

Mid-water Trawl River Herring Bycatch Avoidance Program



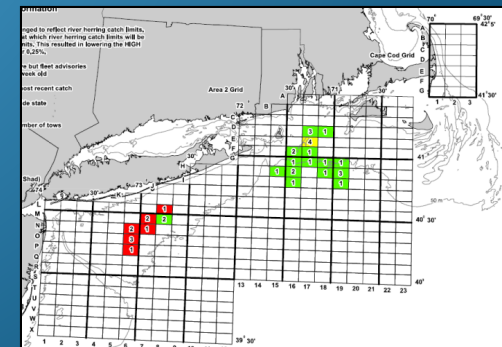
Bradley Schondelmeier
William Hoffman



Mid-water Trawl Vessels



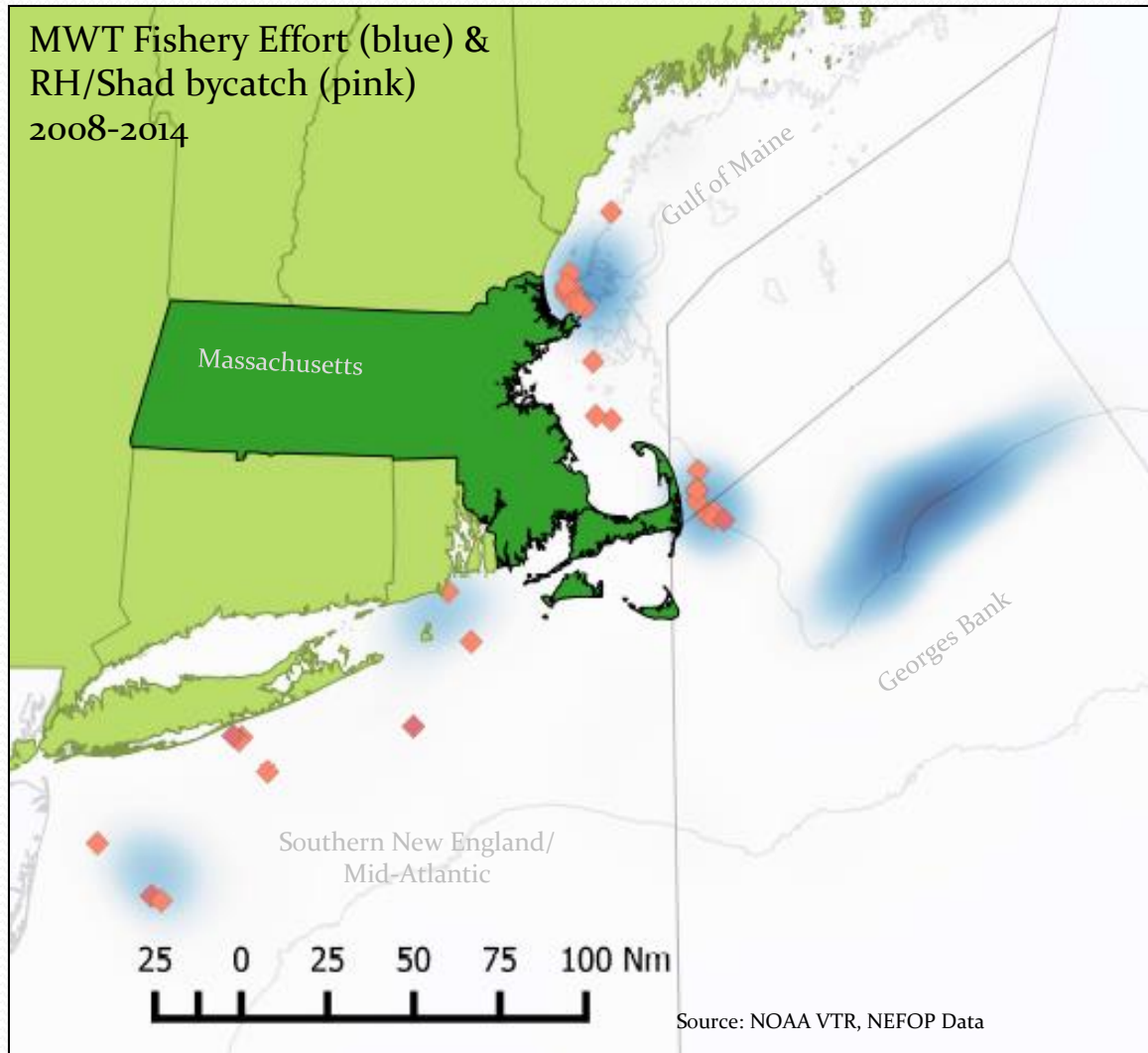
N. David Bethoney
Travis Lowery



Presentation Outline

1. Fishery Background
2. Fishery Concerns: Management, Accountability, Bycatch
3. Conservation Concerns → River Herring/Shad Bycatch Reduction
4. Program Design
 1. Increased Catch Sampling/Reporting
 2. Bycatch Avoidance Strategies
5. Program Utility
 1. Portside Sampling Data
 2. Bycatch Avoidance Program Performance
6. Takeaways/Lessons Learned
 1. Trends to Bycatch Reduction
 2. Themes of a Successful Collaboration
7. Discussion Topics: Improvements, Management interaction

Fishery Background



River Herring & Shad (RH/S) Bycatch

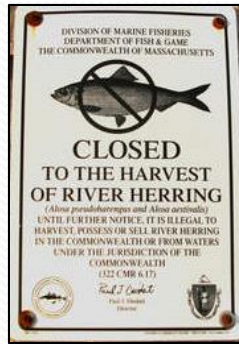
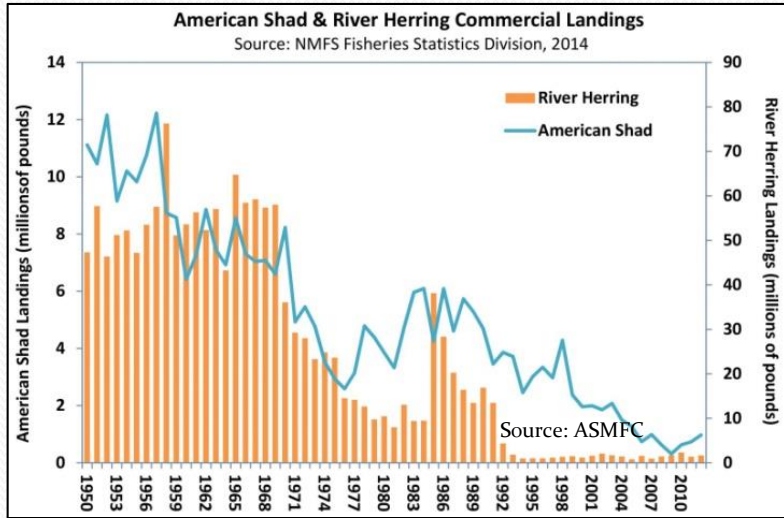


River Herring ↘

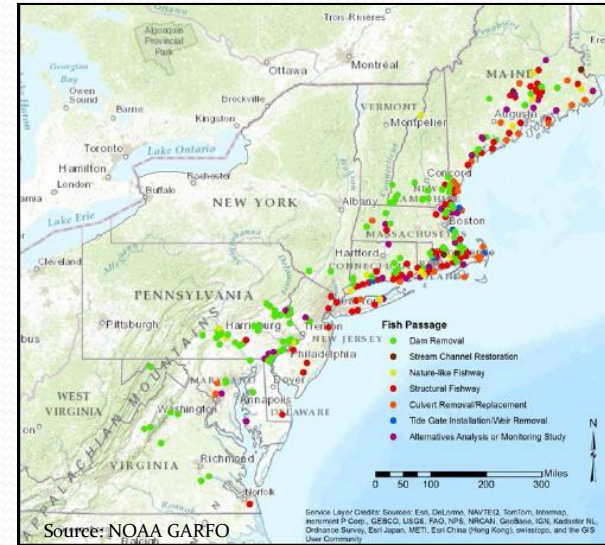


Conservation Concerns

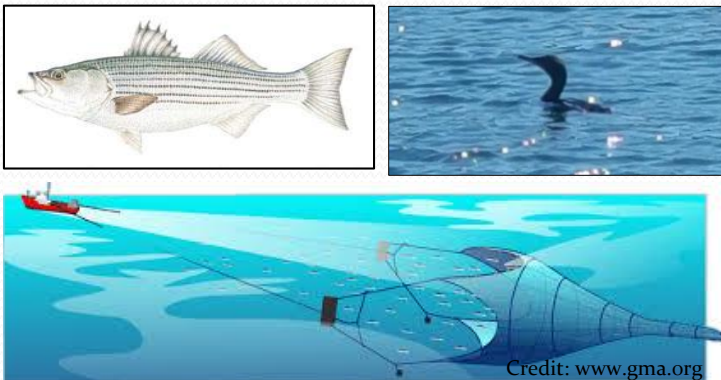
River Herring and Shad are 'Depleted'



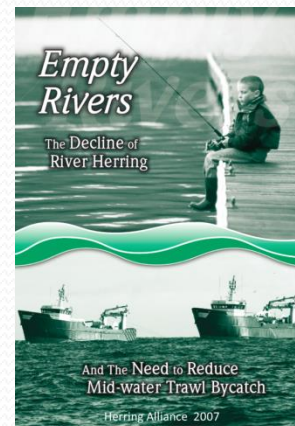
Extensive Freshwater-Focused Restoration Efforts



Bycatch a Contributing Factor in Delayed Rebuilding



ENGO and Stakeholder Pressure to Reduce Bycatch



EARTHJUSTICE
REQUIRE THE EARTH NEEDS A GOOD LAWYER

ABOUT OUR WORK

PRESS

LAWSUIT FILED TO PROTECT RIVER HERRING AND SHAD
Agencies failed to prevent population decline of river herring and shad

September 20, 2010

Washington, DC — Commercial and recreational fishermen are challenging two government agencies for failing to protect river herring and shad from being caught and killed by Atlantic industrial fisheries.

River Herring & Shad Bycatch

Management Action

VOLUME I

AMENDMENT 5

to the
Fishery Management Plan (FMP)
for
Atlantic Herring

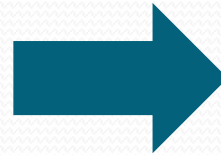


Including a
Final Environmental Impact Statement (FEIS)

Prepared by the
New England Fishery Management Council

in consultation with
National Marine Fisheries Service
Atlantic States Marine Fisheries Commission
Mid-Atlantic Fishery Management Council

Catch Limits

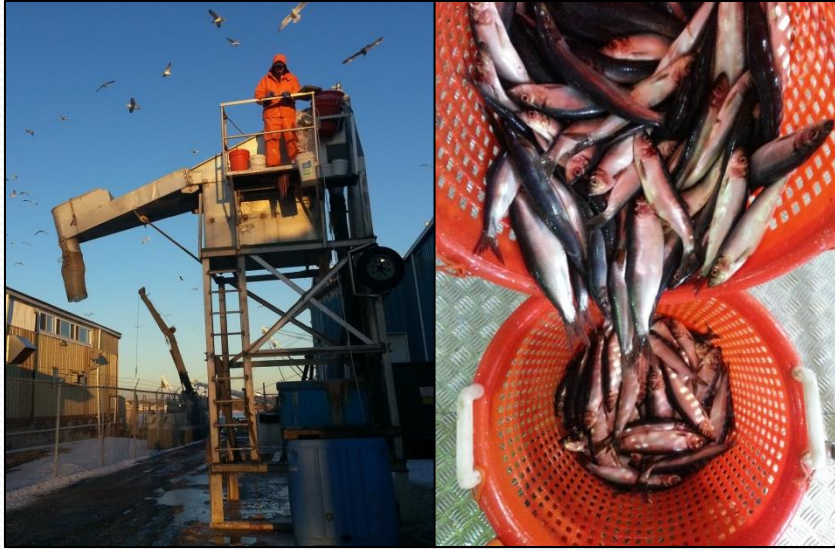


Closed Areas

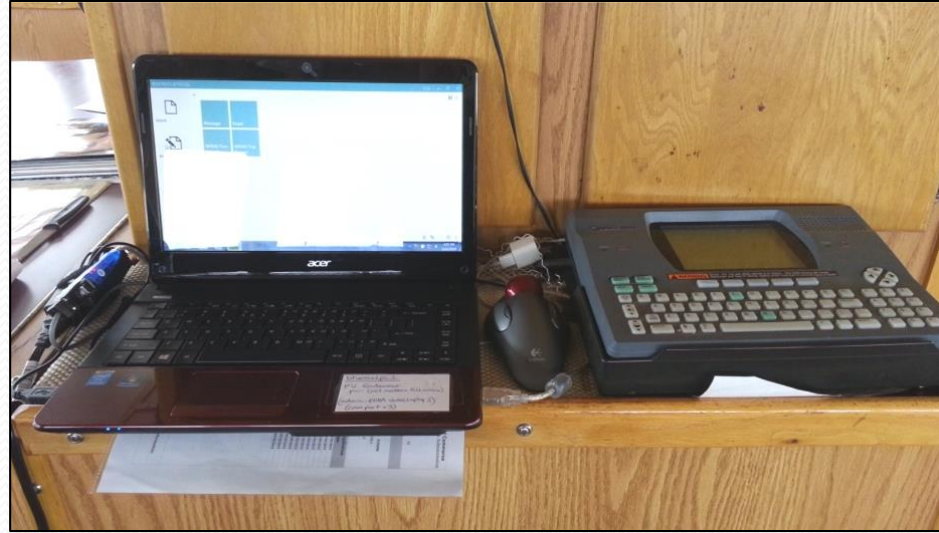
Bycatch Avoidance Approach

Program Design Overview

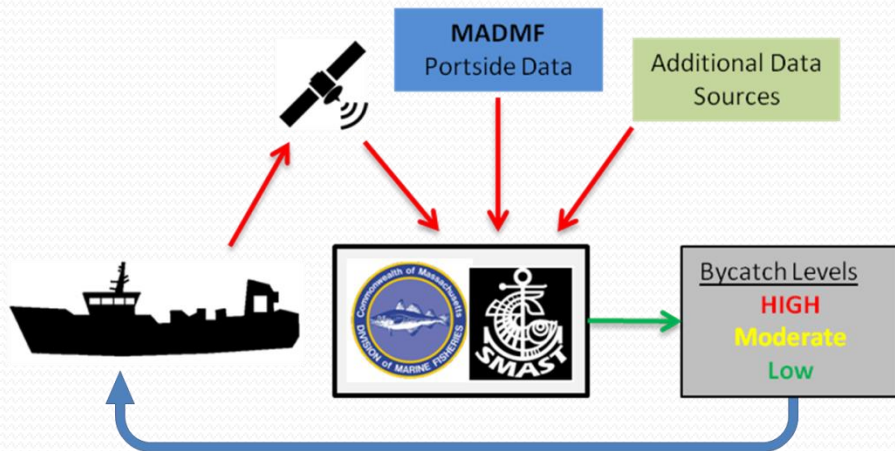
Portside Sampling



Real-time Electronic Reporting



Aggregate and Summarize Data



Communicate Bycatch Levels and Trends



Program Design

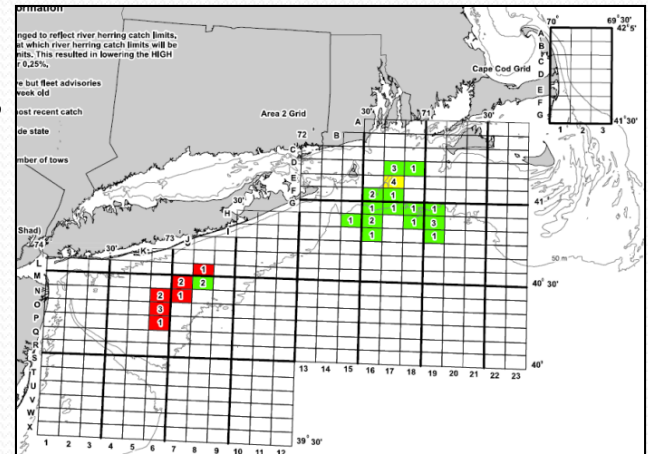
Portside Sampling:

- Access to landings
- Subsample offloads
- Data turnaround



Bycatch Avoidance Program:

- High/Moderate/Low Bycatch Thresholds
- Spatial assignment
- Bycatch alerts and catch summaries



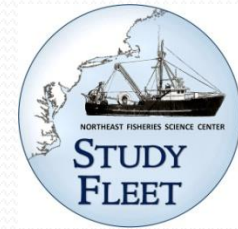
Avoidance Strategies:

- Broad scale: Change management or cap areas
- Medium scale: Change grid cells or areas within cap area
- Fine scale: Utilize test tows, check with captains in area

Program Utility

Portside Sampling

- High quality, cost-effective dataset, comparable to NEFOP at-sea data
 - Catch cap monitoring
 - Bycatch Avoidance program
- Information source for Management & Stock Assessments



- Advancement in Fisheries Research



Program Utility


Bycatch Avoidance

Performance: Prior to bycatch limits (2011-2014)

- **Management Impact**
 - Preferred alternative
- **Increased awareness**
 - Sustained participation
 - >100 bycatch advisories
 - Weekly and Immediate
 - Reporting Standards
 - Evidence of effort shifts
- **Bycatch Reduction**
 - Bycatch before vs. during
 - 60% decrease in weight
 - 20% decrease in ratio
 - Evidence program played a role

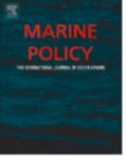


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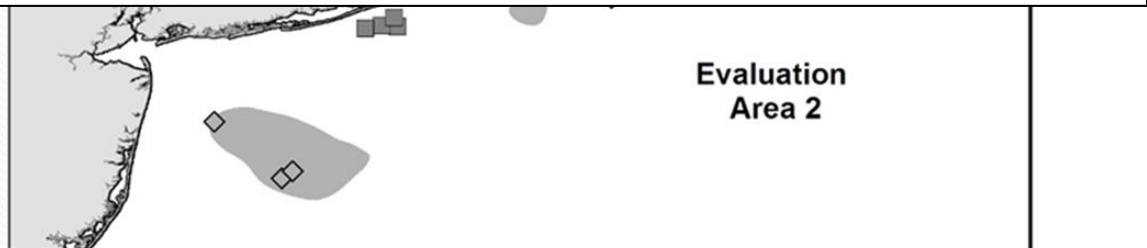


Bridges to best management: Effects of a voluntary bycatch avoidance program in a mid-water trawl fishery



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Program Utility

Bycatch Avoidance

Performance: With bycatch limits (after 2014)

- **Bycatch limits = median catch, recent years**
 - Clarified and lowered thresholds
- **Focus shift**
 - Reduce bycatch  Stay under limits
 - Bycatch management
 - Impact of observed trips
 - Catch remaining at current bycatch rate
- **RH/S Bycatch Closures**
 - 2 of 16 potential closures
 - Expect 8
 - Both closures this winter (Mackerel and Area2 Herring-MWT)
 - Mackerel catch prioritization over bycatch avoidance?
 - Mackerel catch 90% of quota , Area2-herring ~20% of quota

Program Utility

Case Study – CapeCod/Area 521 in 2017



Stat Area 521

River Herring/Shad Cap = **32.4mt**

Atl.Herring Quota (1B+3)= >45,000mt

Mackerel Quota (coastwide)= 9,180mt

Avg. Annual Catch ~ 10,000mt

January 1-15th 2017

14 trips (5 sampled) landed 2,040 mt
(RHS bycatch rate = **0.36%**)

Bycatch cap @ 23%

January 16-31st 2017

19 trips (5 sampled) landed 2,383 mt
(RHS bycatch rate=**1.43%** → now **0.62%**)

Bycatch cap @86%

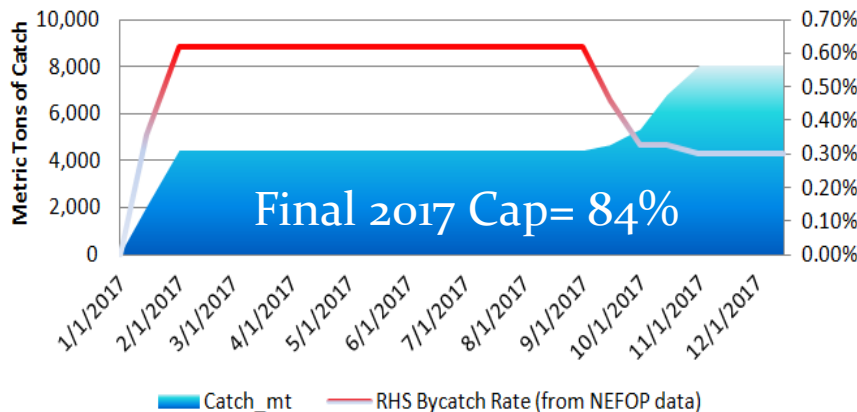
Industry – RHBA discussion → Consensus

September-October 2017

5 observed trip into SA521 with 0.1mt RHS
RHS bycatch rate = **0.30%**

Outcome: Additional 3,621 mt harvested

2017 CapeCod/521 RHS Cap



Lessons Learned:

What Worked

Communication & Awareness

- Clearly establish methods & involve end users
- Reduce redundancies
- Provide a product
- Dock talk vs. meetings
- Be clear about conservation & management issues



Maintain Accountability

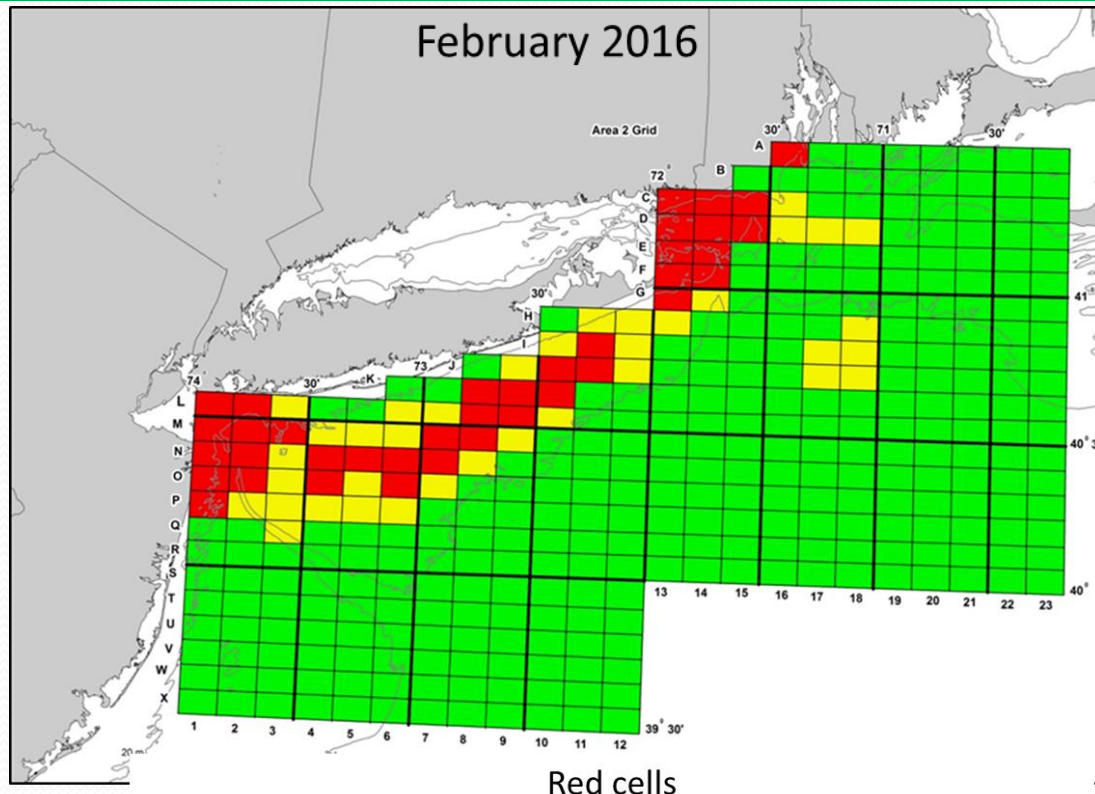
- Identify a representative (shore-side) for each vessel
- Provide useful metrics to measure performance
- Set success criteria
- Individual benefits: Research Set Aside Quota



Lessons Learned:

Bycatch Patterns

- Highly variable year to year, reset within year
- Area 2: medium to broad scale movements



Top 10% of predicted river herring occurrence
Contained 6 of 7 high bycatch events

Discussion Topics

Next steps to improve program?

- Habitat forecasts
- Species expansion
- Spatial scale
- Avoidance incentives
 - Bycatch penalties?

Management – Program Interaction

- Future of monitoring
 - Reduced at-sea data?
- Biological quotas
- Individual quotas

Acknowledgements

Mid-water trawl Fishing Vessels: Western Venture, Osprey, Endeavour, Challenger, Enterprise, Retriever, Sunlight, Starlight, Dyrsten, Providian, McDara, Voyager, Jean McCausland, Isabel Taylor, Nordic Explorer, Dona Martita, Dyrsten

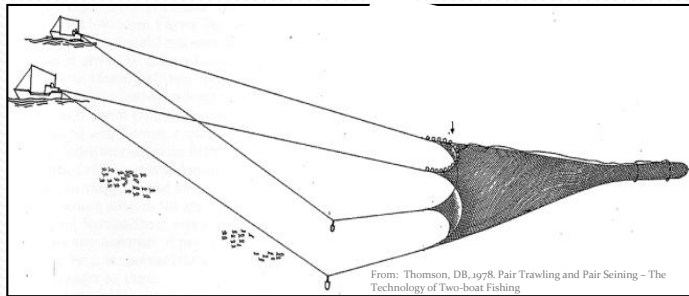
Numerous Industry members; Captains, crew, owners, managers, shore-side personnel

Other Collaborators: Northeast Fisheries Observer Program, Maine Dept. of Marine Resources, NOAA Study Fleet, A.I.S., Inc



Concerns with Fishery

- Size & capacity of vessels/gear



- Ecosystem effects (enough bait for predators?)
- Vessel/company accountability
 - No sectors or ITQ, competition for same market → Race to fish

- Management of (sub)stocks, protection of spawning components



- Bycatch/Incidental catch
 - Haddock
 - River herring and Shad