information on nesting populations
  - 1.1.5.1 -- Monitor nesting activity to identify important nesting beaches, determine number of nesting females, and determine population trends.
  - 1.1.5.2 – Evaluate nest success and implement appropriate nest-protection measures on important nesting beaches
  - 1.1.5.3 – Define stock boundaries
    - 1.1.5.3.1 – Identify genetic stock type major nesting beach areas
    - 1.1.5.3.2 – Determine nesting beach origins for juvenile and subadult populations
    - 1.1.5.3.3 – Determine genetic relationship among Pacific leatherback populations

# Recovery Monitoring

- 2.1.2 Determine distribution, abundance, and status in the marine environment
  - 2.1.2.1 – Determine the distribution and abundance of post-hatchlings, juveniles and adults
  - 2.1.2.2 – Determine adult (male and female) migration routes and inter-nesting movements
  - 2.1.2.3 – Determine growth rates and survivorship of hatchlings, juveniles, and adults, and age at sexual maturity
  - 2.1.2.4 – Identify current or potential threats to adults and juveniles on foraging grounds
- 2.1.4 Monitor and reduce incidental mortality in the commercial and recreational fisheries

# How are these recovery actions related to monitoring mirrored in other plans?

- ESA Recovery Actions (1998)
  - 2.1.2.4 – Identify current or potential threats to adults and juveniles on foraging grounds
  - 2.1.4 Monitor and reduce incidental mortality in the commercial and recreational fisheries
- North American Conservation Action Plan (2004)
  - 2.2.1 – Undertake a rapid assessment of coastal fisheries that affect sea turtles
- Bellagio Action Plan (2004)
  - Priorities for coastal fisheries – Appendix 3 – Assess relative impacts on turtles by fishery/gear
- NFWF East Pacific Leatherback Business Plan (2013)
  - 1.1 Reduce bycatch in areas already identified as high-bycatch
    - Conduct quantitative assessments of suspected bycatch hotspot ports to establish baselines and follow-up assessments to evaluate progress after mitigation activities
- ESA Species in the Spotlight (2016)
  - Conduct rapid assessments to identify coastal fisheries that occur in key leatherback foraging areas and off key nesting beaches to determine the nature and severity of fisheries interactions and whether any direct harvest is occurring

# Do you have an implementation plan/team?

- No ESA Recovery plan implementation team, but lots of internal and external working groups working on Pacific Leatherback conservation
  - InterAmerican Sea Turtle Convention Leatherback Task Force
  - NMFS/FWS Leatherback Core Group
  - NFWF Leatherback Network (LAUDOPO)

# Recovery Implementation Plan/Team

- How effective have you been at maintaining partnerships in monitoring and implementing recovery?

* Partners across the Pacific have been instrumental

# * Recovery Implementation Engagement

Photo credit – NFWF East Pacific Leatherback Business Plan

## Examples of Western Pacific Partners

* Multi-lateral environmental agreements
  * Indian Ocean Southeast Asian Marine Turtle MOU
* Governments
  * Bilateral relationships with Indonesia, Malaysia, etc
* ENGOs/Academics
  * Indonesia – UNIPA
* Foundations
  * Walton

## Examples of Eastern Pacific Partners

* Multi-lateral environmental agreements
  * InterAmerican Convention for the Protection and Conservation of Sea Turtles
* Governments
  * Bilateral relationships with Mexico, Chile, Peru, etc.
* ENGOs/Academics
  * Mexico – Kutzari
  * Costa Rica – Leatherback Trust
  * Peru – Pro-Delphinus
* Foundations
  * NFWF

# * Who are your recovery partners?

* Multi-lateral Environmental Agreements
  * Facilitate engagement with other partners
  * Forum to establish best practices, norms and legally binding conservation requirements
* Governments
  * Research Partners
  * Allies/Advocates for conservation in multi-lateral settings

# * What are the roles of your partners?

* ENGOs/Academics
  * Implementers of conservation actions
  * Generators of innovation and new findings
  * Advocates for Accountability
* Foundations
  * Funders
  * Vision-makers
  * Conveners

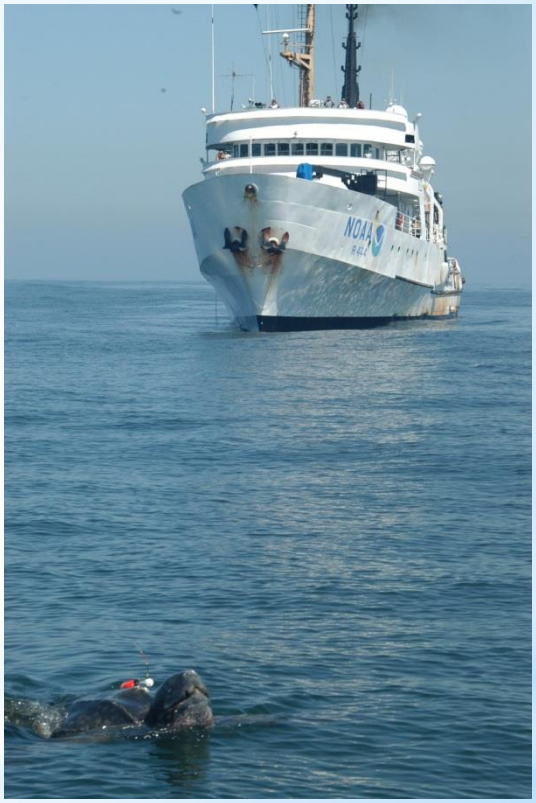
# * What are the roles of your partners?

* Describe how you monitor recovery progress

* **Recovery Monitoring**

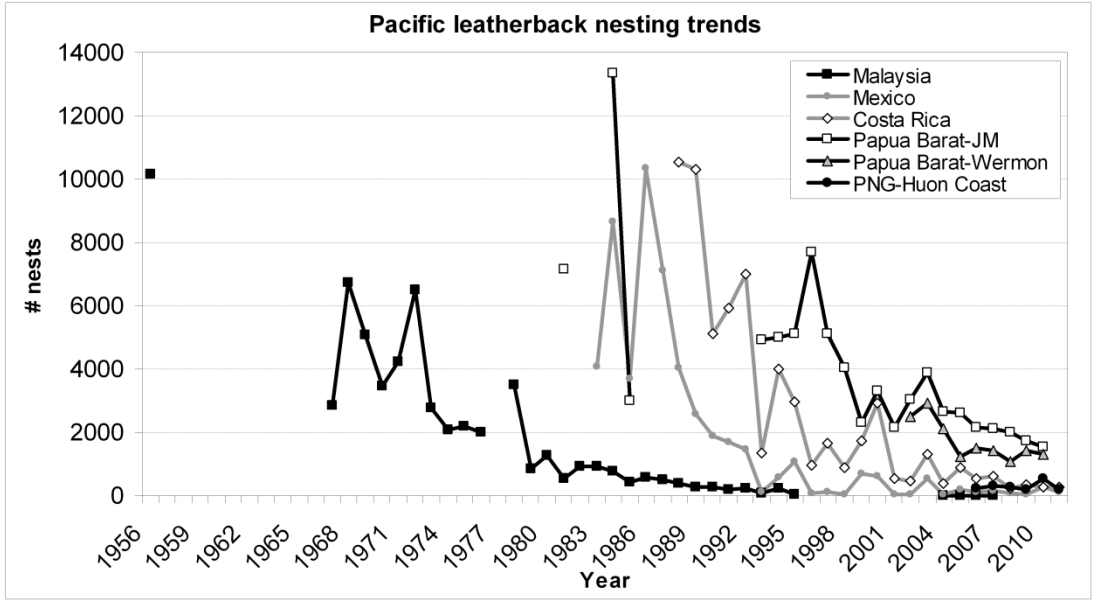
# Recovery Technology

* How effective do you use current technology (e.g., geographic information system, social media)?
  * Conservation research includes
    * Temperature data loggers
    * Genetic analysis
    * Stable isotope analysis
    * Satellite telemetry
    * GIS
    * Research Vessels
    * Aerial surveys
    * Underwater cameras
    * Bycatch Reduction Technology
    * Electronic Monitoring



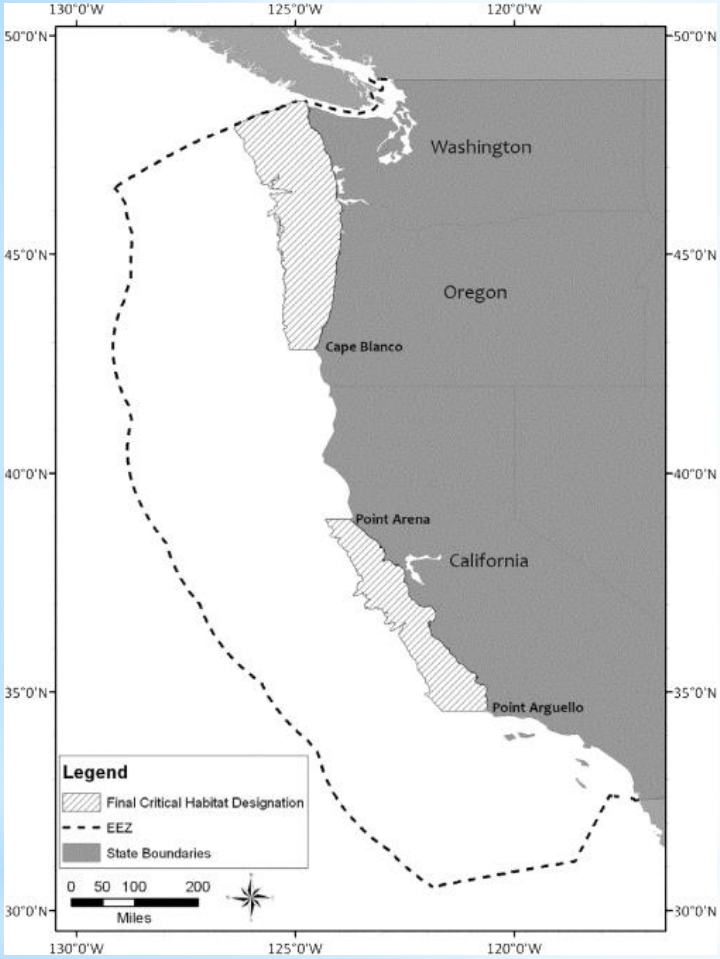
# Recovery Monitoring

* Describe how you monitor recovery progress (i.e., is the species responding positively to recovery actions?)
  * Nesting trends in the Eastern and Western populations
  * Bycatch data
  * In-water surveys



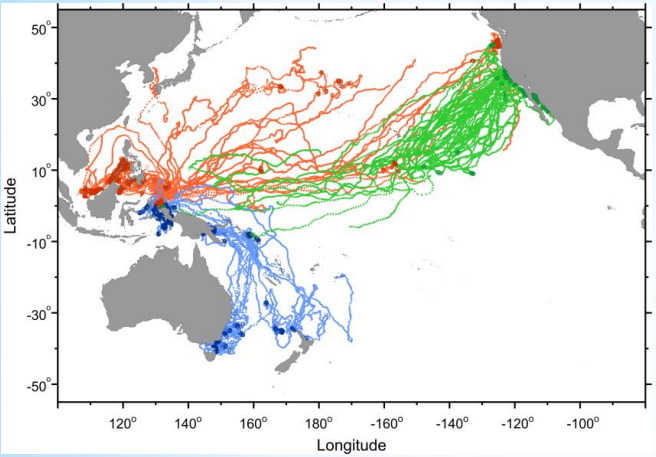
# Recovery Monitoring

- Describe how you use monitoring to inform changes to recovery criteria and actions and/or revise and update the recovery plan
  - Monitoring data will change our conservation actions on the beach and direct our fisheries bycatch reduction efforts
  - We have not modified the recovery actions or recovery plan
  - The recovery actions are still relevant today in conjunction with the more recent action plans
  - The recovery criteria is still relevant today and something we are working towards




* How effective do you integrate recovery implementation with other NOAA Fisheries programs?
  * Section 7
    * E.g., bycatch reduction measures in Hawaii longline fishery and California drift gillnet
  * Pacific Islands Region RFP for Leatherbacks
  * 2012 Designation of Critical Habitat
  * International Cooperation
    * Pacific leatherbacks are a priority for fisheries bycatch work in Chile, Peru, Indonesia, and the Philippines
    * Promoting recovery of Pacific leatherbacks remains a USG priority in many international forums (e.g., multi-lateral agreements and regional fisheries management organizations)

# * Recovery Integration




- Describe/estimate overall recovery progress
  - ROAR Data as of September 23, 2015
    - 39 Actions – Ongoing Current
    - 1 Partially Complete
    - 4 Unknown
  - Improved understanding of the species (foraging habitat, meta-populations, etc)
  - Increased international collaborations
  - Increased capacity in some key countries

# Recovery Progress

# Recovery Progress

- What factors have influenced recovery progress?
  - Improved understanding of the species, habitat use, migratory corridors, etc
  - Capacity across the range to address the threats
  - Funding
  - Staffing
  - Lack of consistent engagement from all governments, ENGOs, and stakeholders

# Successes

- 1.) Regulation of U.S. fisheries
- 2.) Strong partnerships forged to conserve and recover Western Pacific and Eastern Pacific leatherbacks
- 3.) Reduction of egg harvest and increased nesting beach protection in the Americas and parts of the Western Pacific
- 4.) “Blueprint” for FWS and NMFS activities, especially for our Pacific regional offices/science centers
- 5.) Helped drive research to improve understanding of stock boundaries and linkages between nesting populations and foraging areas/migratory corridors
- 6.) Highlighted the need to address international fisheries bycatch

# Challenges

- Fisheries bycatch in coastal waters and on the high seas remains a significant threat
- Weak governance across the range
- Lack of capacity
- Lack of consistent support politically and financially
- The United States is one of many stakeholders

# Parting Thoughts

- What is the value of ESA Recovery Plan for Pacific leatherbacks?
- What should our expectations be 20 years later?