

# Marine Areas in the National Wildlife Refuge System



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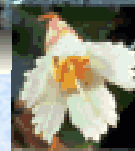
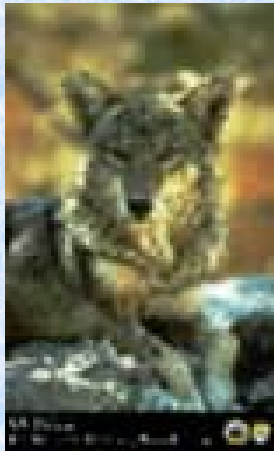
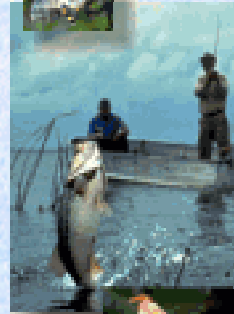
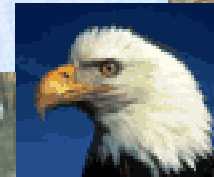
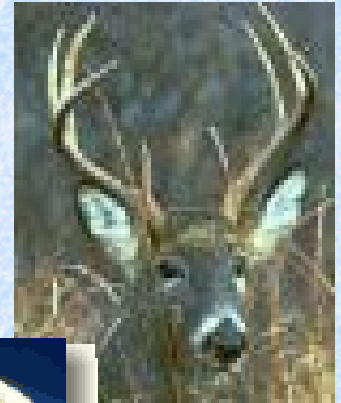
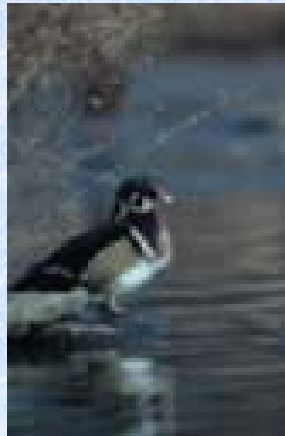
# U.S. Fish and Wildlife Service involvement in the conservation of our oceans, coasts, and nation's marine resources is as diverse as our Programs.



- Refuge management
- Marine mammal management
- Fish hatcheries
- Invasive species
- Ballast water
- International conservation
- Federal grants
- Coastal wetlands
- Pump-out stations
- Environmental coastal contaminants



# What is a National Wildlife Refuge?



# *Celebrating 100 Years of Conservation*

**1903 - - 2003**



**Paul Kroegel  
First Refuge Manager**



**Pelican Island NWR**

# National Wildlife Refuges ...

- Provide for conservation and management of fish and wildlife and their habitats
- Fulfill international treaty obligations with respect to fish and wildlife
- Provide opportunities for scientific research and compatible wildlife dependent recreational activities - hunting and fishing, wildlife observation and photography, and environmental education and interpretation



# The National Wildlife Refuge System Improvement Act of 1997



- **NWRS MISSION:** “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

# National Wildlife Refuge System shall:

- *"provide for the conservation of fish, wildlife, and plants and their habitats within the System,*
- *Ensure that the biological integrity, diversity, and environmental health of the System are maintained,*
- *Plan for the direct continued growth of the System, ...to accomplish its mission...[and] to contribute to the conservation of ecosystems of the U.S. ..."*

# Appropriate Uses of Refuges



**Wildlife First**



# Compatible Uses of National Refuges



Back Bay NWR, Virginia

**“... A wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the Mission of the System or the purposes of the refuge. . . .”**

# Conserving the Nature of America

- **542 National Wildlife Refuges**
  - from Alaska to Puerto Rico, and Maine to Guam
  - NWR in every state and territory
- **94 million acres**
  - form a national network to conserve, manage, and restore ...native ecosystems for future generations
- Of these, **162** Refuges include or affect adjacent **marine resources**

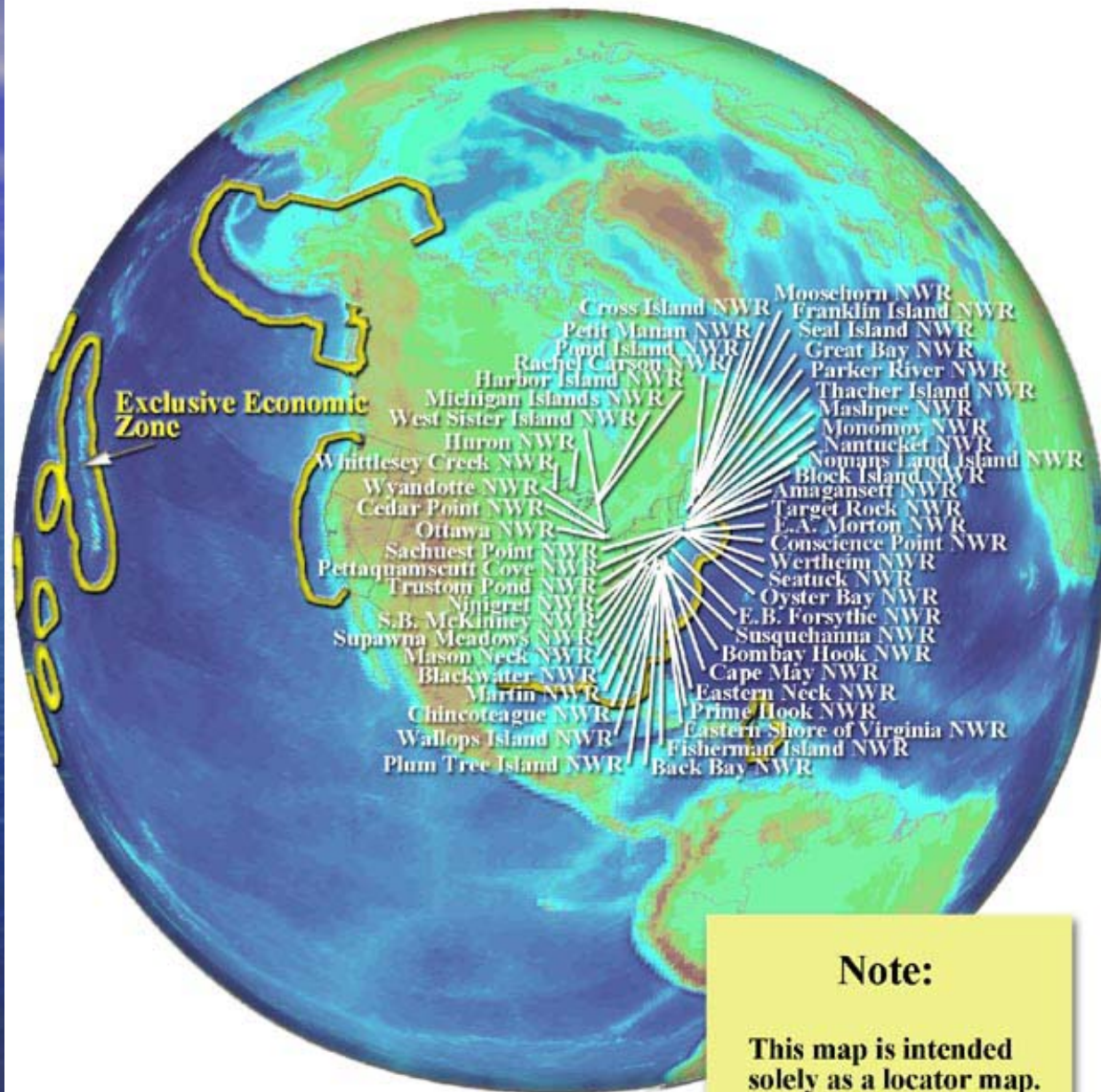


# Refuge System Marine Resources

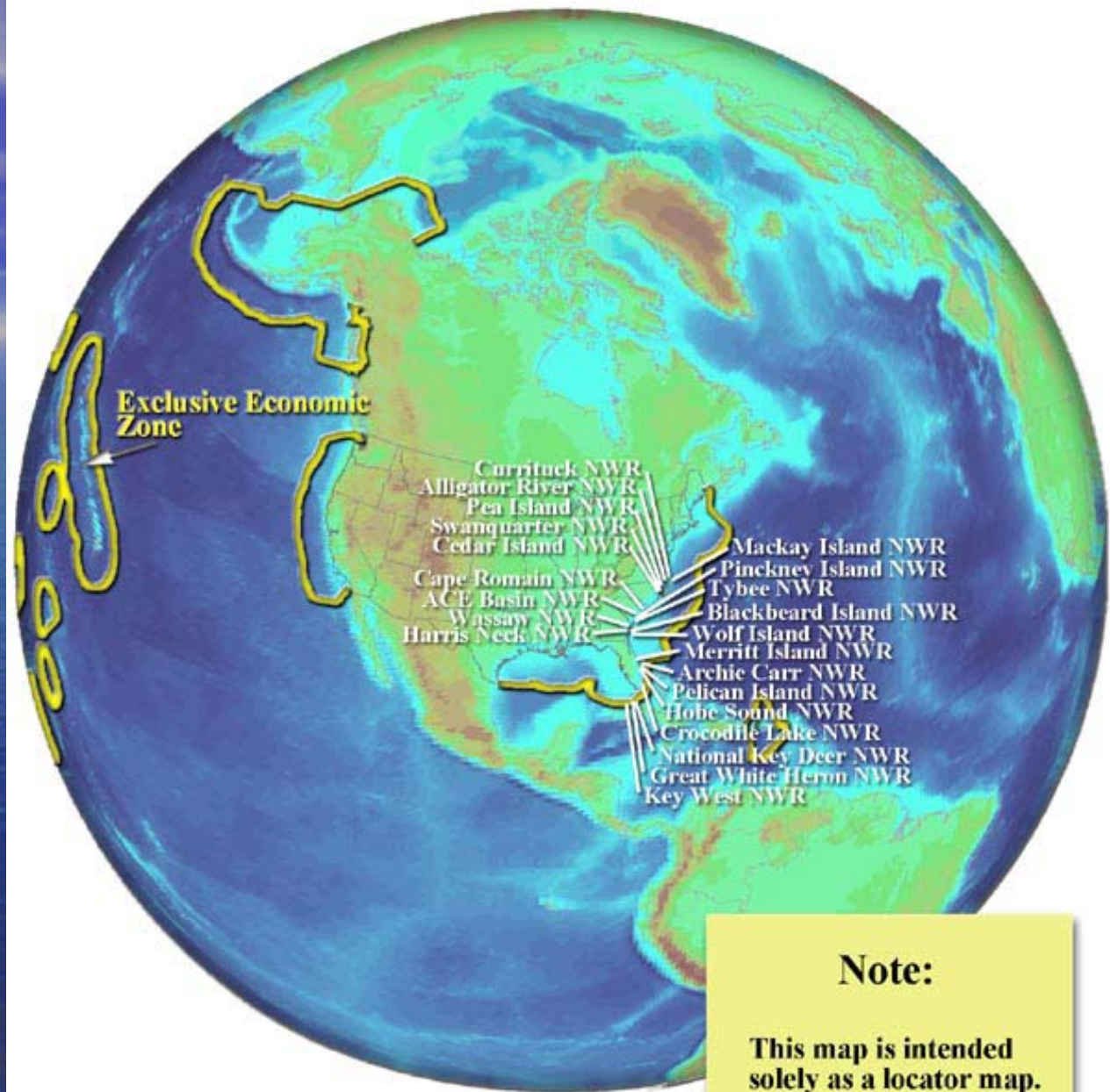
- More than 30% of our 542 National Wildlife Refuges are protecting our nation's marine resources and habitats.
- 13 NWRs protect 2.6 million acres of coral reefs and adjacent open water habitats.
- NWRs protect critical habitat including coastal wetlands, marshes, and estuaries; and species such as manatees, sea turtles, sea birds, monk seals, sea otters, polar bears, crabs, shorebirds. . . .



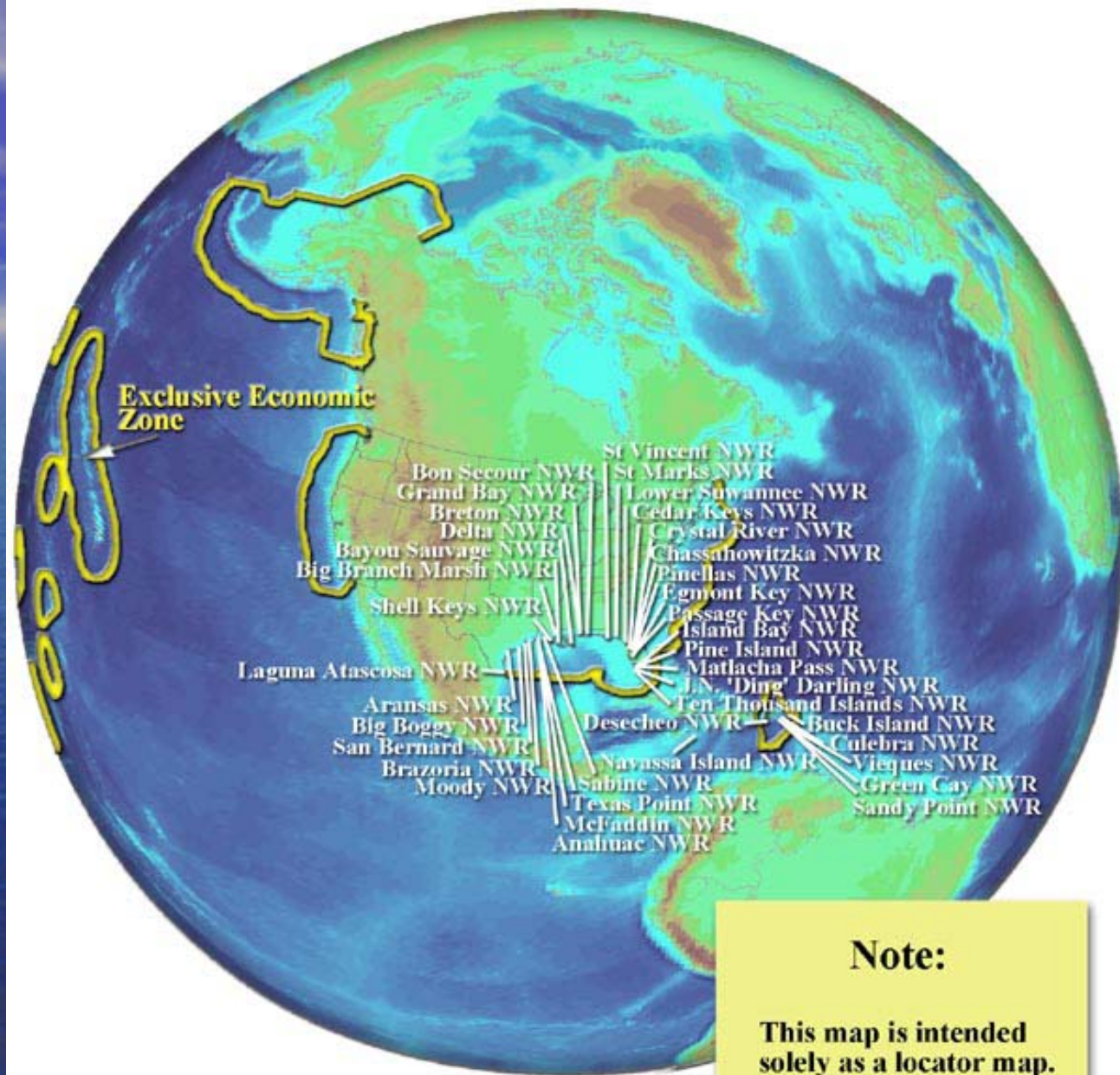
# Marine Areas - Northeast and Midwest Refuges



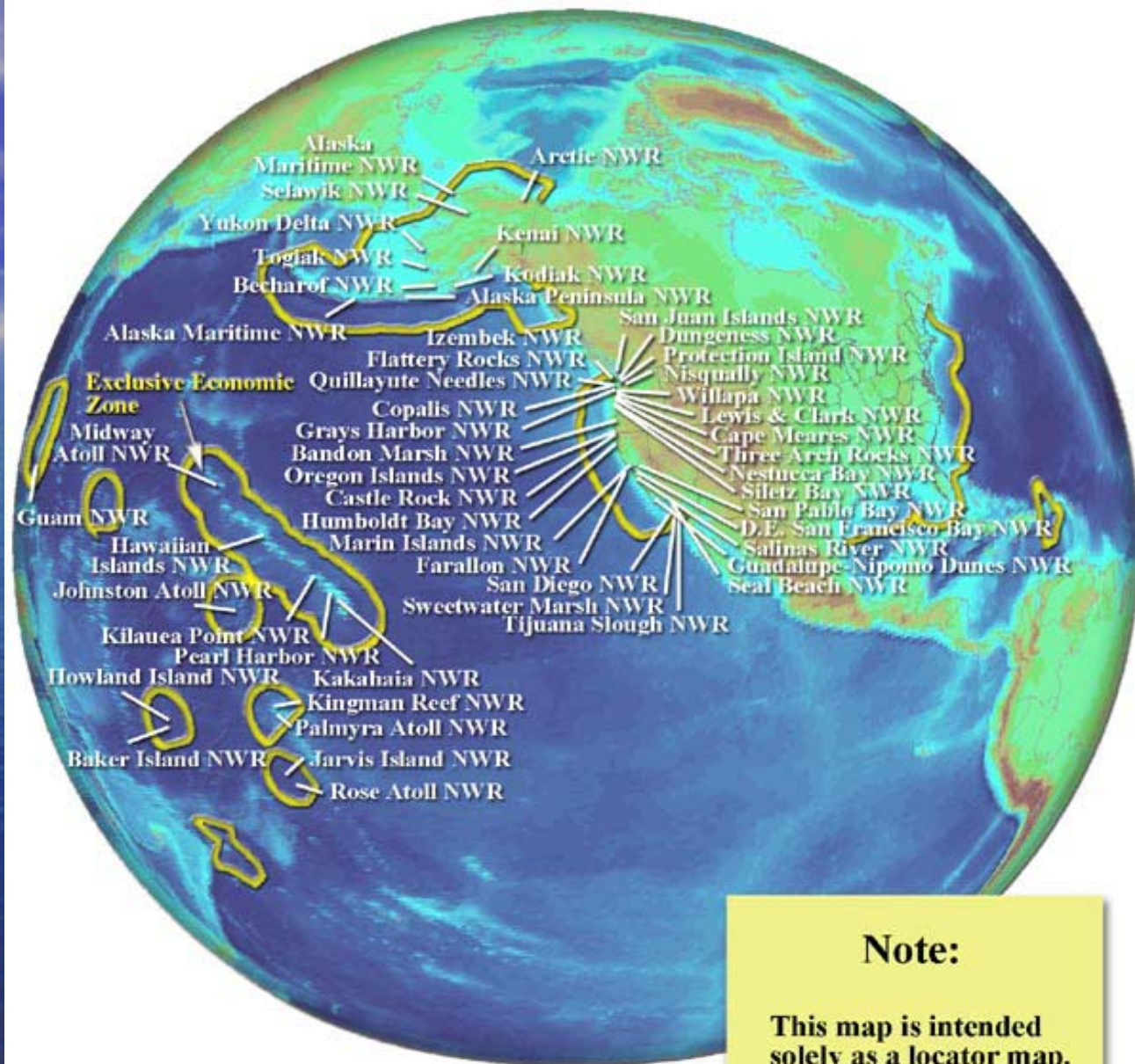
# Marine Areas — South Atlantic Refuges



# Marine Areas - Gulf of Mexico Refuges



# Marine Areas - Pacific Refuges



# Values of the Marine Refuges

- Serve as pathways for colonization of many marine species
- Serve as major refugia for resident and migratory fish and wildlife, including depleted and unique species
- Serve as natural laboratories for climate change research
- Serve as centers for exploration, education, and enforcement





# Marine Areas in the Atlantic and Gulf

# Rachel Carson National Wildlife Refuge

Wells, Maine



# Rachel Carson National Wildlife Refuge

## Wells, Maine

**Established 1966**

**Portsmouth to Portland**

**Southern Coastal Maine**

**5,200 acres spanning 50 miles**

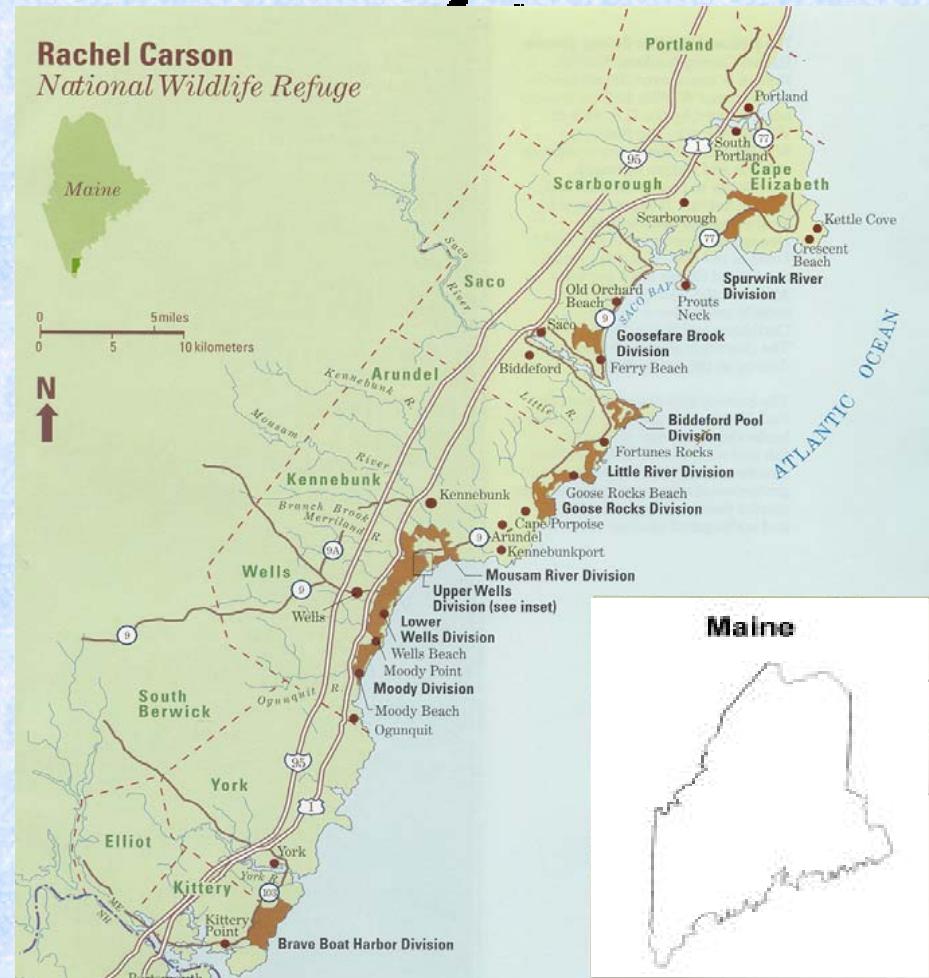
- 10 Divisions in 11 towns
- **75% coastal wetlands**

**Salt Marsh Management / Restoration**

**Habitat Protection**

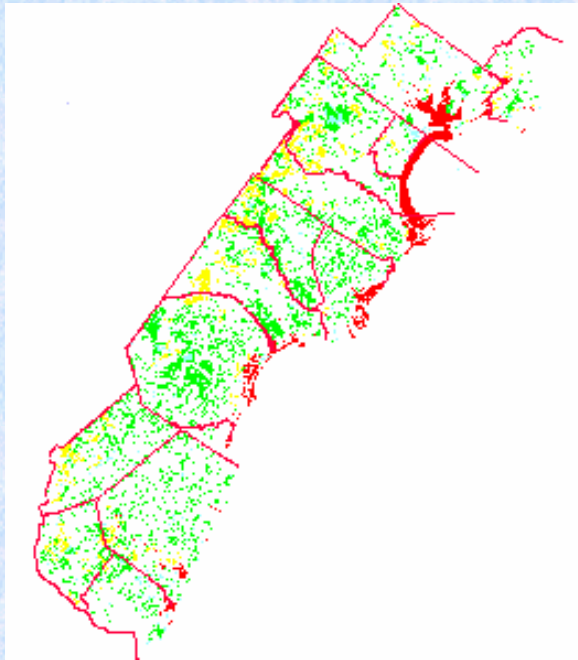
- **Partnerships in preserving trust species habitat**

**Piping Plovers / Least Terns**



# Rachel Carson NWR

- Estuaries support diverse shellfish and finfish populations
  - Smelt, pollock, mackerel, blueback herring, menhaden, winter flounder, etc
  - Waters off Refuge Coast



- Essential Fish Habitat – NMFS  
Atlantic cod, Atlantic salmon, haddock, blue fish, whitting, surf clam, ocean quahog, etc.



# Rachel Carson NWR

## USFWS/USGS Saltmarsh Restoration Study

- \* Partnerships with Maine Dept. of Inland Fisheries & Wildlife
- \* Mt Agamenticus to the Sea Coalition
- \* The Nature Conservancy
- \* Saco Bay Partners
- \* Maine Coast Heritage Trust
- \* Wells National Estuarine Research Reserve



# J. N. Ding Darling National Wildlife Refuge

Sanibel,  
Florida



# Ding Darling National Wildlife Refuge

- 6,380 acres on and around coastal barrier Sanibel Island - - brackish water, estuarine bay, beach and mangrove forested wetlands – serves as spawning nursery
- Established 1945 to preserve wildlife, their habitats and the saltwater bays and mangrove
- Animals and plants dependent on the tides, salinity and estuarine nutrient exchange



# J. N. Ding Darling National Wildlife Refuge

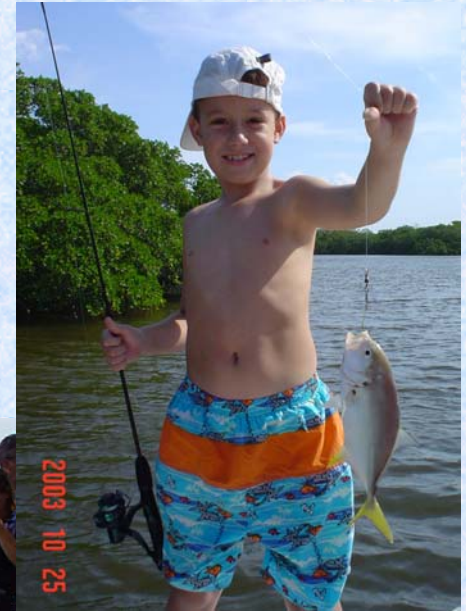
- Cooperative efforts with State, local governments and NGOs to manage unique barrier island ecosystem
- Collaboration with SCCF Marine Laboratory at Tarpon Bay
- Partnerships to address estuarine health





# J. N. Ding Darling National Wildlife Refuge

- 850,000 visitors yearly
- State-of-the-art Visitor Center and Ranger-led educational programs



- 238 dedicated volunteers

All refuge waters open for public recreational uses except designated Wilderness Area

# Key West-Great White Heron National Wildlife Refuges

Over 200,000 acres of Florida Keys  
shallow water and uninhabited islands  
- “backcountry” - jointly managed by  
FWS and State of Florida

Outstanding fishing  
and wildlife observation

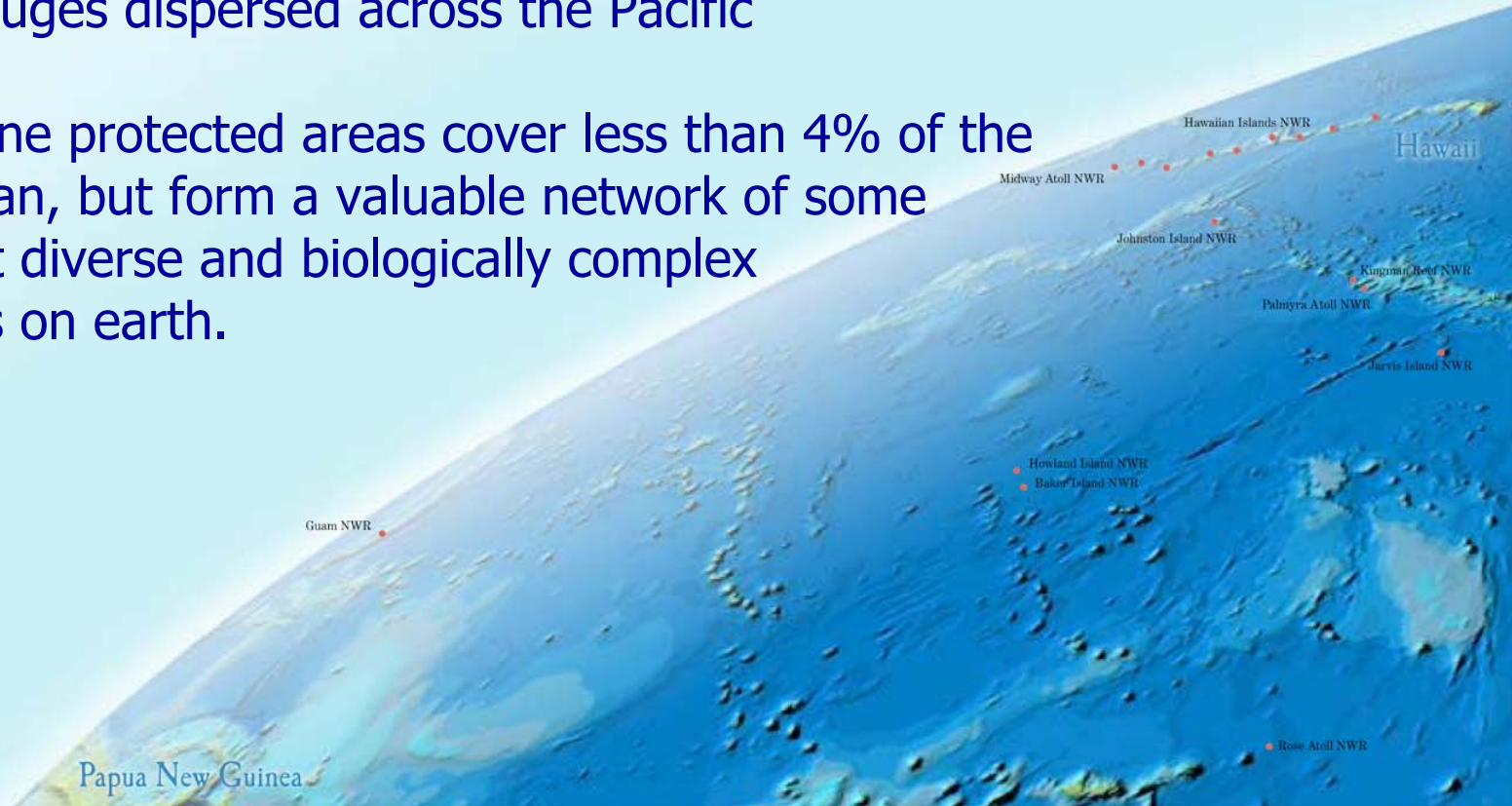
180,000 users annually



# Marine Areas in the Pacific

More than 2 million acres of submerged lands – including more than 800,000 acres of coral reefs – are included within 10 National Wildlife Refuges dispersed across the Pacific

These marine protected areas cover less than 4% of the Pacific Ocean, but form a valuable network of some of the most diverse and biologically complex ecosystems on earth.

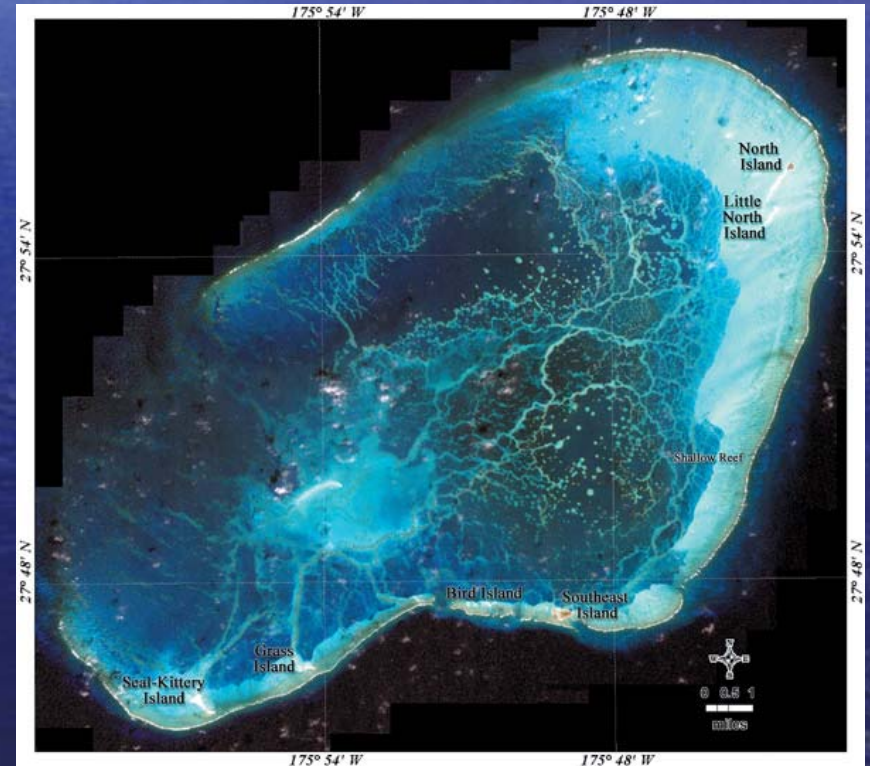


# Marine Refuges in the Pacific

Refuge	Created	Emergent Land (acres)	Submergent Land (acres)
Hawaiian Islands NWR	1909 by Executive Order	1,766	610,148
Johnston Island NWR	1926 by Executive Order	728	67,805
Howland Island NWR	1974 by Secretary's Order	455	32,074
Baker Island NWR	1974 by Secretary's Order	405	30,504
Jarvis Island NWR	1974 by Secretary's Order	1,086	35,397
Rose Atoll NWR	1973 by Cooperative Agreement	15	39,236
Midway Atoll NWR	1988 by Cooperative Agreement; 1996 by Executive Order	1,549	579,443
Guam NWR	1993 by land transfer, 1994 by cooperative agreements	22,827	401
Palmyra Atoll NWR	2001 by Secretary's Order	680	514,552
Kingman Reef NWR	2001 by Secretary's Order	3	483,699
	Total	29,514	2,393,259

# Hawaiian Islands National Wildlife Refuge

- In 1909 President Roosevelt set aside the islets and reefs of the northwestern Hawaiian Islands “as a preserve and breeding ground for native birds” through Executive Order 1019



Pearl and Hermes Atoll

# Hawaiian Islands National Wildlife Refuge



- Extends 800 nm northwest of main Hawaiian Islands
- Includes 1,766 acres of emergent land and 610,000 acres of submerged lands within administrative boundaries

# Hawaiian Islands National Wildlife Refuge

- Provides nesting and foraging grounds for more than 14 million seabirds, 90% of all threatened green sea turtles, and most endangered Hawaiian monk seals



# Hawaiian Islands National Wildlife Refuge



- From 0-3 nm, managed in coordination with the State of Hawaii
- Beyond 3 nm, managed in coordination with the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve



# Hawaiian Islands National Wildlife Refuge



- Multi-agency team began to assess, map, and monitor reefs in 2000
- Findings:
  - more pristine and diverse reef ecosystem than expected
  - more top predators
  - many new species
  - abundant and larger fishes
  - abundant, large, and diverse stony coral colonies

# Palmyra Atoll National Wildlife Refuge



One of our newest Refuges, established in 2001 by a Secretary's Order "to protect and preserve the natural character of fish, wildlife, plants, coral reef communities and other resources associated with the tidal lands, submerged lands, and waters of Palmyra."

# Palmyra Atoll National Wildlife Refuge



- Part of the Line Islands in the central Pacific (as is Kingman Reef)
- Includes 680 acres of emergent lands and 514,552 acres of submerged lands within its 12 nm boundaries
- In the 20<sup>th</sup> century, was the only remaining uninhabited “wet atoll”

# Palmyra Atoll National Wildlife Refuge

- Supports some of the most important seabird nesting populations in tropical Pacific
- In the westward drift of the Equatorial Countercurrent, which brings larvae from the diverse western Pacific to Palmyra and Kingman Reef



# Palmyra Atoll National Wildlife Refuge



- Managed jointly by USFWS and The Nature Conservancy
- Open to limited visitor program
- Goal is to establish tropical Pacific marine research/education center

# Values of the Pacific Refuges

- Most are ancient, carrying a long history in their geology
- Protected by their remoteness and inaccessibility
- Human presence relatively temporary
- Representative of largest structures created by biological processes on Earth
- Cover a broad range of atolls, islets, and habitats

# Special Management Considerations

- Remoteness = increased costs, surveillance and biological monitoring difficulties
- Major concerns include shipwrecks, oil spills, introduction of invasive species



# Special Management Opportunities



- Restoring native ecosystems
- Establishing research centers of excellence
- Providing limited visitor opportunities
- Educating from afar



Marine Areas in the

National Wildlife Refuge System





