Marine Debris Program

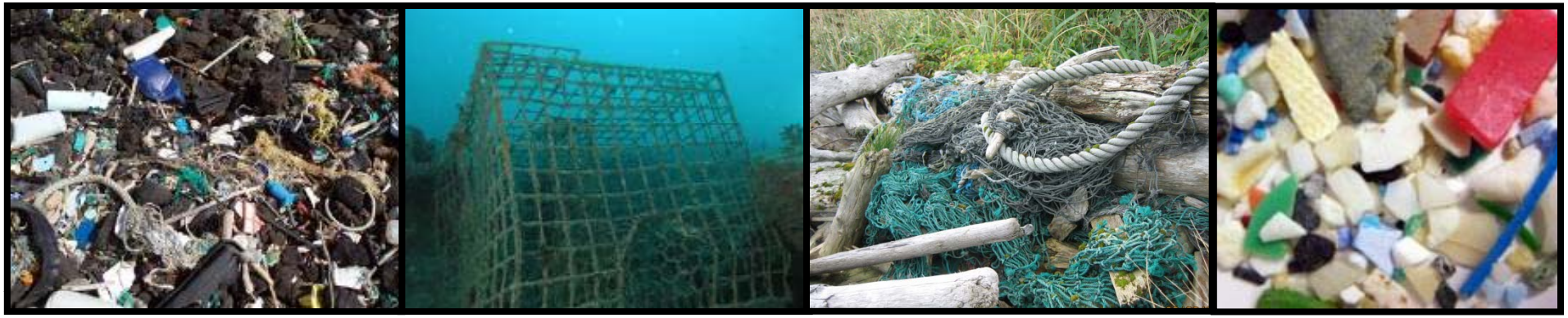
Program Overview

Established in **2005**

December 2012: Marine Debris Act

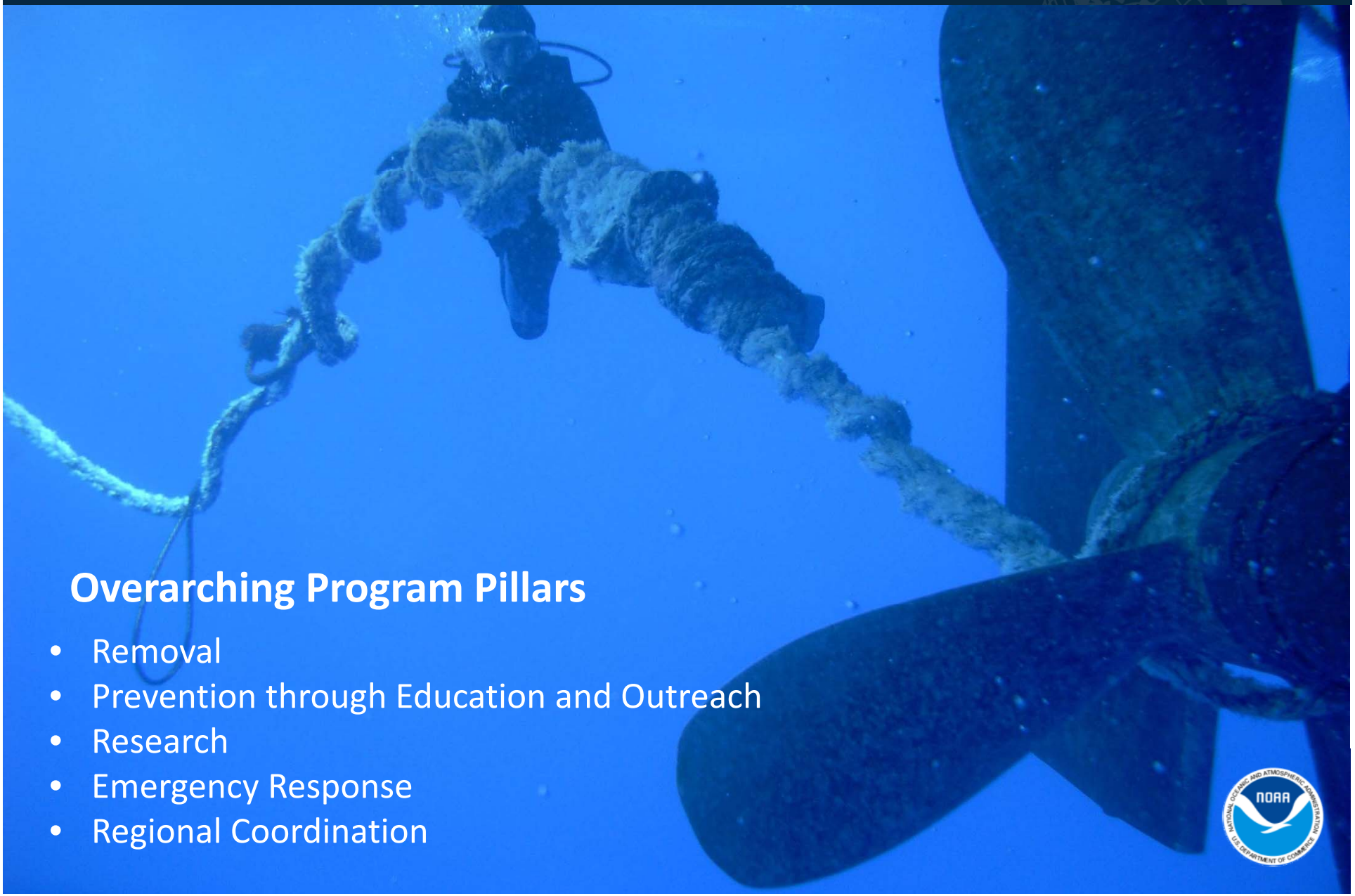
Vision: the global ocean and its coasts, users, and inhabitants free from the impacts of marine debris

What is Marine Debris?



Marine debris is “any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes.”

Program Mandates



Overarching Program Pillars

- Removal
- Prevention through Education and Outreach
- Research
- Emergency Response
- Regional Coordination

Program Mandates

For fishing gear:

Undertake efforts to reduce adverse impacts of lost and discarded fishing gear on living marine resources and navigation safety, including:

1) Research and develop alternatives to gear that pose threats;
2) Develop methods for marking gear to enhance tracking, recovery, and identification;
3) Develop non-regulatory measures and incentives to reduce the volume of lost and discarded gear and aid in its recovery.

Regional Coordination

Pacific Northwest

California

Alaska

Pacific Islands

Great Lakes

Gulf Coast

Northeast

Sandy

Southeast & Caribbean

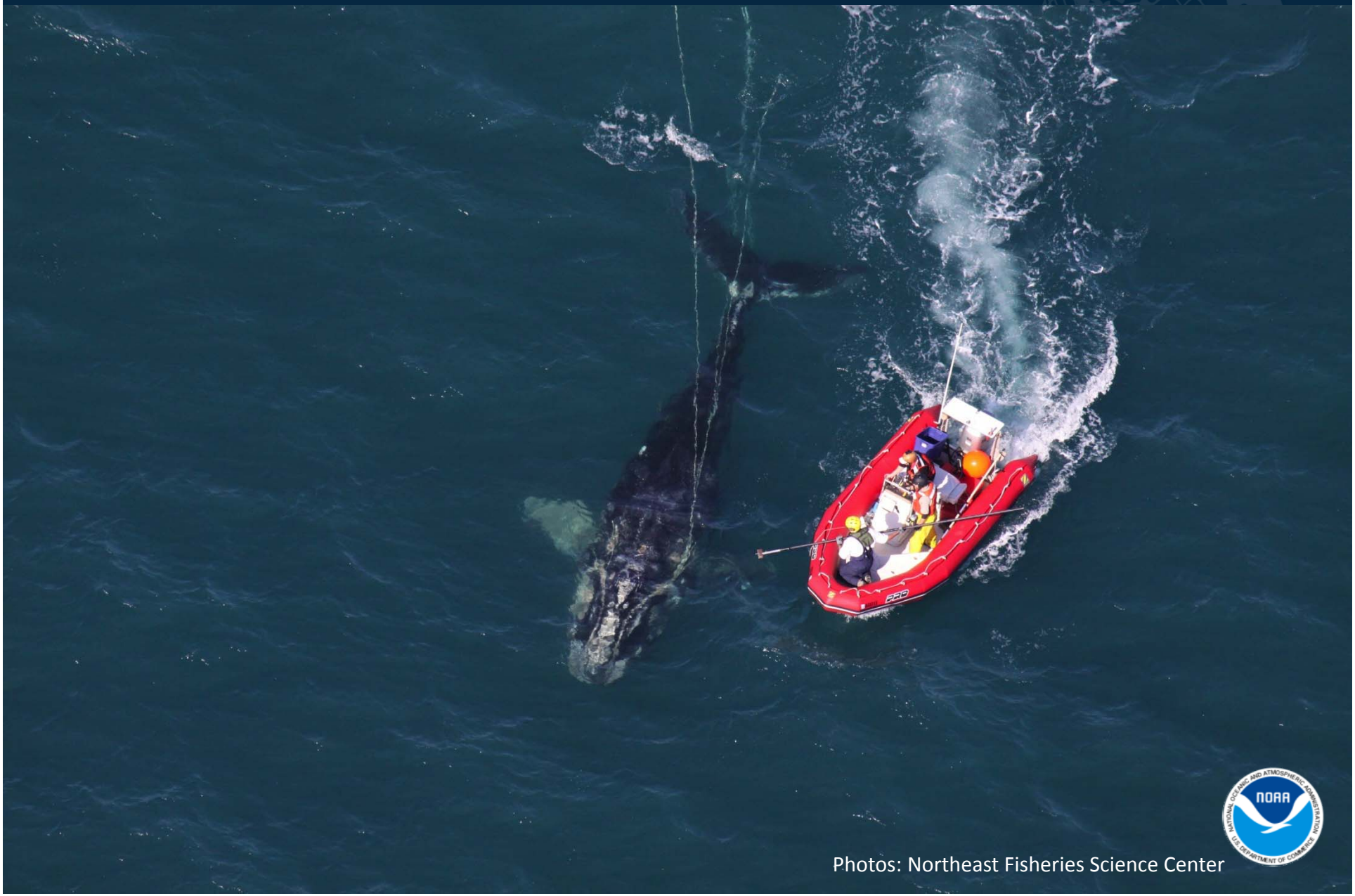
Derelict Gear Impacts

Why do we do this work?

Nets, pots or other fishing equipment abandoned or lost can cause:

- Entanglement and mortality of marine species
- Ghost fishing
- Habitat destruction
- Destruction to active fishing gear and vessels
- Economic impact

Spotlight: Entanglement



Photos: Northeast Fisheries Science Center

Spotlight: Ghost Fishing

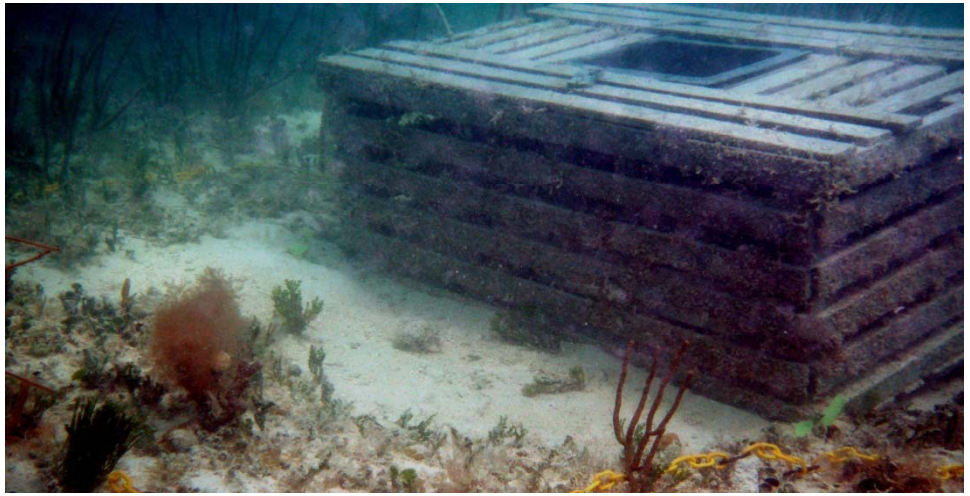
Plastic Marine Debris

- Emerging concern for the marine debris community.
- Increasing number of consumer products (and some fishing gear) made of plastic.
- Issues:
  - Microplastics
  - Long-term degradation rates
  - Ingestion ; animals eating tiny plastics
  - Chemicals

MDP Project Highlights

MDP has funded over 100 derelict gear projects nationwide. Examples:

- Biodegradable crab pot cull ring testing in Virginia (VIMS, 2011)
- Derelict gear and industry assessment in the Gulf of Maine (Gulf of Maine Lobster Foundation, 2012)
- Derelict gear removal with fishermen in Mullica River, New Jersey (Richard Stockton College, 2012)
- Pilot program to involve North Carolina fishermen in recycling derelict crab pots into oyster reefs (NC Coastal Federation, 2013)



MDP Project Spotlight

Research

Derelict Fishing Gear in Chesapeake Bay (2005, 2006); VIMS and Versar, Inc.

•Determine the impact of abandoned pots in the tidal waters of the Bay

•Identification, mapping, and assessment of derelict pots using side-scan sonar.

Results:

•An estimated 84,567 derelict traps in the MD portion of the Bay; 40% were ghost fishing.

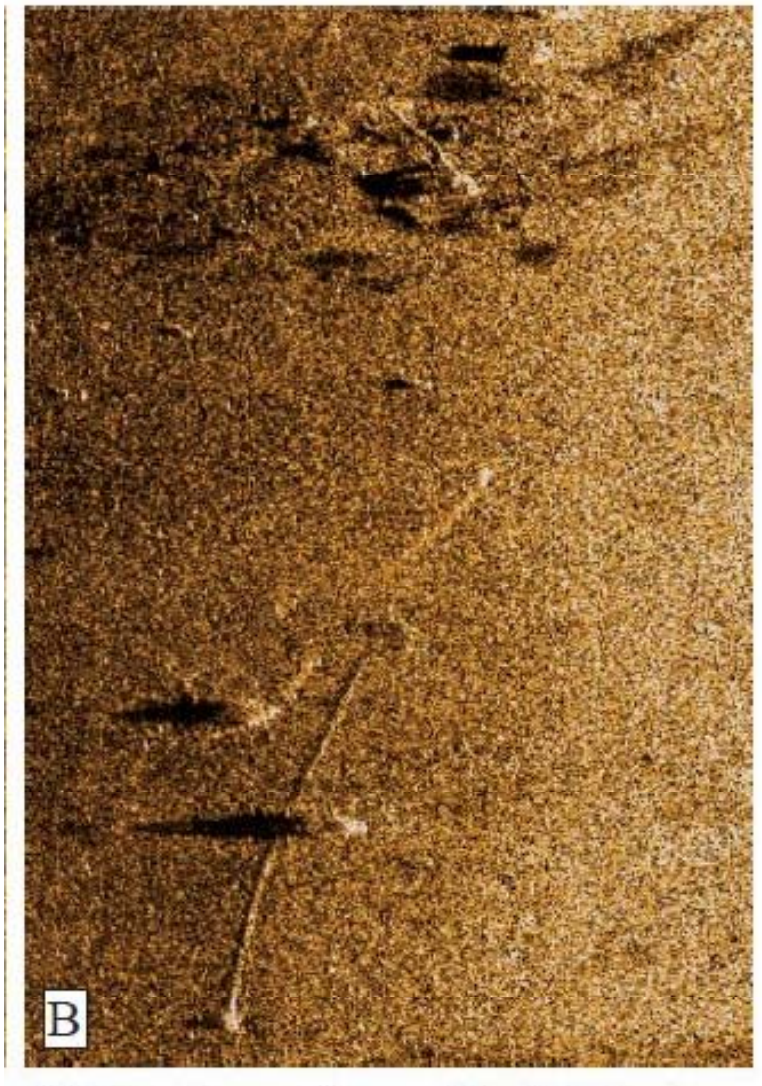
•Experimental traps ghost fished for the entire study length – 14 months. Blue crab mortality was estimated at 20 dead crabs/trap/year.

MDP Project Spotlight

Removal

Cape Cod Bay derelict gear assessment and retrieval (2012); Provincetown Center for Coastal Studies

- Surveys: Assessment with fishing industry to identify hotspots, using side-scan sonar.
- Removal: Employ four fishing vessels (lobster boats and draggers) for 32 days on the water to remove 40 tons of lost or abandoned gear.
- Gear disposed at Fishing for Energy Facilities.



Prevention: Fishing for Energy

FISHING FOR ENERGY

- Launched in February 2008 – partnership between NOAA, NFWF, Covanta Energy, and Schnitzer Steel.
- Provides disposal opportunities for commercial fishermen to dispose of derelict, old, or retired fishing gear at low to no-cost.
- Prevents entanglement and creates a renewable energy source.

Bin to collect gear

Metals recycled

Converted to Energy

NOAA

Prevention: Fishing for Energy

Fishing for Energy

- Critical participation from states and local groups, ports and fishermen
- More than 2.2 million pounds collected at 41 bins across the country
- More than 250 tons of gear removed by fishermen through *Fishing for Energy* grants

Bin Locations

Locations with bins available year round or as requested

California
Moss Landing Harbor

Florida
Everglade City
Miami-Dade – multiple locations

Maine
Portland
Kennebunk

Massachusetts
Boston
Chatham
Gloucester
Hyannis
Martha's Vineyard
New Bedford
Newburyport
Provincetown
Rockport
Sandwich
Scituate
Wellfleet

New Hampshire
Rye
Hampton

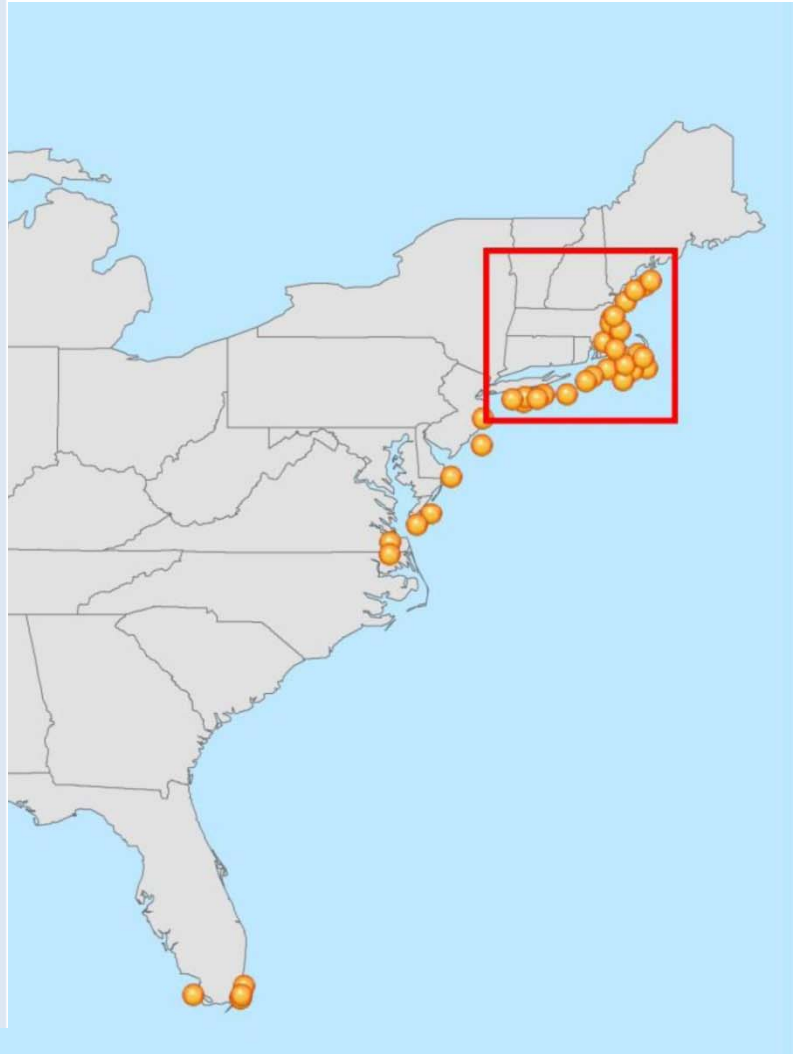
New Jersey
Belford
Barnegat Light
Cape May

New York
Brookhaven
Northport
Mattituck
Montauk
Mt. Sinai
Southampton

Oregon
Astoria
Garibaldi
Hammond
Newport

Rhode Island
Newport
Point Judith

Virginia
Newport News



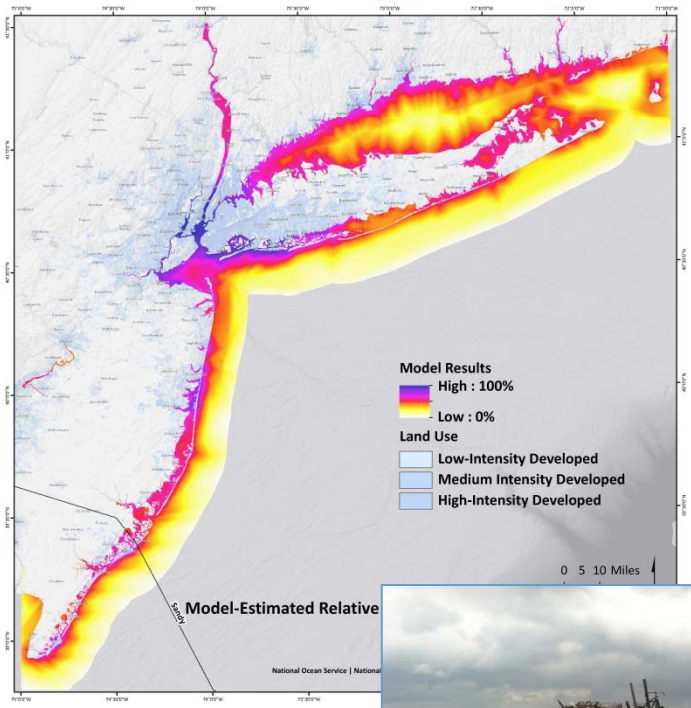
MDP Project Spotlight

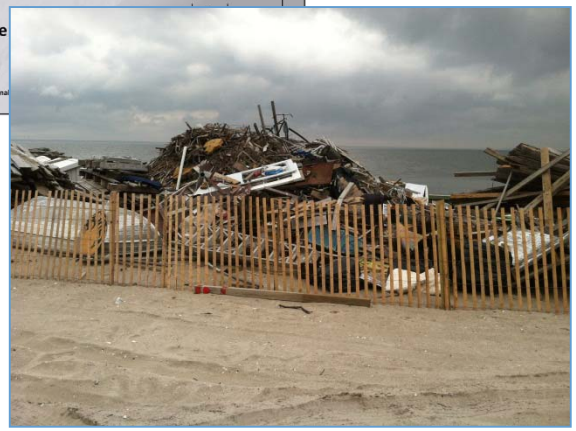
Response

Hurricane Sandy – submerged debris in coastal waterways, navigation lanes.

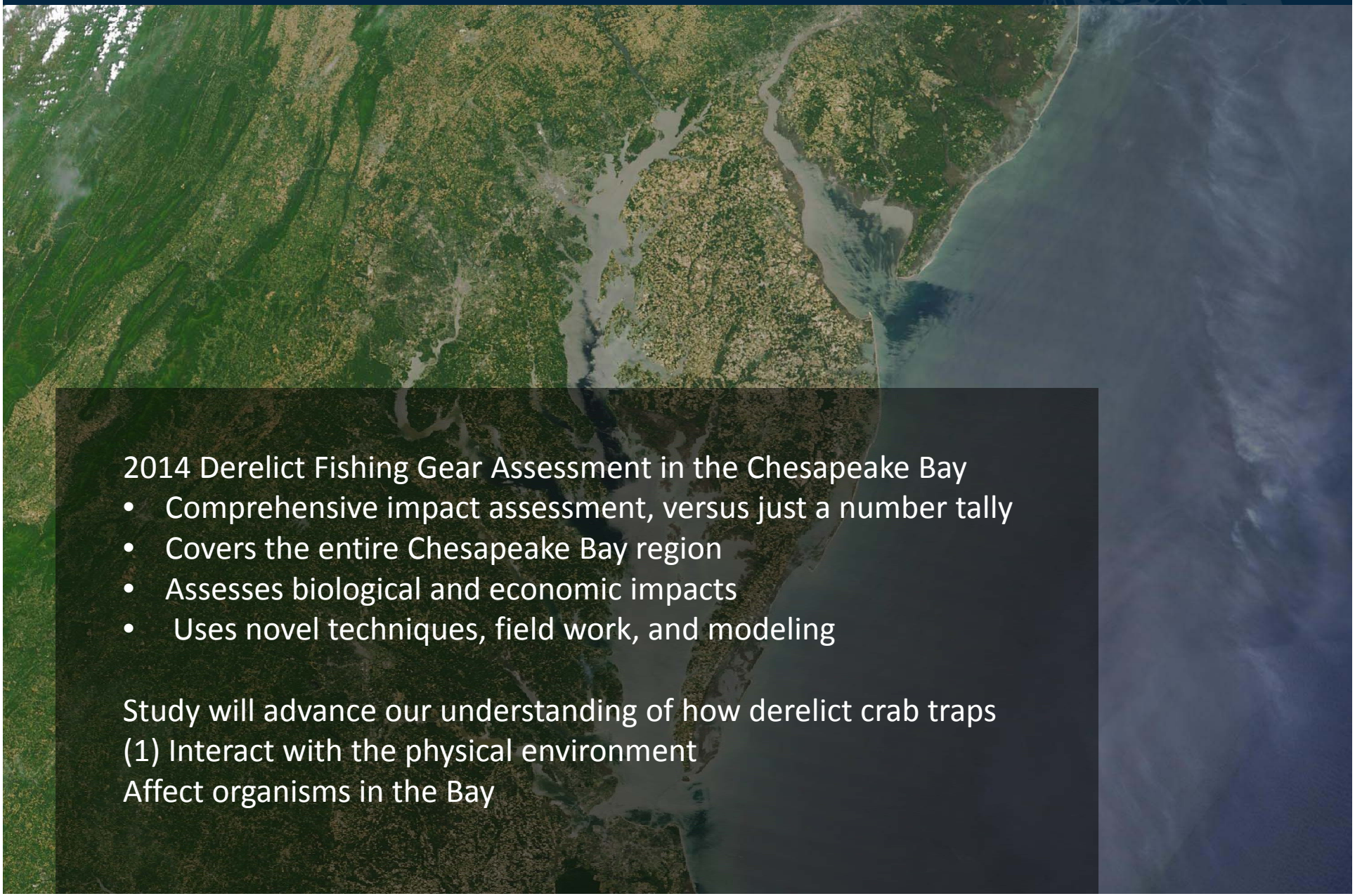
NOAA activities:

- Agency collaboration and information sharing;
- Aerial, underwater, and shoreline surveys;
- Debris assessment
- Aid with limited removal
- Develop best practices for future responses





Upcoming Focus: Crap trap assessment



2014 Derelict Fishing Gear Assessment in the Chesapeake Bay

- Comprehensive impact assessment, versus just a number tally
- Covers the entire Chesapeake Bay region
- Assesses biological and economic impacts
- Uses novel techniques, field work, and modeling

Study will advance our understanding of how derelict crab traps
(1) Interact with the physical environment
Affect organisms in the Bay

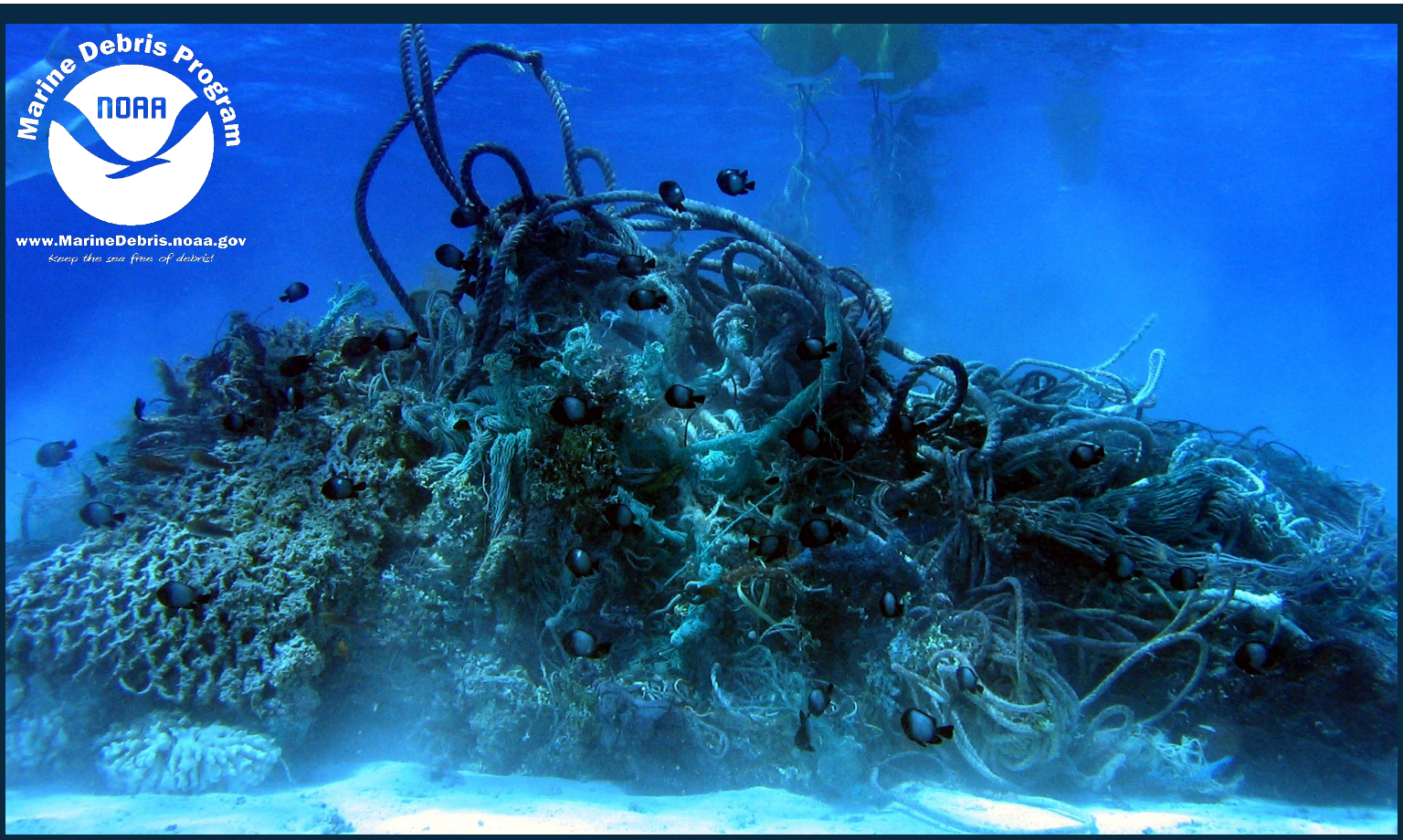
Collaborations

We're a small program working on a big problem!

Strong partnerships are critical for success.

- Non-profits
- State, local, and federal agencies
- Fishermen and other industry
- Academia: researchers and teachers


Questions?



NOAA Marine Debris Program

Marine debris is everyone's problem. It affects everything from the environment to the economy; from fishing and navigation to human health and safety; from the tiniest coral polyps to giant blue whales.

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. Its staff, which is positioned across the country, supports marine debris projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The program also spearheads national research efforts and works to change behavior in the public through outreach and education initiatives.

VISION

The NOAA Marine Debris Program envisions the global ocean and its coasts, users, and inhabitants free from the impacts of marine debris.

MISSION

The mission of the NOAA Marine Debris Program is to identify and solve the problems that stem from marine debris through research, prevention and reduction activities, in order to conserve and protect our nation's marine environment and coastal economy from the impacts of marine debris as well as ensure navigation safety.

Marine Debris
[mə-rēn' də-brē'] *noun*

Any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or Great Lakes.

Community-based Removal Projects

Each year, the NOAA Marine Debris Program supports locally driven marine debris prevention and removal projects. These projects benefit coastal habitat, waterways, and wildlife including migratory fish.

From derelict fishing gear removal in the Pacific Northwest, to derelict and abandoned boat removal in the Great Lakes, the program's grants offer communities a way to engage in marine debris removal and prevention in their own backyards.

Since 2006, NOAA has supported 76 marine debris removal projects across the country and removed more than 3,814 metric tons of marine debris from our oceans.

Photo courtesy of NFWF
The MDP is a partner in "Fishing for Energy" a program that provides fisherman a no-cost disposal service for old or derelict fishing gear and converts it into energy.

Photo courtesy of NOAA PIFSC CRED

REGIONAL COORDINATION

The MDP has regional coordinators across the United States, from Hawai'i, to the Gulf of Mexico, to New England. These coordinators provide expertise to local marine debris initiatives and projects to ensure that stakeholders have the best information available.

RESEARCH

Marine debris is a relatively new field of research, and there are many opportunities to advance understanding of how debris impacts the environment. The MDP has developed a strategy that will guide holistic, efficient, and impactful research projects through 2016, focusing on plastics, fishing gear and entanglement, and economic impacts.

EDUCATION, OUTREACH, & PARTNERSHIPS

The best way to prevent marine debris is through education. The MDP works to show the general public on how their choices impact the ocean, through formal education initiatives and innovative awareness campaigns.

The program also partners with groups with expertise in marine debris removal, research, and education. *Fishing for Energy* is one such partnership - where NOAA, industry, and NGOs come together to provide gear recycling bins to fishermen at no cost. Since the program began, fishermen have recycled more than two million pounds of gear.

FISHING FOR ENERGY

December 2013

Funding Partners

Major funding for the Fishing for Energy partnership is provided by the National Oceanic and Atmospheric Administration and Covanta Energy Corporation. Additional in-kind support is provided by Schnitzer Steel Industries, Inc.

A NEW TACTIC TO REDUCE MARINE DEBRIS

Fishing for Energy launched in 2008 through a partnership among Covanta Energy Corporation, the National Fish and Wildlife Foundation (NFWF), the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program, and Schnitzer Steel Industries, Inc. to provide a cost-free solution to fishermen to dispose of old, derelict (gear that is lost in the marine environment) or unusable fishing gear and to reduce the amount of derelict fishing gear in and around coastal waterways.

OUR STRATEGY

Fishing for Energy supports four strategic initiatives that seek to reduce the amount of derelict fishing gear and the impact of that gear in and coastal and marine ecosystems:

(1) *Disposal Opportunities*: provide collection bins at strategic ports for commercial fishermen to unload gear;

(2) *Management*: collaborate with state managers to address legal impediments to derelict fishing gear removal;

(3) *Technological Innovation*: identify, test, and deploy innovations to reduce accidental introduction of derelict fishing gear into the marine environment and innovations to reduce the impact of gear if lost; and,

(4) *Outreach and Education*: increase public awareness about the environmental and economic harm of derelict fishing gear and Fishing for Energy initiatives to make measurable improvements for coastal environments and communities.

GENERATING NEW ENERGY FROM OLD GEAR

The NOAA Marine Debris Program has identified derelict fishing gear as one of the major types of debris impacting the marine environment. Marine debris threatens important living marine resources and their habitat, and hinders navigational safety. Studies show that inactive or derelict fishing gear continues to "fish" commercially-valuable species targeted by fishermen and can snag on active fishing gear – creating high costs to fishermen in both time and money. Derelict gear also catches non-target species, including species that may be listed as endangered or threatened like marine mammals and sea turtles. Marine habitats, which are smothered when derelict nets sink from the weight of their catch, are further damaged when nets on the bottom are shifted by storms creating a scouring action on the ocean floor.

WITH COMMUNITIES, FOR COMMUNITIES

With support from the partners, the Fishing for Energy partnership continues to identify priority ports for the program, support innovative prevention strategies through technological advancements in fishing gear, and increase public awareness of derelict fishing gear. These efforts help prevent derelict fishing gear creation and accumulation.

The partnership also works closely with state and local agencies, community groups, and local ports to install bins at convenient and strategic locations for fishermen to deposit gear. When these bins fill up, the gear is collected and transported to a nearby Schnitzer Steel facility where the metal (i.e. crab pots, gear rigging) is pulled for recycling, and rope or nets are sheared for easier handling for disposal. From there, the gear is brought to a Covanta Energy-from-Waste facility where the gear is recycled into electricity for local communities.

RESULTS TO DATE

Thanks to the Fishing for Energy partnership, a national understanding of the problems associated with derelict fishing gear is better known. More importantly, Fishing for Energy demonstrates that solutions do exist to tackle a conservation need that once appeared insurmountable. The partnership has established a foundation for a multi-pronged approach to creating disposal opportunities, developing prevention mechanisms, and increasing awareness to reduce the generation of derelict fishing gear and marine debris.

- Each partner plays a distinct role in the successful execution of the disposal program. NFWF works with NOAA to identify priority ports and high-need locations to participate in the Sustainable Port Disposal Program. After fishermen dispose of gear, Schnitzer Steel receives the load and extracts any metals in the bin. The remaining gear, mostly nets, is then sheared and shipped to a Covanta Energy facility. The Covanta Energy facility then coverts the gear into renewable energy and puts it on the electric grid.
- More than 2.2 million pounds of fishing gear has been collected at bins placed in 41 communities across the country.
- State resource managers from New England states have collaborated with counterparts across the U.S. to reevaluate outdated regulations and implement new policies to reduce gear loss and streamline removal efforts.
- Grant funding has resulted in the removal of 250 tons of derelict fishing gear, established a new technology that makes crabs five times more likely to escape derelict crab pots than other release mechanisms, and has engaged more than 1,000 fishermen as environmental stewards.
- In 2012, FfE launched a partnership with the Association of Zoos and Aquariums (AZA)-accredited institutions to increase visibility on the impacts of derelict fishing gear and marine debris. You can learn more by visiting the National Zoo in Washington, DC and Mystic Aquarium in Mystic, CT.

As a public-private partnership, Fishing for Energy has impacted the lives of fishermen and coastal communities as well as the health of the marine environment. The partnership has invested more than $2 million to address the issue of derelict fishing gear across the U.S., to remove debris in ten states , and to generate enough electricity to power 183 homes for one year.

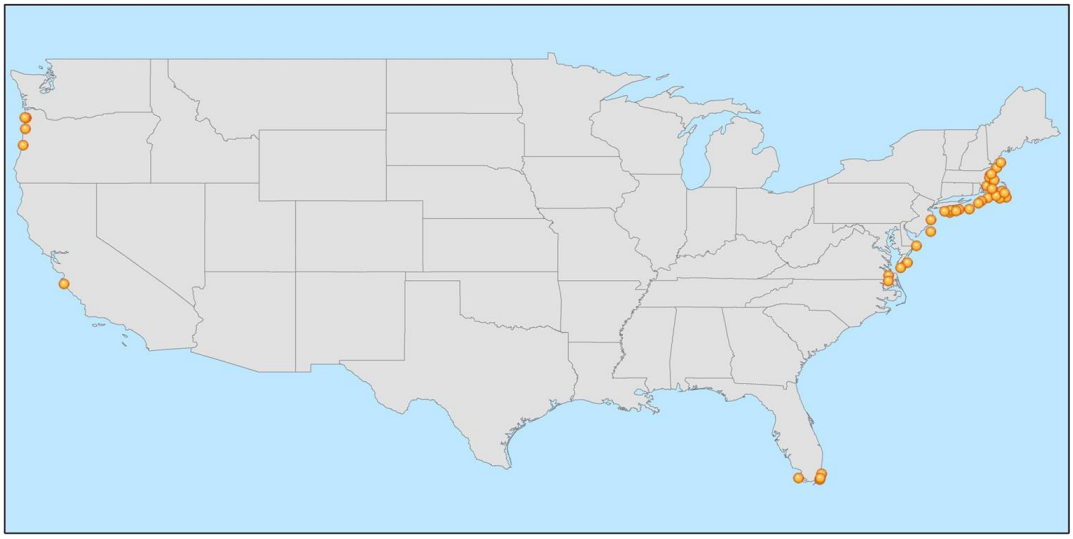


Figure 1. Map identifies all locations that have participated in the Fishing for Energy Sustainable Capacity Program since 2008. In total, 41 locations in ten states have hosted bins to collected derelict fishing gear.

2014 ASMFC Commissioner Survey Results

ASMFC

February 2014

Background

- **Survey is included in the 2014 Action Plan**
- **Measures Progress towards Commissions Goals**

Responses

- 27 Commissioner Responses out of 45
- Responses on a scale of 1-10

Survey Design

- 5 Topics, 20 Questions

Not Supportive	Very Supportive
Not Confident	Very Confident
Not Comfortable	Very Comfortable
Not Satisfied	Very Satisfied

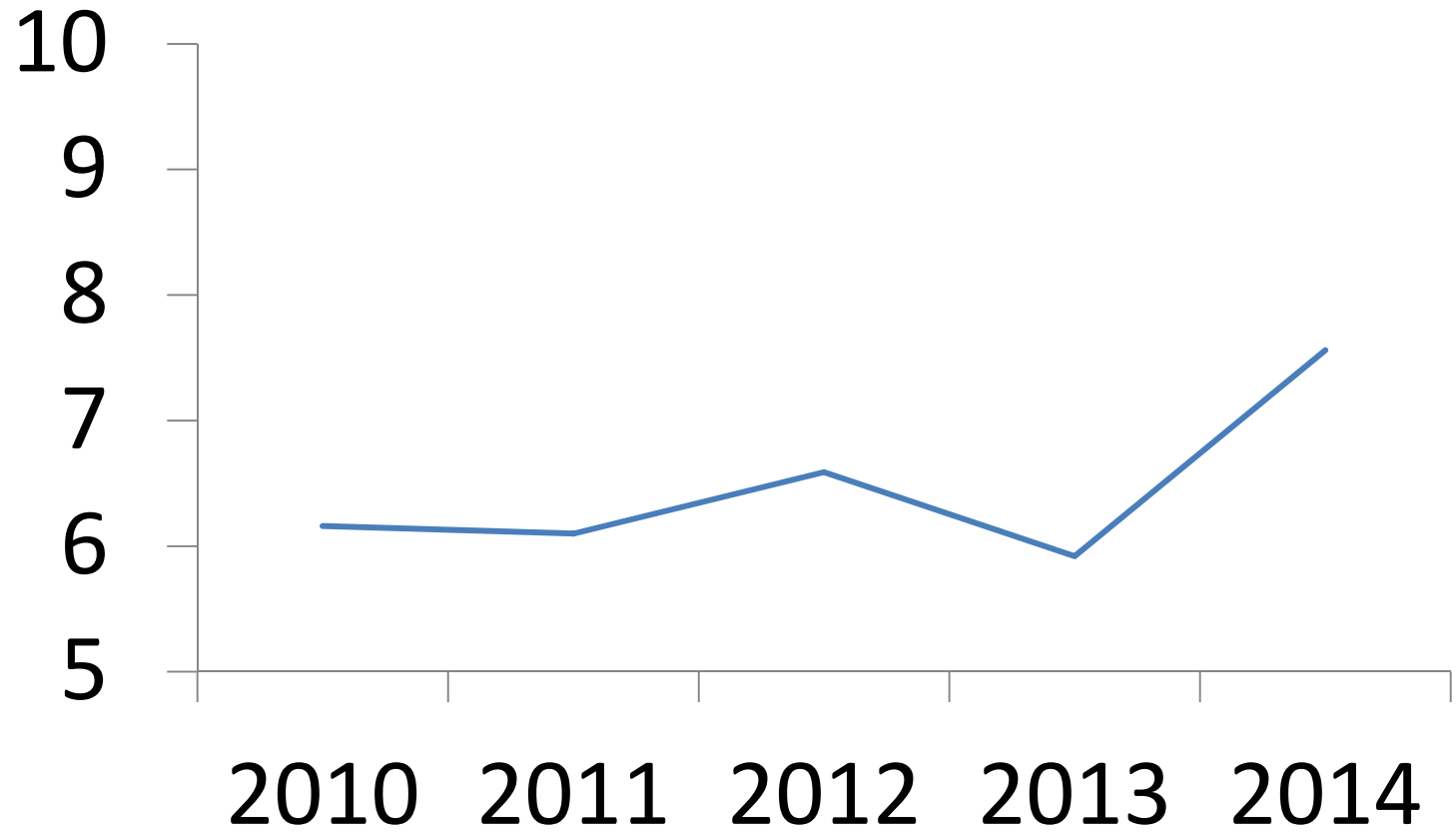
1 2 3 4 5 6 7 8 9 10

5 Open Ended Questions

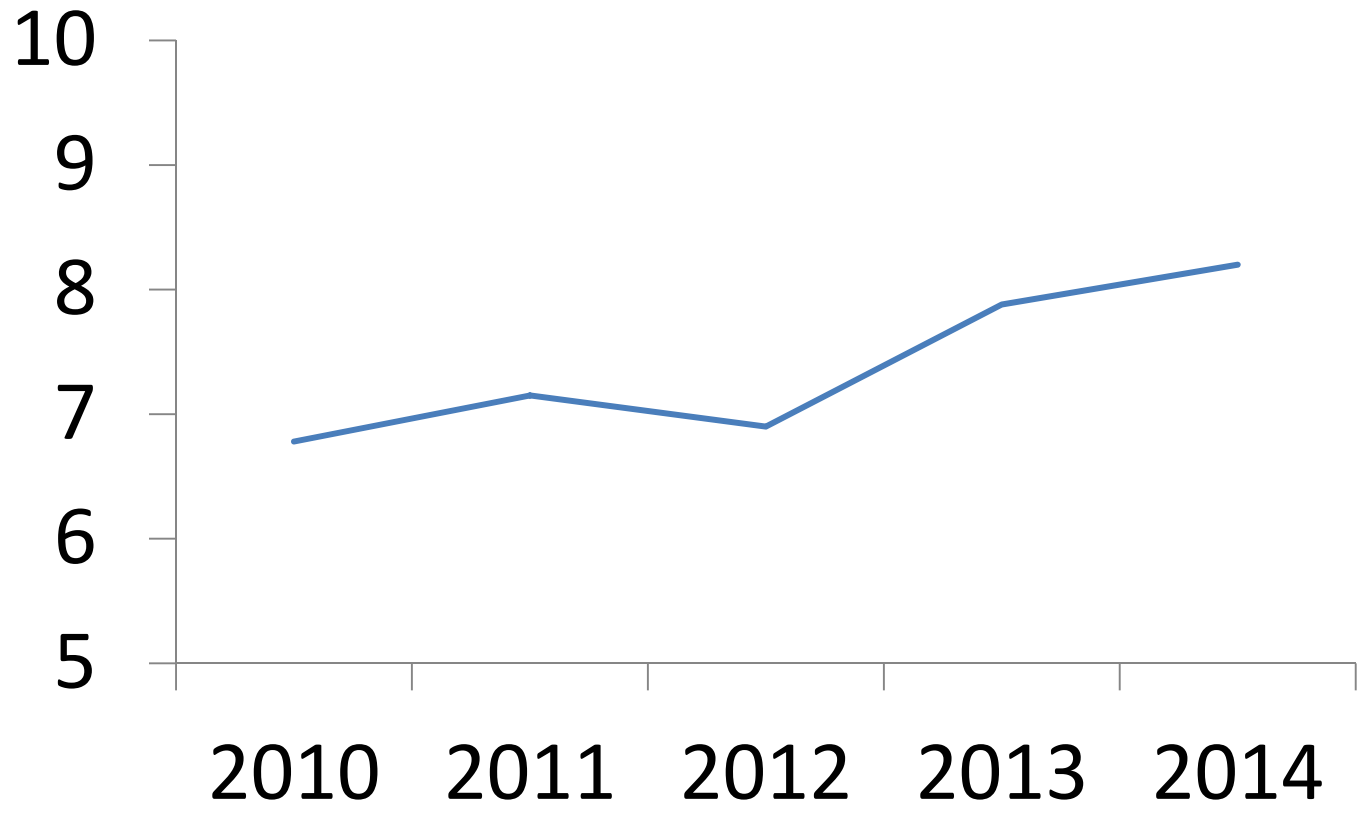
Overall Trends

- Increased satisfaction
- All responses are a 6 or above

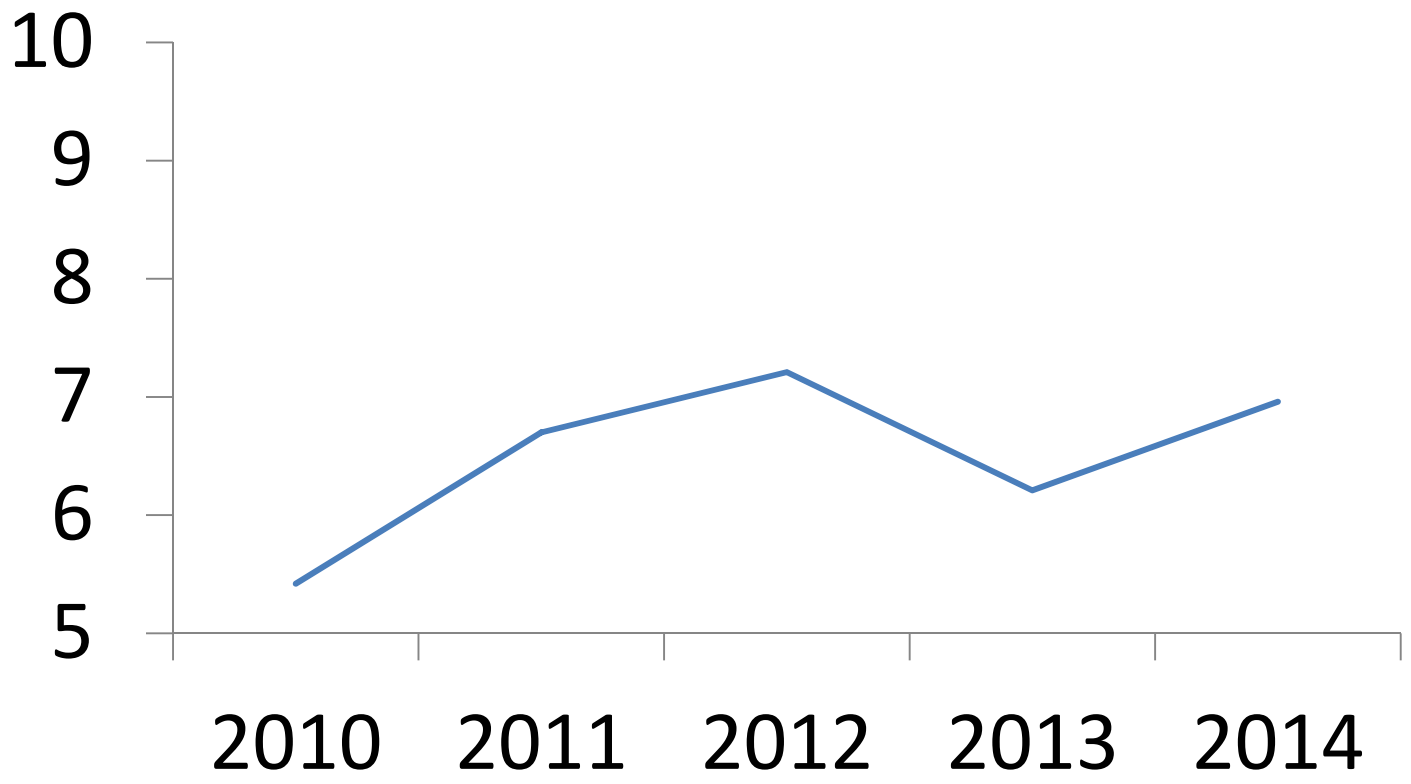
How confident you the Commission will achieve the Vision



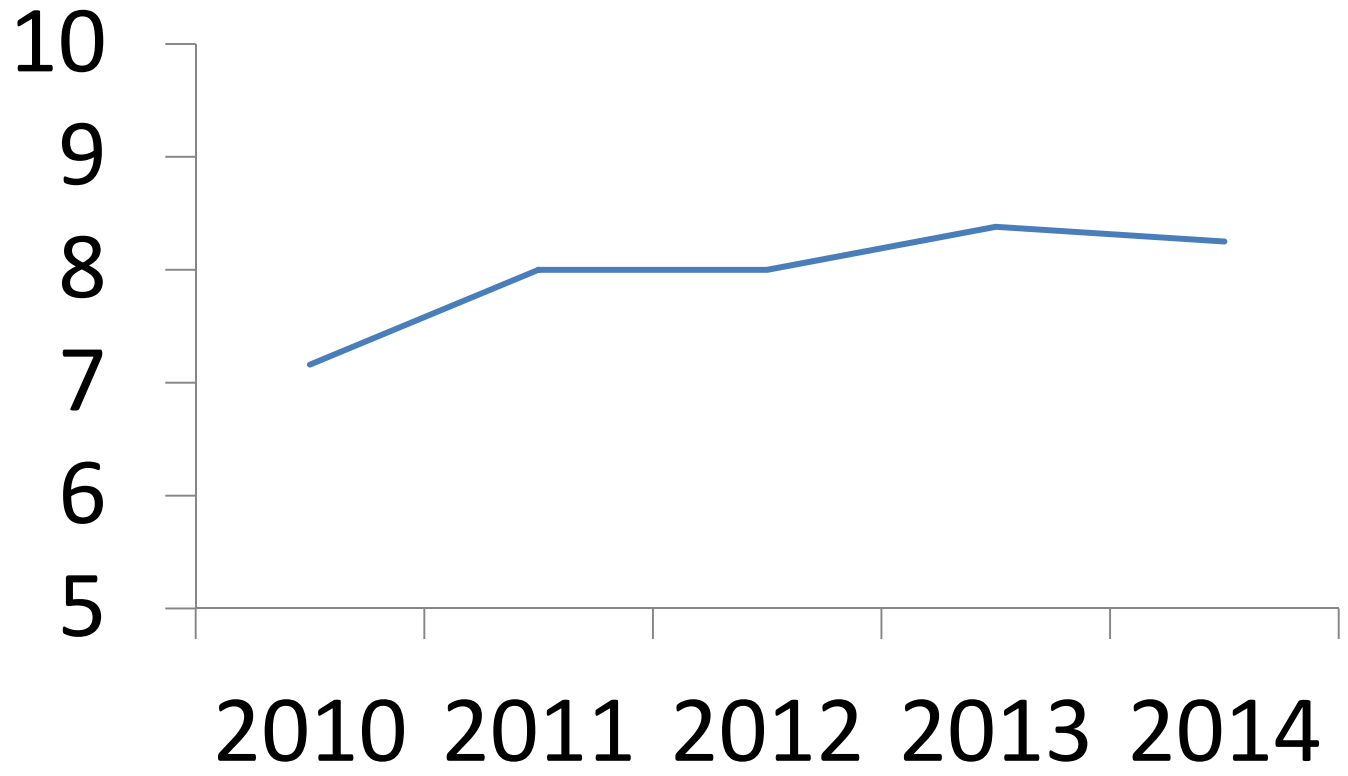
Satisfaction with cooperation between Commissioners to achieve the Commission's Vision?



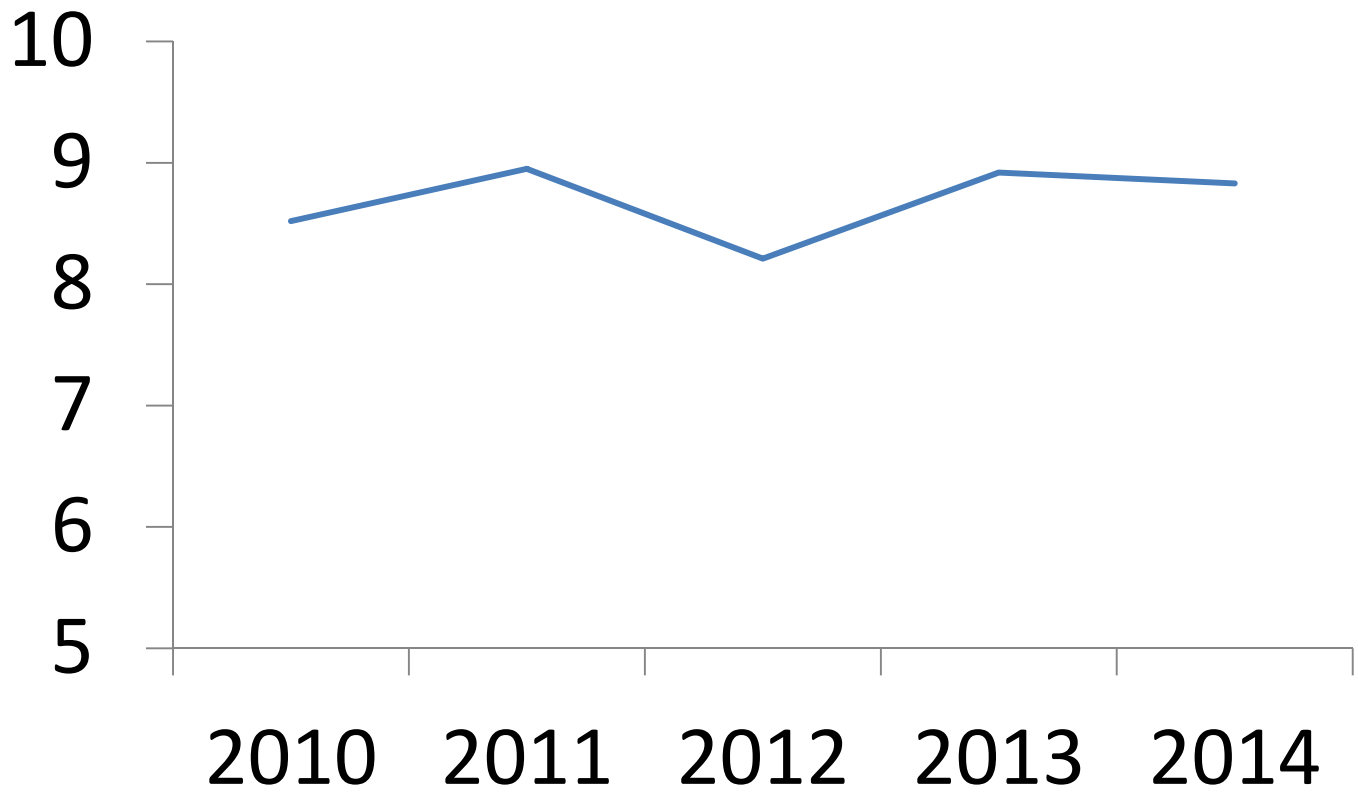
The Commission has an appropriate level of cooperation with federal partners



Satisfaction with Commission's efforts to describe progress to the public and stakeholders



Satisfaction with the transparency in the Commission decision-making process



What is the Most Significant Problem the Commission Could and Should Solve?

- Improved stakeholder transparency
- Depleted/overfished Commission fisheries
- Time and responsive management decisions
- Equity in allocation of resources
- Multi-species and adaptive management in light of changing environments
- High level of confidence in monitoring, research, and stock assessments

What is the Most Important Change the Commission Could Make to Improve Results?

- Meaningful and effective reform of the recreational catch and effort data collection
- Making hard decisions
- More staff resources and Commission staff to conduct stock assessments
- Adaptive management to changing resource distribution and abundance
- Rebuilding and Restoring Fisheries

What is the Biggest Obstacle to the Commissions Success?

- Lack of Resources (funding)
- Political pressure from stakeholders, states, and other areas
- Endangered Species Act
- Environmental changes and limited control (can only manage fisheries)
- Data collection

Is the Commission using Appropriate Metrics to Measure Progress?

- General Consensus, yes
- Look at ecosystem approaches
- They should not change according to the status of the stocks
- Short sighted to look at success just on rebuilt status
- Look at the bigger picture more
- Emphasis on F metrics over biomass

Additional Comments

- Great staff and Leadership
- Less use of the “cut off” button at Board meetings
- Equitable allocation of restored fisheries

Next Steps

- How does the Commission want to react to survey results?
- Is the survey an effective tool?

Annual Stock Performance Definitions

ASMFC

February 2014

Purpose of the Annual Stock Performance

- Support the ISFMP Policy Board's review of stock rebuilding performance and management board actions
- Provide direction to management boards in the Action Plan
- A. Validate status/rate of progress (acceptable/not acceptable)
- B. If not acceptable, identify appropriate corrective action

Definitions

- Rebuilt: Biomass is equal to or above the biomass level set by the FMP

- Rebuilding: Biomass is approaching the target level established by the FMP to ensure population sustainability

Definitions

- Overfished: biomass falls below the threshold set by the FMP, reduces the stock reproductive capacity to replace fish removed through harvest.
- Depleted: reflect low levels of abundance though it is unclear whether fishing mortality is the primary cause for reduced stock size.

Definitions

- Concerned: Stocks developing emerging issues prior to the completion of a stock assessment

- Unknown: has no accepted stock assessment