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Revised

NEFSC Cooperative Research Branch Update

NOAA FISHERIES
NEFSC

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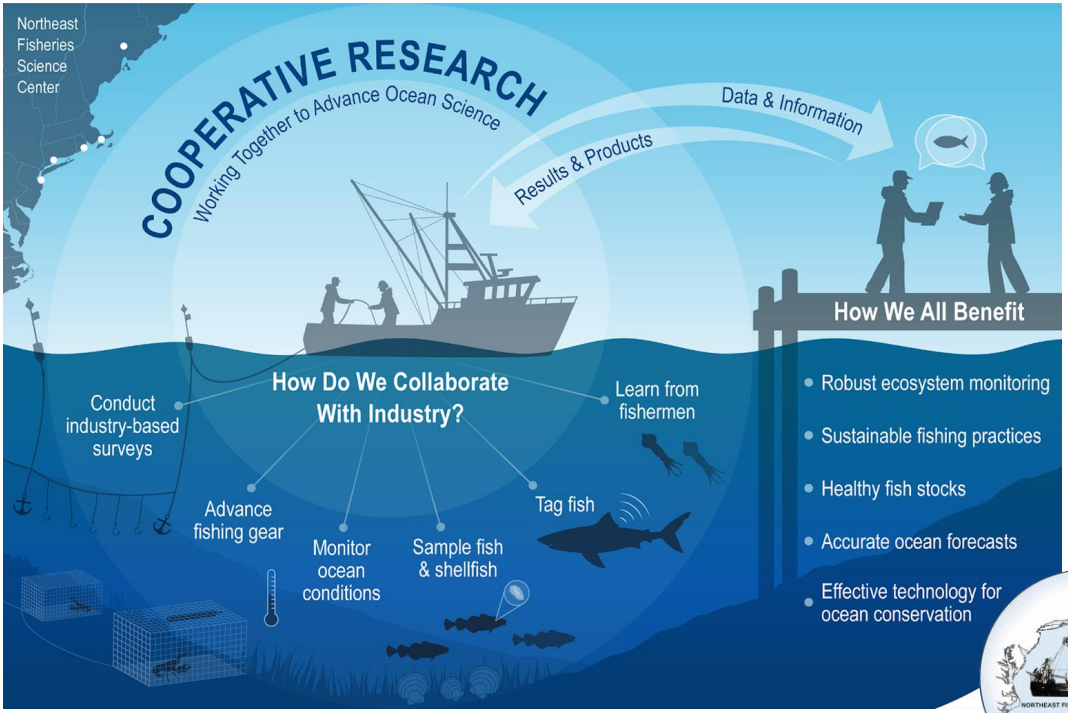
Director, Narragansett Laboratory
Northeast Fisheries Science Center
NOAA Fisheries

What is Cooperative Research?

"Cooperative research is the partnership between the fishing industry and the science community. We work together to improve our understanding of ocean ecosystems and support sustainable fisheries management. "



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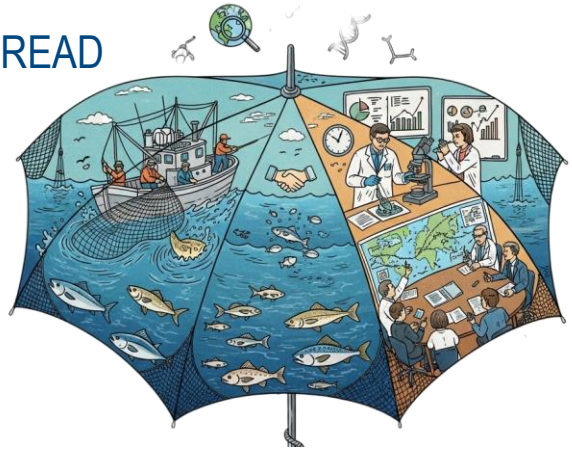
NORTHEAST FISHERIES SCIENCE CENTER
COOPERATIVE RESEARCH

Cooperative Research at NEFSC

- Cooperative shark tagging program - PEMAD
- On demand gear development - PSD
- Industry-based scallop dredge survey - PEMAD
- Passive acoustic receiver retrieval - PSD
- Industry-based clam survey - PEMAD
- Aquaculture research and development - EAD
- Industry-based sample collection for life history research - PEMAD
- Large coastal shark bottom longline survey - PEMAD
- Observer training - FMRD
- Northeast Trawl Advisory Panel - PEMAD, READ
- Social science research - READ
- Acoustics research - PEMAD
- Squid physiology - EAD

and more…



NEFSC Cooperative Research Branch

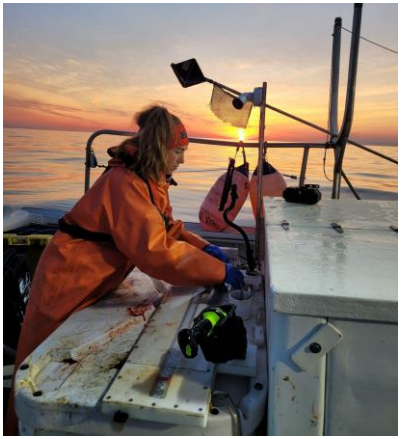
Goals:

- Promote and inform cooperative research across the fishing industry and NEFSC science programs.
- Conduct long term research programs where fishermen and NEFSC work together toward science goals.
- Use a nimble, multi-disciplinary approach to address new and emerging research questions

NEFSC Cooperative Research Branch

Long Term Programs (10+ years):

- Environmental Monitors on Lobster Traps and Large Trawlers (eMOLT)
- Gulf of Maine Bottom Longline Survey
- Study Fleet
- Industry Based Biological Sampling Program (InBios)



New Initiatives:

- Pilot Regional Industry Based Bottom Trawl Survey
- Re-evaluating Conversion Factors for Groundfish
- Pilot Hook and Line Survey
- Recreational Biological Sampling Program (RecBio)
- Northeast Cooperative Research Summits
- Squid Size Monitoring Program (SQUISM)
- Longfin Squid Biological Sampling Program (SQUIBS)
- Oceanographic Drivers of Shortfin Squid
- Collaborative Golden Tilefish Length Monitoring
- Advancing Atlantic Mackerel Science (Mack Pack)

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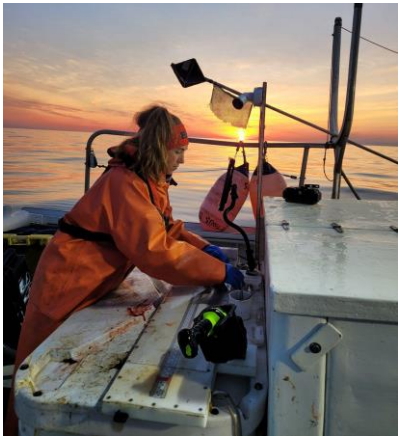


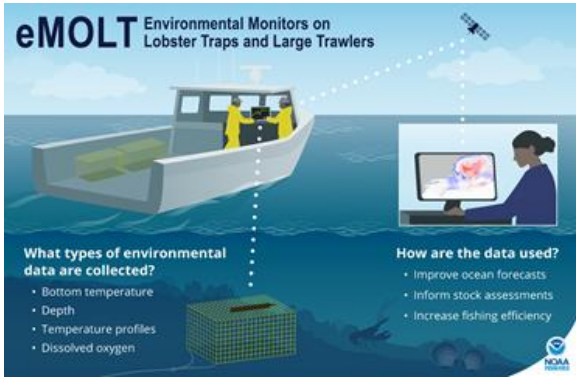
eMOLT

Goal: Work with fishermen to collect in situ water temperature data to inform oceanographic models and fishing practices

Industry Partners: 149 F/Vs from ME to NC

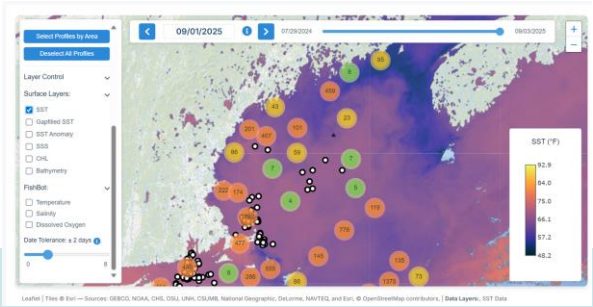
Approach:

- Data collection systems installed on eMOLT F/Vs
  - Temperature probe
  - Deck box that enables fishermen to view bottom temperatures in real time, oceanographic model outputs, etc.
- Data transmitted to cloud via cellular network



Recent Achievements:

- Expansion of eMOLT by 111 vessels
- New publicly-accessible in-situ bottom water temperature product - FishBOT
- New data access/visualization tool
- New standardized deck box software with enhanced visualizations (Green Boat)
- International collaboration and contributions to Global Telecommunications System through the Fishing Vessel Ocean Observing Network



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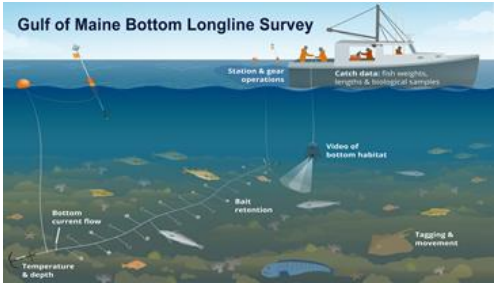
Gulf of Maine Bottom Longline Survey

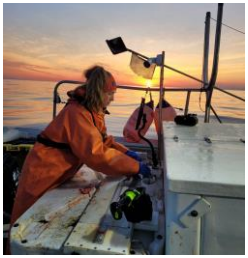
Goal: Provide data from areas/habitats not sampled by NEFSC trawl survey, focusing on data-poor species (halibut, thorny skate, cusk, wolffish) and groundfish (cod, haddock, hake, pollock)



Industry Partners: F/V Mary Elizabeth, F/V Tenacious II

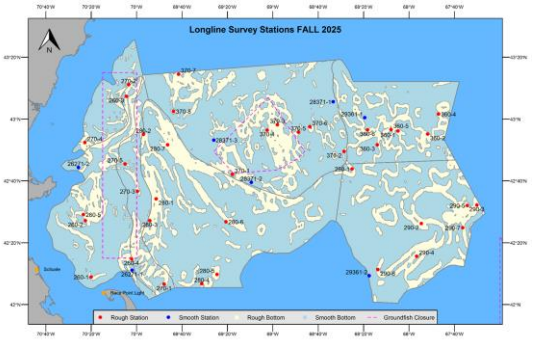
Approach: 45 random-stratified stations sampled (1000 hook tub-trawl bottom longlines) in spring & fall, coincident with trawl survey.

- Ecosystem Monitoring: Video survey for habitat classification, current measurements, temperature/depth



Recent Achievements:

- Completed 100% of planned stations in spring 2025 and fall 2025 prep underway
- Indices of abundance and biological data for stock assessments (white hake, wolffish in 2025)
- Piloted new electronic data collection system (COFISHR)
- BLLS blogs and BLLS Photo Gallery published



Study Fleet and Industry Based Biological Sampling (InBios)

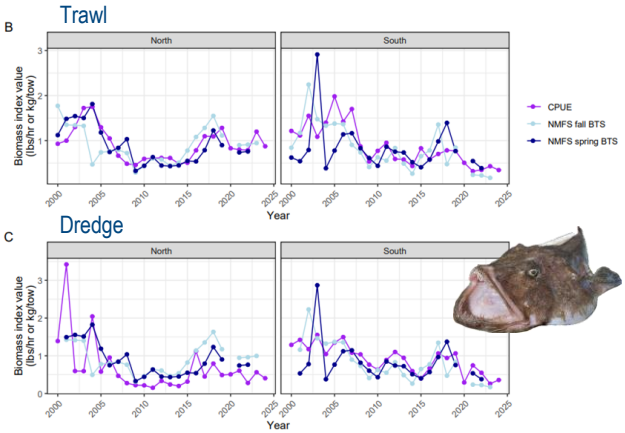
Goal: Engage fishermen in collecting high resolution catch, effort, biological, and environmental data to address science and management needs

Industry Partners: 49 F/Vs from ME to NJ

Approach: Captains record detailed catch, effort, and environmental data during every gear haul using electronic data collection system installed by CRB staff. Captains collect whole fish for biological analysis.

Recent Happenings:

- Vessel contracts terminated, then reinstated in spring 2025; Vessel contracts lapsed due to funding limitations; Several vessel contracts not continued due to contracting limitations
- Disconnected Study Fleet data collection from eVTR
- Data use: Monkfish CPUE, Longfin squid CPUE
- Publication: *Jones et al. 2025. Combining sources of high-resolution fishery-dependent data from the northeast US to develop a catch rate time series.*
- InBios Samples Collected: 331 haddock, 118 winter flounder, 164 yellowtail flounder, 181 American plaice, 8,963 longfin squid, 300 silver hake



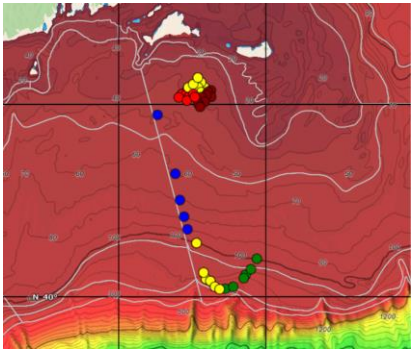
Pilot Regional Industry Based Trawl Survey (RIBTS)

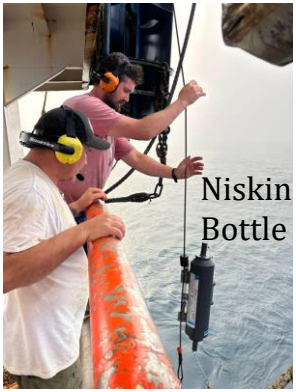
Goal: Define the operational requirements of a long term, region wide industry-based bottom trawl survey

Scientific & Industry Partners: VIMS , F/V Darana R

Approach:

- 6 days at sea in late fall 2025: 3 days of sampling around Vineyard Wind; 3 days of sampling offshore (50-150 fa)
- Day and night sampling, hours rotating
- 20 minute tows using NEAMAP gear
- Gear performance: net mensuration system
- Catch sampling: total weight by species, individual species lengths
- Biological sampling: otoliths, stomach, and maturity samples from 47 priority species
- Oceanographic sampling: CTD, Bongo, Niskin
- Operational documentation: Efficiency of sampling, feasibility of towing in close proximity to offshore infrastructure, vessel and staffing requirements





Next Steps :

- Complete Phase 1 field work and produce SOPs
- Initiate planning and pursue funding for of Phase 2 RIBTS

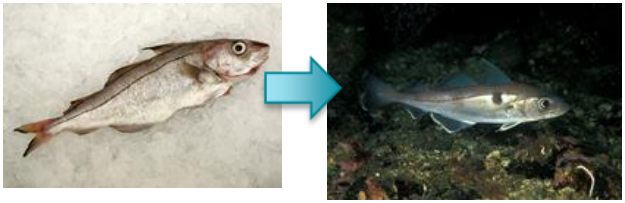
Re-evaluating Conversion Factors for Groundfish

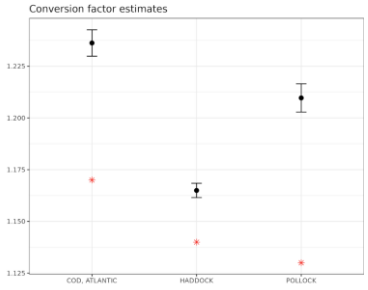
Goal: Re-evaluate both gutted:whole weight conversion factors and length-weight relationships for 8 species

Partners: >15 groundfish F/Vs, 10 fish houses, MA DMF

Approach:

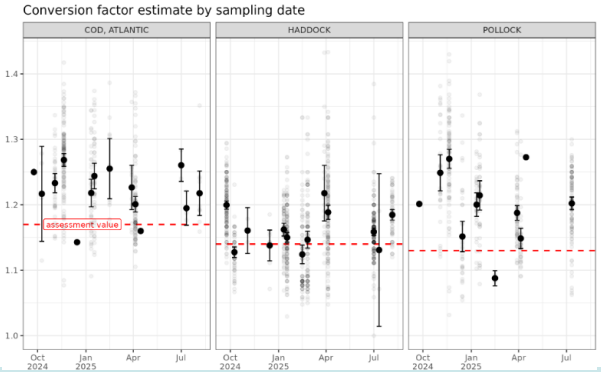
- **Conversion factors**: Conduct paired sampling of target species before and after they are gutted at sea. Sampling occurs on 6 fishing trips per quarter to achieve coverage throughout the year and across vessel sizes and gear types.
- **Length-weight relationships**: Collect 600 paired length and weights from each target species annually through portside sampling.





Preliminary Results:

- Sampled 388 cod, 999 haddock, and 423 pollock for conversion factors since September 2024
- Sampled 469 summer flounder, 458 witch flounder, 290 yellowtail flounder, 560 winter flounder, 408 American plaice, 501 pollock, 358 cod and 877 haddock for length and weight since September 2024 with MA DMF
- 2 quarterly reports to industry partners



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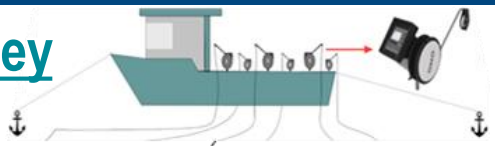
Looking for groundfish F/Vs to collaborate!

Pilot Hook and Line Survey

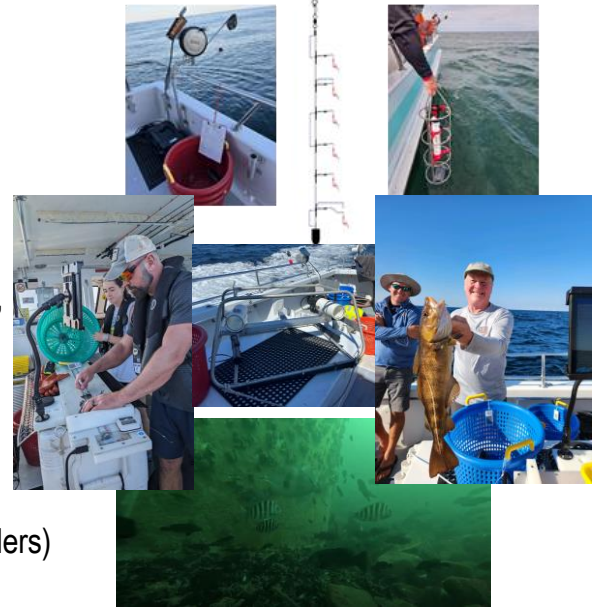


Goal: Develop and test methods, including hook-and-line and stereo video, for tracking trends in abundance and demographics of fish at wind energy areas and other structured habitat

Industry Partners: F/V Lady Rebecca, F/V Frances, F/V TNT, F/V Salted, F/V Fish Bound, F/V Rudee Mariner

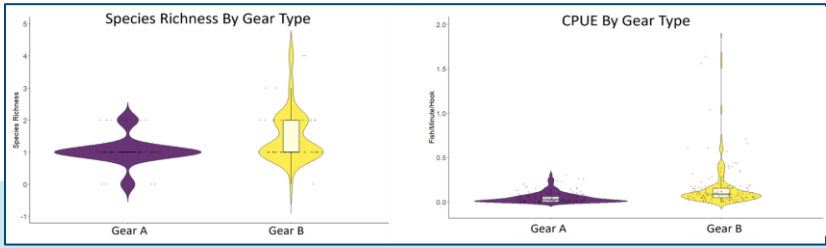
Approach:

- Highly standardized hook-and-line fishing gear, stereo camera system, CTD, current meter
- Individual hook disposition, aggregate weights by species, individual lengths, biological samples, maxN
- Compare species diversity, size selectivity, catch rate by equipment, tackle, action, bait configuration



Results:

- Sampled 378 stations (turbine bases/artificial reefs/boulders)
- Over 70,000 individual hook retrievals
- 35 unique species caught on H&L
- 46 (still counting!) unique species observed on video
- Analysis underway



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Recreational Biological Sampling Program (RecBio)

Goal: Pilot the use of electronic technology to collect lengths and age structures from the for-hire fleet, and produce a standardized data stream of Atlantic cod and winter flounder lengths and ages to better characterize the catch from the recreational fishery for the stock assessment

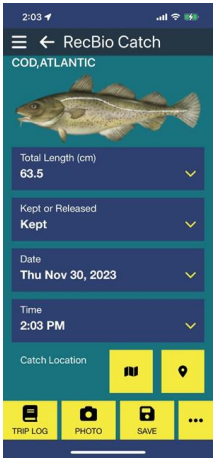
Partners: Pelagic Strategies, Cabot Center for Ocean Life, Stellwagen Bank Charter Boat Association, RI Party and Charter Boat Association

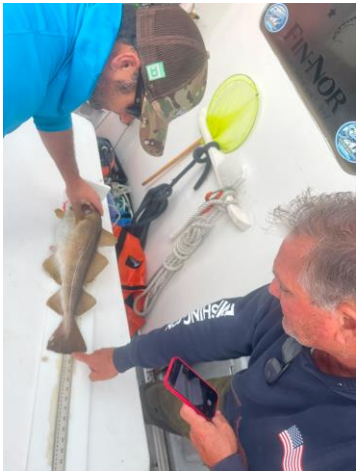
Approach:

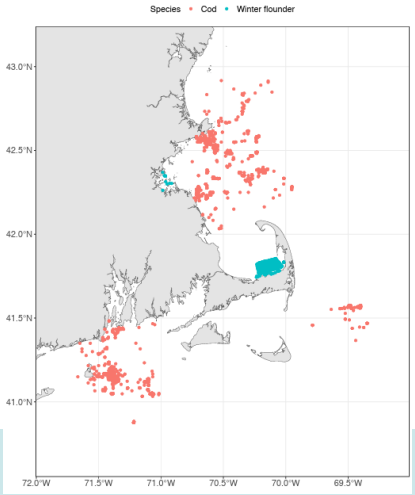
- Develop electronic tools to enable for-hire vessels to collect cod and winter flounder lengths and otoliths
- Train 12 captains to use equipment and collect data
- Captains independently collect length data and otoliths throughout fishing season
- Heads of retained fish tagged for otolith extraction

Preliminary Results:

- 2,075 Atlantic cod lengths collected to date
- 401 Atlantic cod otoliths (ages) and fin clips (genetics) collected to date
- 2,650 winter flounder lengths collected to date
- 184 winter flounder otoliths (ages) collected to date
- EFP for continued data collection SNE during moratorium







Northeast Cooperative Research Summit

Purpose: Foster regional coordination of cooperative research and develop new partnerships between the science and fishing communities

2025 Summit: Portland, Maine - February 5, 2025

2026 Summit: Riverhead, NY **-** February 26, 2026

Registration is open until November 7th!

Format:

- Brief research presentations
- Breakout sessions with panels of fishermen and scientists
- Research prioritization exercise
- Industry highlights
- Networking opportunities

Future Summits: One Summit annually, rotating states

Outcomes: Identification of research priorities, development of research ideas for proposals, creation of research partnerships between fishermen and scientists

Northeast Cooperative Research Summits

2025 Research Priorities:

1. Enhanced catch and effort data collection from commercial and recreational fisheries to support CPUE indices and other scientific uses
2. Social and economic factors impacting fishing operations
3. Research on the impacts of offshore wind on species, habitats, and oceanography
4. Research on the environmental drivers of resource species
5. Stock structure and migration dynamics of resource species

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Many Partners in Cooperative Research

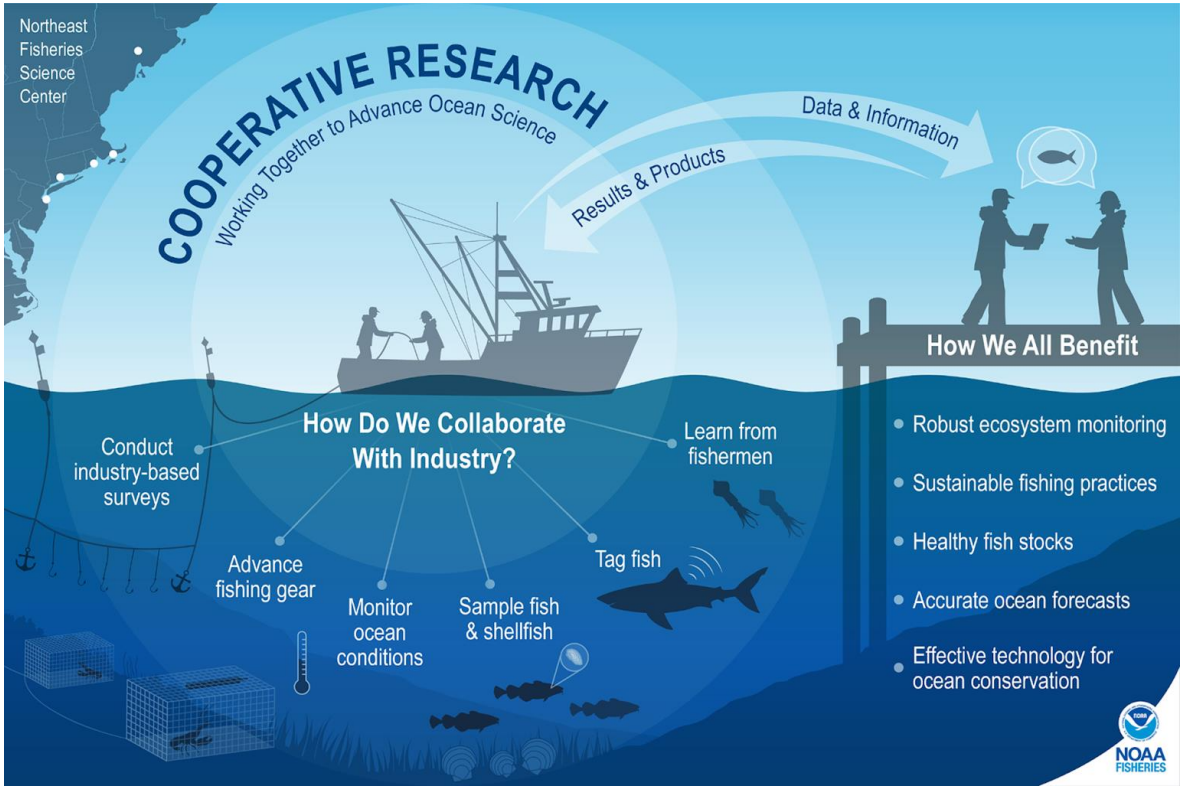
Cornell University
Cooperative Extension

Gulf of Maine
Research Institute

MANOMET
Center for Conservation Sciences

GLOUCESTER MARINE
GENOMICS INSTITUTE

Questions?


Northeast Fisheries Science Center
COOPERATIVE RESEARCH
Working Together to Advance Ocean Science
Data & Information
Results & Products
How We All Benefit
How Do We Collaborate With Industry?
Conduct industry-based surveys
Advance fishing gear
Monitor ocean conditions
Sample fish & shellfish
Tag fish
Learn from fishermen
Robust ecosystem monitoring
Sustainable fishing practices
Healthy fish stocks
Accurate ocean forecasts
Effective technology for ocean conservation
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