

Science, Service, Stewardship



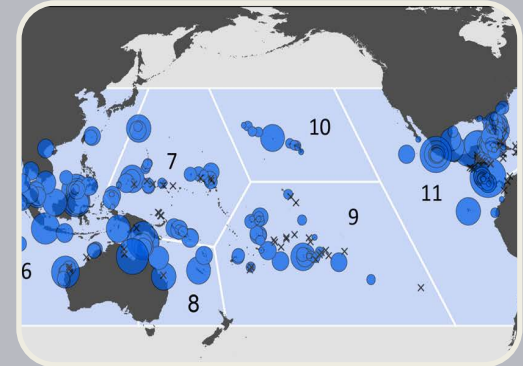
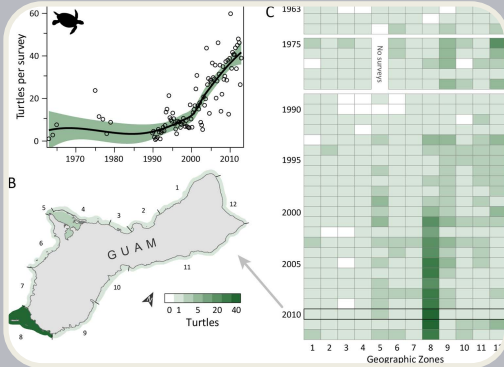
Summary and Challenges: Marine Turtle Biology and Assessment Program

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Program Goals



Assess the status of turtle populations within the U.S. waters of the Pacific Islands Region

Occurrence / Geographic range

Stock structure

Population size, trends, and productivity

Understand impacts of human-caused and natural threats to turtle populations

Strandings Network with Partners in MHI and PIR

Fisheries Bycatch Partnership with PIRO Observer Program

Provide science support for management teams & products

ESA Status Reviews, Critical Habitat evaluation, Recovery Science

Biological Opinions

Do current and planned activities fulfill mandates and requirements under the ESA?

Successes

- Active contribution to ESA Status Review Teams, Critical Habitat Designation, and Biological Opinions (Regional Office)
- Maintain extensive stranding network in Hawaii and building throughout PIR (Recovery and Action Plans)
- Long-term ecological projects (e.g., Hawaiian Green turtle)

Challenges

- Geographic expanse of our region combined with limited staff and budget
- Validating parameters for population modeling in data poor populations or foreign EEZs
- Science by crisis: meeting demands of management for BO/SRT/CH in lieu of maintaining ecological projects

Are current research & conservation collaborations effective? What other opportunities should be pursued?

Successes

- Capacity building in the PIR (e.g., Guam/CNMI) through external funding makes assessment research possible
- Collaboration through JIMAR, PIRO, UH, USGS, NIST, DLNR to maintain stranding network and understand impacts
- Collaboration with PIRO Observer program on bycatch research

Challenges/New directions

- Pursue collaborations to improve parameter driven research to inform population assessments
- Requires partnering internationally, with SCs, and Universities to collect data outside of EEZ/High Seas
- Internal PIFSC collaborations (e.g., Monk Seal Field Camp; CRP Marianas; CRED surveys)

Are the scientific objectives adequate to meet the long-term & short-term goals?

Successes

- Meet management needs from available data (e.g., turtle interactions in Hawaii and American Samoa longline)
- Long-term ecological studies of green turtles in Hawaii and the PIR that inform recovery (e.g., NWHI nest abundance)
- Capacity building in the PIR to begin sustainable data streams maintained by partners

Challenges

- Data limitations and uncertainty in parameters used in assessments (e.g., leatherback nesting abundance in Indonesia)
- Moving beyond occurrence and abundance to include important parameters on vital rates across life-history stages
- International collaborations to further demographic research

Are studies being conducted properly (survey design, statistical rigor, standardization, integrity, peer review, transparency, confidentiality, etc.)?

Successes

- Time series (e.g., NWHI & Strandings)
- Publication rate
- Data availability (e.g., PARR, OBIS-Seamap)
- Collaborations to increase expertise (e.g., USGS pathology, NIST toxicology)
- Training and capacity-building

Challenges

- Unable to conduct saturation tagging/abundance, inconsistent field effort and activities (e.g., PIT/Flipper)
- Surveys designed for targeted ocean capture; however, need standardized survey methods
- Quantitative needs far outpace current capacity

Are advances in protected species science and methodological approaches being incorporated into PIFSC research? Is PIFSC active in advancing protected species science? Are these advances communicated and applied in NMFS broadly?

Successes

- Using broad array of new techniques in stock assessment
 - Animal-borne instruments, passive drifters, skeletochronology, bomb radiocarbon, Bayesian approaches to assessment
- Advancing ethical research techniques
 - Leading research in understanding the ecological impacts from animal-borne instruments
 - Electronic tag design to improve data applicability
- Disseminate findings through variety of forums
- Broad partnerships within NMFS to advance turtle science
 - SWFSC: Genetics and SIA research; EOD: pelagic ecology; PIRO Observer Program: Population level interactions

Greatest challenges and programmatic vision moving forward

Reduced budgets, reduced staff through attrition, expansive mission, needs of management

- Rebranding of program to show multitude of research throughout PIR:
 - 5 species of marine turtle and 12 stocks that nest, forage, migrate, or interact within PIR
 - 2 green turtle DPSs proposed up listing to Endangered in PIR
 - Assessment in territories, political unions (e.g., American Samoa, Guam, CNMI)
 - Leatherback & loggerhead habitat use (Endangered)
 - Fisheries still shut down by turtle interactions (i.e., Hawaii Shallow-set longline)
 - Activities in SRTs, CH designation, BiOps

Realignment of research initiatives with management (Regional Office), F/PR, F/ST

- Budgets decreasing yet more money to RFPs for NOAA wide competition
- Align research to better compete in RFPs (stock assessment; parameter driven research)
- Better match/align research with needs of Regional Office:
 - Parameter driven science (e.g., population modeling of leatherbacks, loggerheads, greens)
 - Sensitivity analyses to direct field research objectives
 - Continued assessment and monitoring to meet the needs of Recovery plans, 5-year reviews, CH, etc.
 - Expand beyond abundance/occurrence to include population level demographics
 - Mining and analysis of current data streams (e.g., produce spatial/temporal analyses of threats)

Greatest challenges and programmatic vision moving forward

Quantitative needs will continue to increase

- Attract, hire, and retain quantitative ecologists
- Look for opportunities for Post-doctoral development and projects through:
 - RFPs
 - Reimbursable contracts

Staff development, training, and retention

- Focus on fostering a positive/collaborative working atmosphere (including morale)
- Reduce turnover through increased opportunities for staff, especially technical staff
 - Research opportunities
 - Field opportunities
 - Conference attendance and presentations
 - Training opportunities (e.g., computer skills, analytical skills, lab skills, leadership)

From service to a center of excellence for sea turtle research in the Pacific