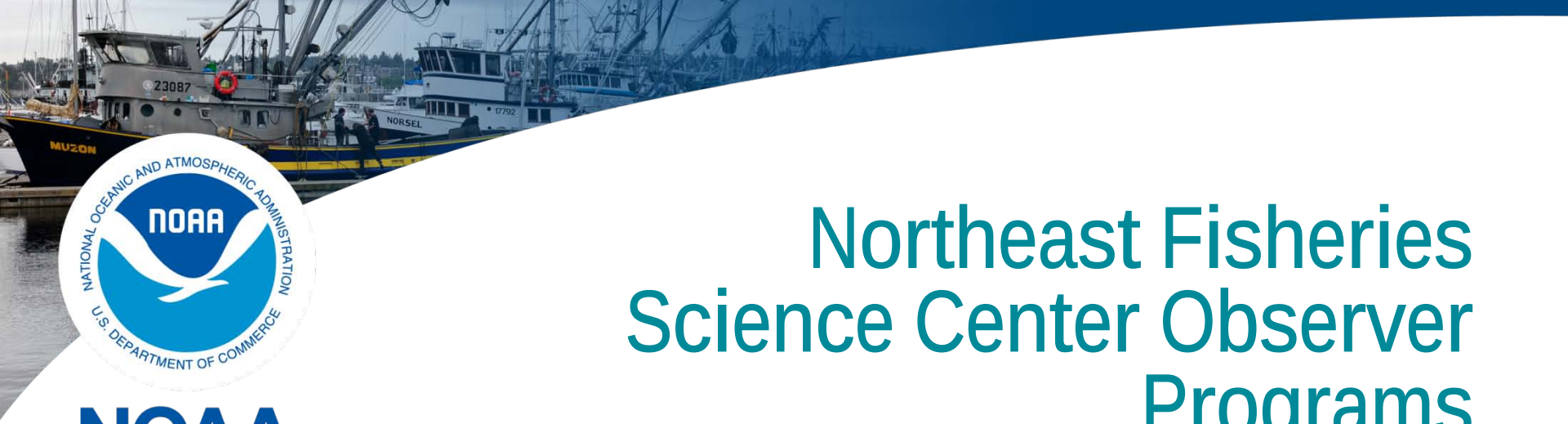


NOAA FISHERIES

Northeast
Fisheries
Science Center

# Northeast Fisheries Science Center Observer Programs

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# Fisheries Sampling Branch Overview

## Programs Managed

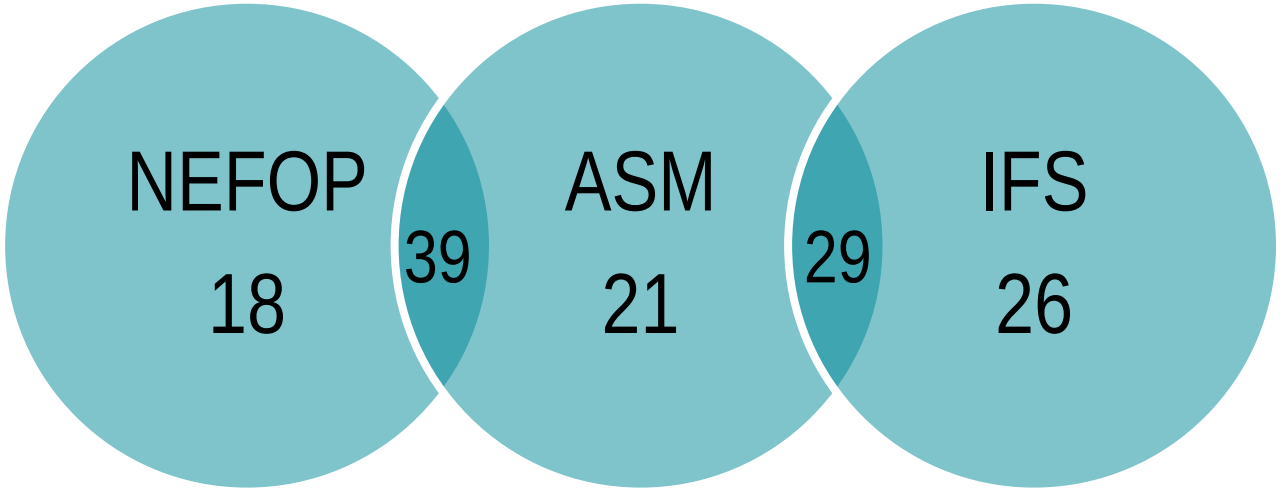
- Northeast Fisheries Observer Program (NEFOP)
- At-Sea Monitoring Program (ASM)
- Industry Funded Scallop Program (IFS)

## Staff

- 16 FTEs
- 43 contractors

# FSB Observers

Currently 133 certified observers




In 2012, trained 80 new observers over 6 courses

102 days of training, including safety, recertification, and additional certification courses

# History

## NEFOP

- Started as the Domestic Fisheries Observer Program in 1989
  - Focus on interactions with protected species
- In 2001, focus switched to monitoring discards and bycatch
- Increasing coverage areas, target species, and gear types

## ASM

- Started May 1, 2010 with implementation of sector management
  - Amendment 16 to the Northeast Multispecies Fisheries Management Plan
- Focus on monitoring discards of priority groundfish species
- Fewer duties than NEFOP observers, therefore lower seaday cost

# Gear Types Covered

| | NEFOP | ASM |
|---|---|---|
| Bottom Trawl | X | X |
| Gillnet | X | X |
| Bottom Longline | X | X |
| Mid-water Trawl (paired and single) | X | |
| Purse Seine | X | |
| Scallop Dredge & Trawl | * | |
| Pots & Traps | X | |
| Beach Seine | X | |

*NEFOP Scallop coverage ended in May 2013 when the Limited Access General Category fleet was added to the Industry Funded Scallop Program

# Common Target Species

## NEFOP

- Groundfish, summer flounder, croaker, shrimp, scallop, herring, menhaden, lobster
- Dependent on gear type and area

## ASM

- Groundfish
- Occasionally monkfish, spiny dogfish, and skate

# Sampling Design

| | NEFOP | ASM |
|---|---|---|
| Area Covered | Maine to North Carolina | Maine to New Jersey |
| Frequency | Annual | Annual |
| Coverage Rate | Determined by SBRM* | Determined annually |

*SBRM = Standardized Bycatch Reporting Methodology

# Vessel Selection

## Groundfish trips (NEFOP and ASM)

- Random via Pre-Trip Notification System (PTNS)

## Herring trips (NEFOP)

- Vessel calls in directly to FSB staff

## All other trips (NEFOP)

- Selected off seaday schedule, using:
  - Vessel selection list (previous year's data)
  - Landings and prior observers' data
  - FSB monitors repeat coverage by vessel

# Special Coverage Areas - NEFOP

## Special coverage levels can be set by management

- Example: 100% coverage of herring trips in Closed Area I

## Additional seadays can be funded by states

- Example: Atlantic States Marine Fisheries Commission small mesh trawl trips

## Changes to the seaday schedule reflected at monthly meetings with provider

# Sampling Design

| Fishery | Hauls to observe | Hauls to sample | Notes |
|---|---|---|---|
| Gillnet, complete sampling | 100% | 100% | No protected species watches |
| Gillnet, limited sampling | 0% | Last haul | Protected species watches every haul |
| Bottom Trawl | ≥ 75% | ≥ 50% | |
| Mid-water trawls and purse seine | 100% | ≥ 50% | Discard information may be recorded on unobserved hauls |
| Pots & traps | 100% | ≥ 50% | 75% observed in offshore lobster pot |
| Bottom longline | 100% | ≥ 50% | |

“Observed” haul = complete catch composition recorded, both kept and discards
Protected species watch = no discard weights collected, observe net for marine mammal interactions

# Data Collected

| | NEFOP | ASM |
|---|---|---|
| **TRIP** | | |
| Vessel name, hull/permit numbers, target species | X | X |
| Economic information (fuel cost and gallons used, damage, supplies) | X | X |
| Home port, gear onboard but not used, captain experience | X | |
| **GEAR** | | |
| Gear type, mesh sizes, size of gear, pinger usage (gillnet) | X | X |
| Special modifications, gear-mounted electronics (trawl) | X | |
| **HAUL** | | |
| Time, coordinates, weather condition, gear condition, target species | X | X |
| Depth, tow speed, gear-mounted electronics (trawl), set method (gillnet) | X | |

# Data Collected

| | NEFOP | ASM |
|---|---|---|
| **SPECIES** | | |
| All species (kept and discarded) for observed hauls | X | X |
| Disposition (kept or discarded) and reason | X | X |
| Weight, type (dressed or round) and estimation method | X | X |
| **BIOLOGICAL SAMPLING** | | |
| Length frequencies | X | X |
| Sex, age structures (scales, otoliths, vertebrae) | X | |
| **LARGE DISCARDING EVENTS** | | |
| Discard reason and estimated discard weights | X | X |
| Pumping, paired vessel information | X | |

# Data Collected

| | NEFOP | ASM |
|---|---|---|
| **PROTECTED SPECIES SIGHTINGS** | | |
| Species name, location, condition, activity, number of animals | X | |
| **PROTECTED SPECIES INCIDENTAL TAKES** | | |
| Species name, entanglement, condition (alive/dead, wounds, etc.) | X | X |
| Photographs and detailed comments | X | X |
| Measurements and samples | X | |

# 2012 Summary

| | NEFOP | ASM |
|---|---|---|
| Trips | 2,576 | 2,578 |
| Days at Sea | 8,467 | 5,642 |
| Haul Records | 57,050 | 18,133 |
| Hours | 75,673 | 51,095 |
| Species Records | 424,008 | 238,780 |
| Pounds | 143,684,998 | 24,171,154 |
| Animal Lengths | 1,432,247 | 183,658 |
| Age Structures | 16,456 | |

# Timeliness

## Electronic data due within 48 hours

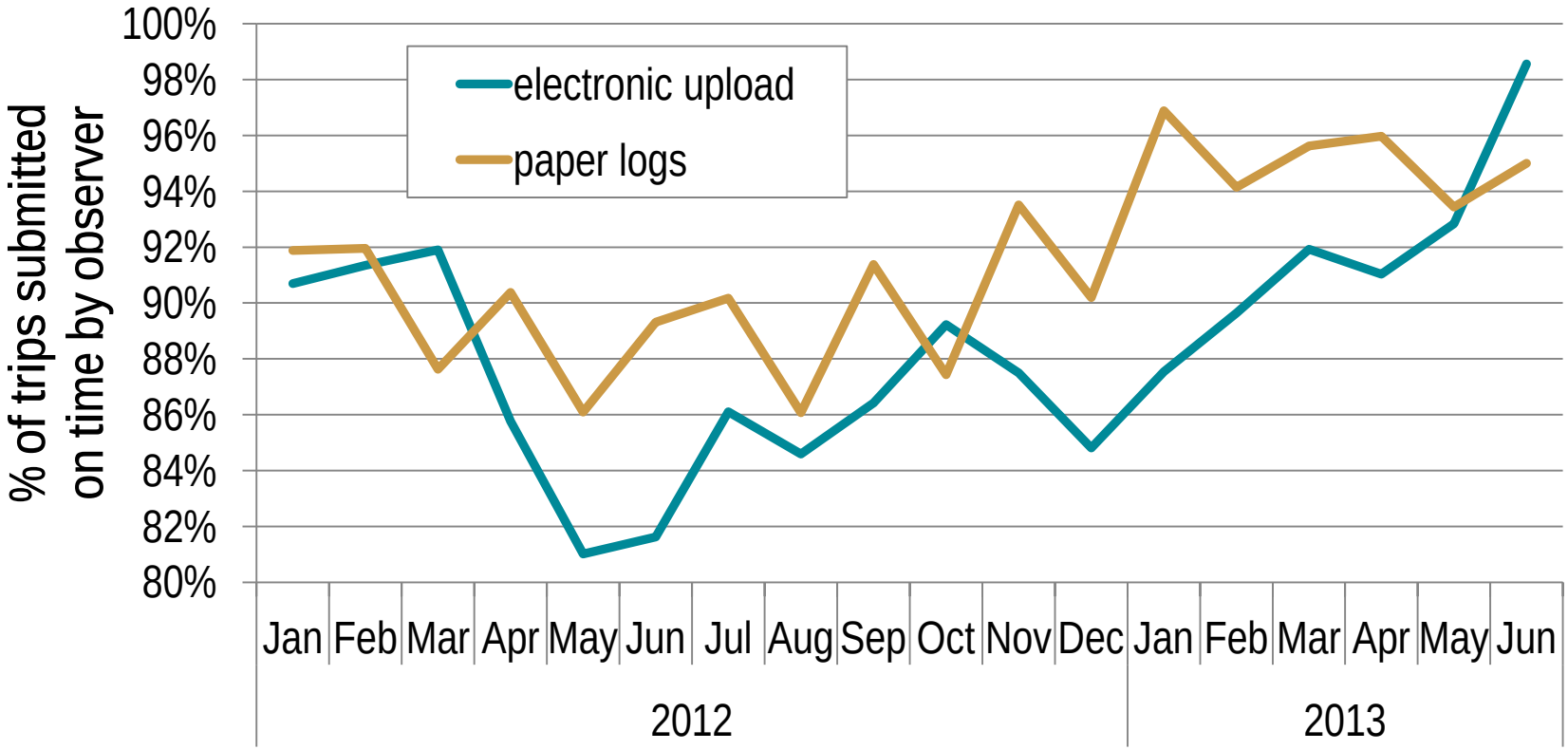
- Groundfish trips: complete catch information plus preliminary data (haul times and locations, incidental take information, length frequencies)
- Squid trips: all kept species, discarded butterfish, plus basic trip- and haul-level information
- Herring trips: complete catch information, plus basic trip- and haul-level information
- Squid trips: basic trip-level information

## Reviewed by FSB staff within 1 week

# Timeliness

## Late Trips Policy implemented in January 2013

## Consequences for late trip submissions



# Timeliness

Paper logs due within 5 calendar days

Complete review by FSB staff within 1 month

- NEFOP: Current average 23 days from landing
- ASM: Current average 10 days from landing

Complete data entry, auditing, and loading to master tables within 3 months

- Current average 83 days from landing

# Estimation Methods

Taught during initial training and reinforced during all debriefings and subsequent trainings

Actual weights always preferred

Tally/basket/tote counts

- Obtain average weight and multiply by total number

Volume-to-volume

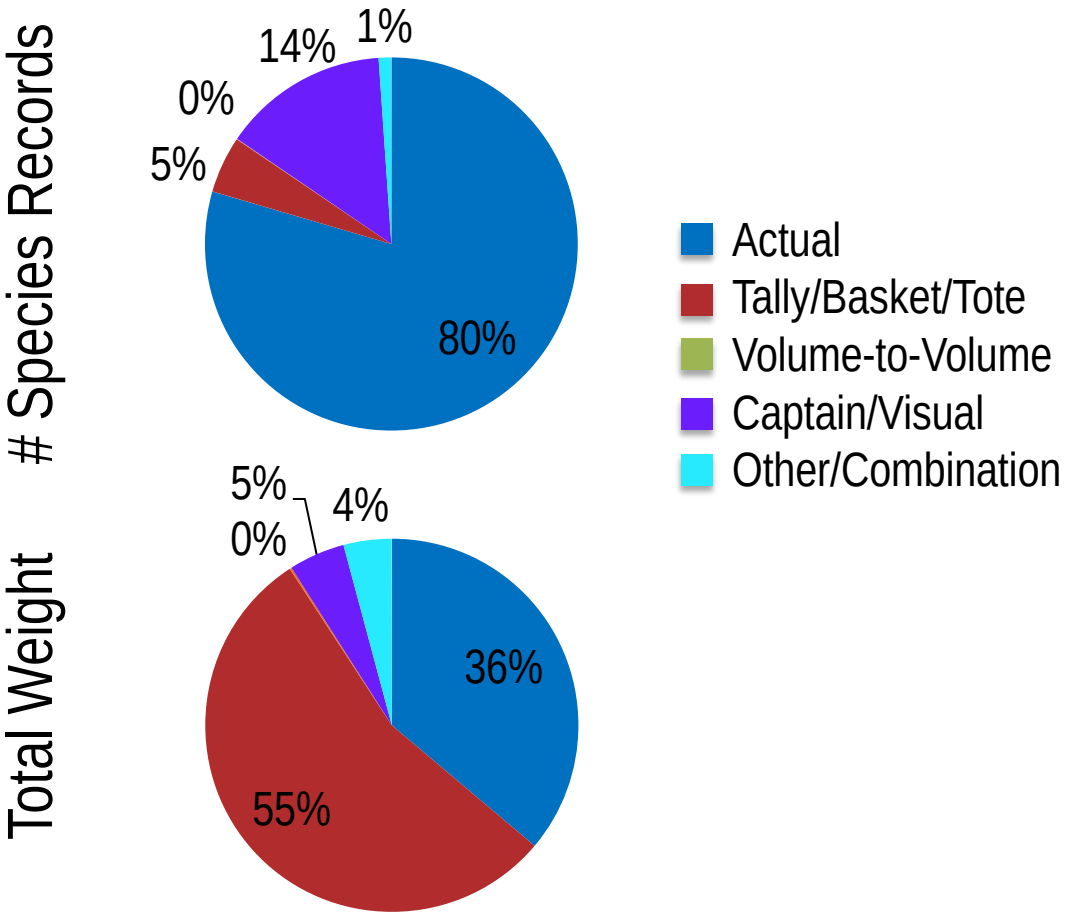
- Extrapolate subsample weight to total using ratio of total measured volume to known subsample volume
- Used for large catches in trawl fisheries

Cumulative sum

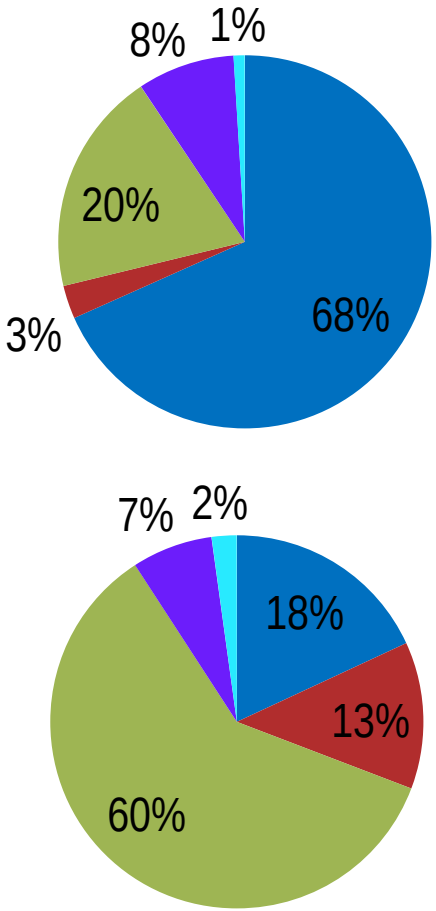
- Obtain actual weights over several hauls and divide evenly
- Used for deckloading situations, typically scallop dredge

# Estimation Methods

## Discards on Gillnet Trips, 2012




## Discards on Trawl Trips, 2012



# Species Verification Program

Starting in 2009, digital cameras issued to all observers

List of 30 required species

- Must be submitted at least once per quarter

Protected species and pelagic species

- Photos must be submitted each time encountered

Other species of uncertain identification

Photos reviewed by in-house staff or other ID experts in the Center

Follow-up debriefings (in person or over the phone) for all incorrect IDs

# Species Verification Program

2011-2012

- More than 24,000 identifications
- More than 71,000 photos
- Average ~100 photos per day

In first 4 months after training, observers have >85% successful IDs

After 4 months experience, close to 100% for common species, somewhat less for protected species (not encountered as frequently)

# Collaborations

## Fishery Management Councils

- Several staff are sitting members of Plan Development Teams
- Usually at least one staff member at all council meetings

## Marine Fisheries Commissions

## Individual States

## Industry organizations, such as Sector Managers

# Strengths

- High data quality standards
- Comprehensive training program
- Frequent debriefings with observers
- Data editors with past observing experience
- Robust auditing program

# Strengths

- Most industry members cooperate fully
- Incorporation of new electronic technology for at-sea data collection
- Data is directly accessible by most end-users
- Relatively unbiased vessel selection, given heterogeneity of fleets

# Challenges

- Uncertain funding levels and fluctuations in total sea days from year to year
- Competition for limited resources: management specifications (for example, 100% coverage of Closed Area fisheries) vs. scientifically designed sampling
- Conversion of federally-funded programs to industry-funded or cost-sharing
- Monitoring of fine-scale management measures

# Challenges

## Non-compliant vessels

- Safety deficiencies, not taking observers when required, high cancellation rates

## Increased safety concerns as vessels age

## Inconsistency between programs

- Entry software, forms/data logs, trainings

# Proposed Solutions

Develop institutional mechanisms to balance priorities with available resources

Provide readily available non-confidential data summaries

Develop remote training applications for observers

Promote observing as a professional career

- Improve technology/software for more efficient data transfer/storage/retrieval

Define “fishing trip” and “coverage” consistently across collection systems

Create efficient system to link data collection sources