

Staff Presentation for Herring Committee Report

Dr. Rachel Feeney
**Council Staff/
Interim Herring PDT Chairman**

**Council Meeting
January 26, 2016**



New England
Fishery Management Council

Outline of presentation

- Amendment 8
 - Public scoping comments
 - ABC control rule
 - Localized depletion
- Georges Bank haddock catch cap accountability measure
- River herring/shad catch cap monitoring



A8 Goals

1. To account for the role of Atlantic herring within the ecosystem, including its role as forage;
2. To stabilize the fishery at a level designed to achieve OY;
3. To address localized depletion in inshore waters.

A8 Objective

1. Develop and implement an ABC control rule that manages Atlantic herring within an ecosystem context and addresses the goals of A8.



Amendment 8

Public Scoping

- **Initial: Feb. 26 – Apr. 30, 2015**
- **Supplemental: Aug. 21 – Sept. 30, 2015**
- **290 comments (29 oral, 261 written)**



Commenters

468 people gave input, plus 28,000 signers of 3 form letters, with 1,300 personal comments.

Fishermen	387 (82%)
Non-governmental organization	41 (8%)
Other	20 (4%)
Unknown	20 (4%)
Total	468 (100%)



General Comments

- **Support:** Most comments supported addressing concerns about localized depletion, explicitly accounting for herring's role in the ecosystem, and thanked the Council for undertaking Amendment 8.
- **Concern:** 6 individuals and 2 NGOs (9 comments) were concerned with the goals of Amendment 8 – that accounting for herring as forage in the assessment is adequate, the focus should be on improving the assessment, and localized depletion lacks definition and sufficient scientific evidence.



Current Problems

(the more commonly cited)

- Atlantic herring declines negative for predators.
- Declines in other forage species have increased pressure to harvest Atlantic herring.
- Stock assessment accuracy.
- Insufficient precaution in accounting for herring as forage.
- Concentration of herring fishing effort in certain times and locations causing localized depletion.
- General concerns about mobile gear (bycatch, too much effort).



Desired Outcomes

(the more commonly cited)

- Protect spatial/temporal availability of herring for predators.
- Ecosystem-based management.
- Greater precaution in the control rule.
- Improved accounting of natural mortality in stock assessment &/or control rule.
- Improved abundance/value of predators and their fisheries.



Specific Ideas for Alternatives

(ABC Control Rule)

- Revise biomass target
- Revise fishing mortality rate
- Create biomass cut-off
- Consider forage needs on a sub-regional basis
- Create rules for data-poor situations
- Maintain stability of catch when stock conditions are normal



Specific Ideas for Alternatives

(localized depletion)

- Midwater trawl restrictions
 - Create midwater trawl inshore closure (30-50 mi.) off Cape Cod, RI and/or throughout.
 - Make Area 1A midwater trawl closure year-round.
 - Ban midwater trawls.
- Other
 - Closures should effort concentrate, lower Annual Catch Limits, ban commercial herring fishing, create day/trip limits.



Other Comments

- Many comments called for considering tradeoffs of: the value of herring to the ecosystem, herring and lobster fisheries, other commercial and recreational fisheries, whale watch industry.
- Several references to scientific studies, and examples of how other fisheries are managed.
- Networking among stakeholders evident. About 60 written comments signed by 200+ people used 6-8 versions of similar text.



Amendment 8

Acceptable Biological Catch (ABC) Control Rule



Interim ABC Control Rule

(No Action)

“ABC will be specified for three years based on the annual catch that is projected to produce a probability of exceeding F_{MSY} in the third year that is less than or equal to 50%.”

For 2016-2018, this value is 110,000 mt.”

2016-2018 Atlantic herring specifications



EBFM PDT ecological advice (2015)

- Several control rules could account for herring as forage (e.g., keep $B > B_{MSY}$, reduce catch to promote rebuilding). Suggested six rules to consider.
- Productivity of predators/trophic interactions are difficult to quantify; several models are developing.
- Potential ABC control rules should be evaluated through simulation to reduce risk of depletion.
- Trophic effects of local availability may be more effectively managed by tools other than an ABC control rule.



ABC CR preliminary eval. (2015)

- Deroba simulated the six potential rules suggested.
- Performance metrics
 - $SSB/SSB_{unfished}$
 - SSB/SSB_{MSY}
 - # years $SSB < 0.4 SSB_{unfished}$
 - Fishery yield/MSY
 - Interannual variation in yield
 - Years with fishery closures



Science and Statistical Comm.input (2015)

- Commended the preliminary work and encouraged a Management Strategy Evaluation (MSE).
- Reiterated its support for MSE becoming more central to the scientific basis for management.
- Made suggestions for refining the evaluation to better approximate natural mortality and recruitment.
- Deroba later refined the analysis accordingly; the results were not appreciably affected.



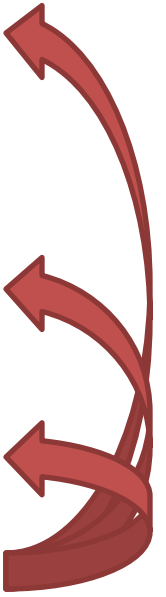
What is Management Strategy Evaluation?

- A collaborative decision-making process to aid development of alternatives.
- Greater upfront public involvement in identifying potential objectives and technical analysis how potential alternatives perform relative to various objectives.
- A tool increasingly used by NMFS and Councils to support decision-making, though new to New England.



MSE components/steps

1. Identify range of ABC CR objectives and performance metrics to test potential ABC CRs.
2. Identify potential ABC CRs to be tested.
3. Test potential ABC CRs.
4. Evaluate results relative to the objectives.
5. Inform Range of Alternatives.



Herring AP and Cte motions – Support MSE approach



Typical approach vs. MSE

Typical approach

1. Set amendment goals
2. Develop alternatives
3. Approve range of alternatives
4. Impacts analysis
5. Approve DEIS
6. Public comment on DEIS
7. Recommend preferred alternative

MSE

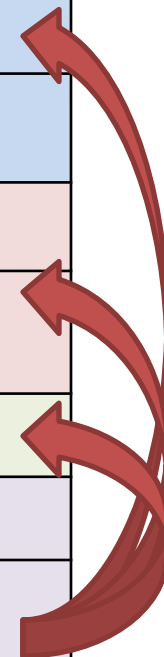
1. Identify objectives, metrics, CRs
2. Test & iterate
3. Inform range of alternatives.

MSE contributes



Proposed MSE process

Phase	Duration	Activity
1. Select objectives & performance metrics	2-3 months	Public stakeholder workshop
		PDT/AP/Cte input
		Council approval
2. Select ABC CRs to be evaluated	2-3 months	PDT/AP/Cte input
		Council approval
3. Simulations	1 month	Contractor (TBD)
4. Evaluate results	1 month	Contractor (TBD)
	2-3 months	Feedback from workshop, PDT, AP, Cte, Council. Potential iteration and review to ensure objectives are met.
5. Range of Alternatives	2 months	PDT/AP/Cte input
		Council approval



A8 timeline

2015	Council initiates action, revises goals & objectives, public scoping
2016	Review scoping comments, conduct MSE of potential ABC control rules, develop alternatives, approve range of alternatives
2017	Impacts analysis of alternatives, peer review of MSE, public comment period on DEIS, Council selects preferred alternatives
2018	A8 implementation; develop 2019-2021 herring specifications with ABC control rule implemented



Amendment 8

Localized Depletion



Review of current measures

Seasonal split of sub-ACLs:

- Area 1A: January-May (0%) & June-December (100%).
- Area 1B: January-April (0%) & May-December (100%).
- Rationale primarily economic, to maximize ACL use.

June-Sept. Area 1A midwater trawl closure:

- Rationale (Amendment 1, 2007):
 - Ensure access to herring for purse-seine/fixed gear.
 - Public concern about midwater trawl impacts on the inshore herring component.
 - SSC concerns about concentrated catch inshore and need for precaution due, in part, to lack of data on inshore resource.
- No data analysis: “No specific data that link midwater trawling to localized depletion and overall declines in herring abundance are available...”



December 10 PDT mtg

- PDT discussed potential technical analyses to support developing problem statement and measures.
- Sought direction from the Cte, noting several challenges with the data availability.
- Preliminary look at 2006-2013 changes in cod, dogfish, and pollock catch (by gear type, per trip, per tow) in 3 statistical areas within a week of herring catch.
- No significant trends discovered; doesn't mean that localized depletion isn't occurring; other treatments of the data may be necessary.



January 12 Herring AP mtg

- Identify the geographic areas of interest prior to developing measures.
- Examine localized depletion based on scientific, biological and ecological data.
- Determine if goals of Area 1A closure have been met.

No consensus on specific analyses to recommend.



January 13 Herring Cte mtg

PDT tasking.....

- Determine where/when herring fishing intensifies within 12 nm of shore; analyze midwater trawl trips (catch, tow duration).
- Identify herring & predator fishery locations.
- Look for evidence of pulse fishing.
- Examine ideas from scoping comments.
- Refine prior PDT analysis (e.g., pre-2006).
- How much herring is needed for forage?
- Herring/cod relationship in Ipswich Bay.
- Impacts of closing 30-min areas around Cape Cod.



January 21 PDT mtg

- Data limitations.
 - Scant midwater trawl effort within 12 mi. ... robust tow-level analysis?
 - Few samples in small areas...trends?
 - Limited cod-herring diet data in Ipswich Bay.
 - Various spatial resolutions on catch (virtually no private angler data, poor tuna data).
- Very hard to predict effort shifts.
- Correlation doesn't necessarily = causality.



Georges Bank Haddock Catch Cap Accountability Measure

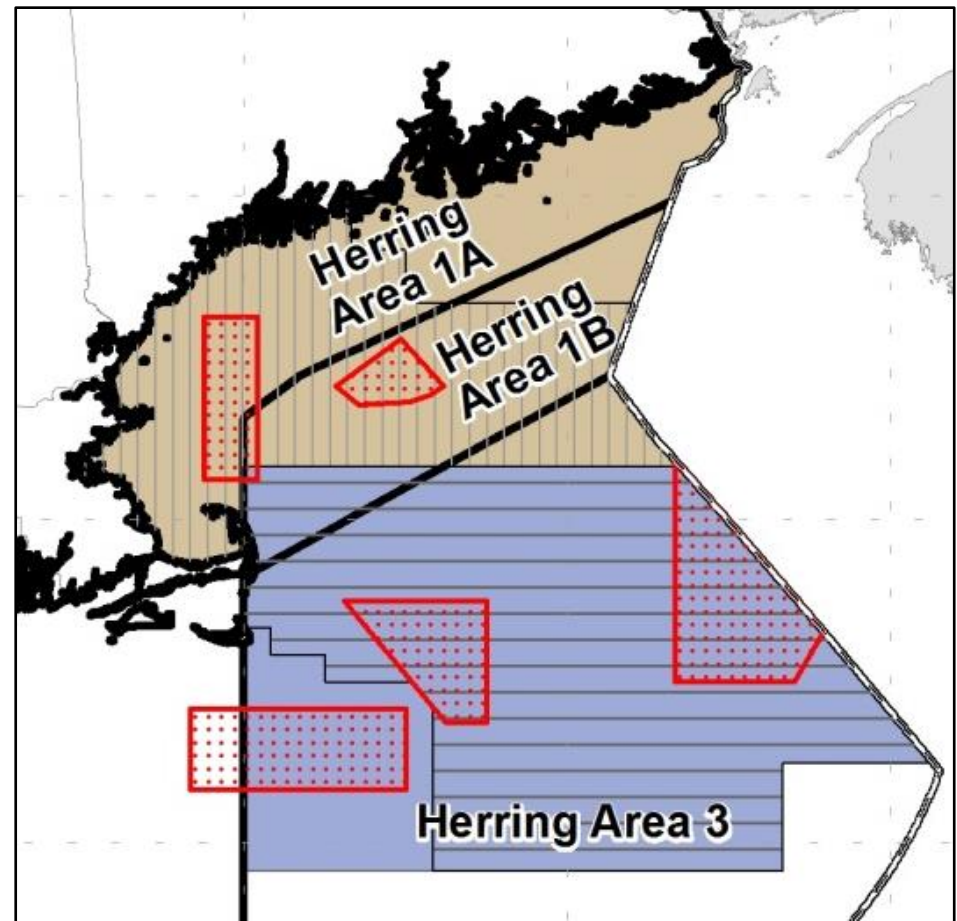
New 2016 priority:





“initiate an action to amend the accountability measures in the Georges Bank haddock catch cap in the herring fishery.”



Haddock caps

- In 2011, GOM and GB haddock catch caps separated and increased to 1% of ACL.
- When cap is reached, midwater trawl vessels have 2,000 lb possession limit in most of haddock stock area for remainder of GF fishing year.



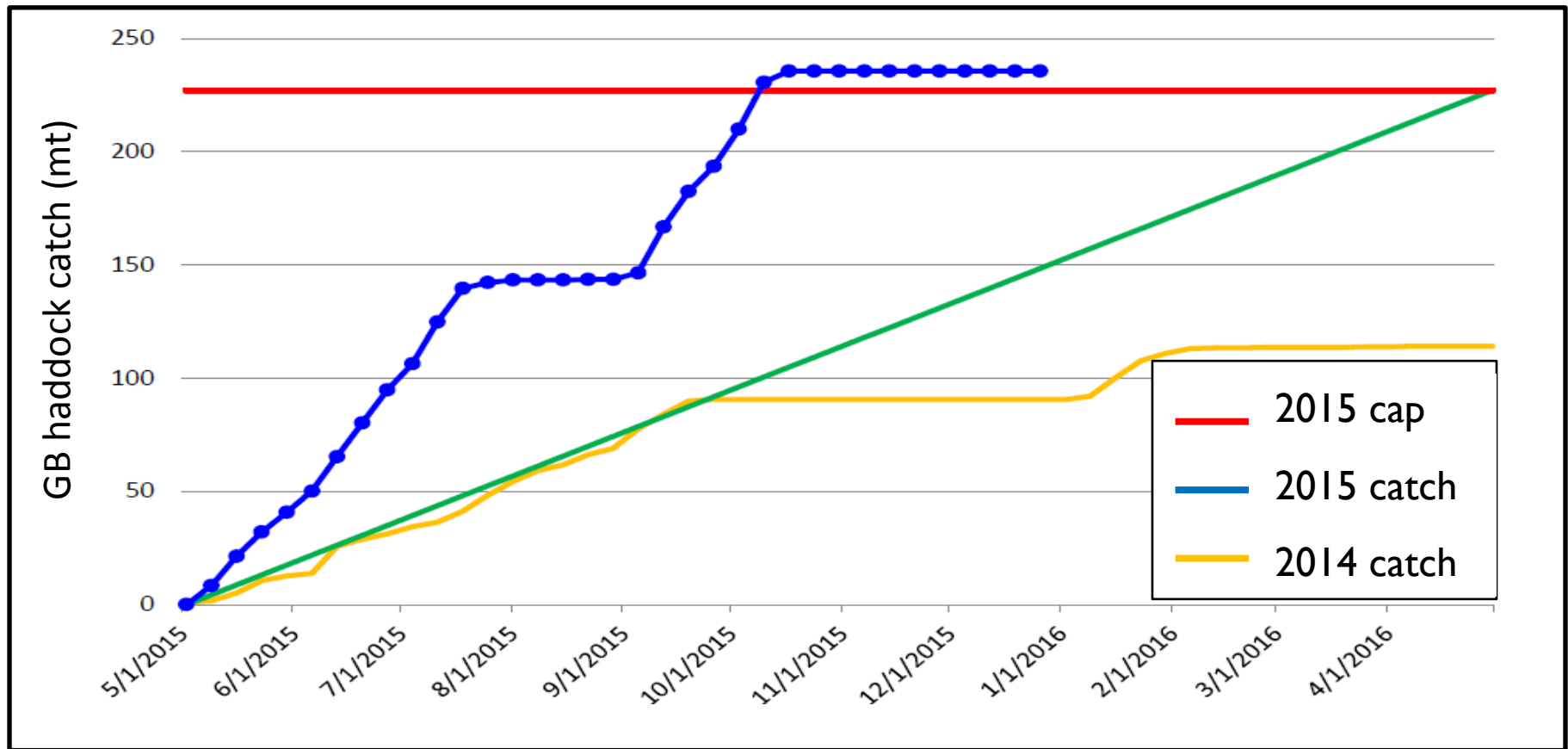
-  Herring GOM Haddock Accountability Measure Area
-  GOM Modified Haddock Stock Area
-  Herring GB Haddock Accountability Measure Area
-  GB Modified Haddock Stock Area

- Overage deduction in next year's sub-ACL.



GB haddock cap in 2015

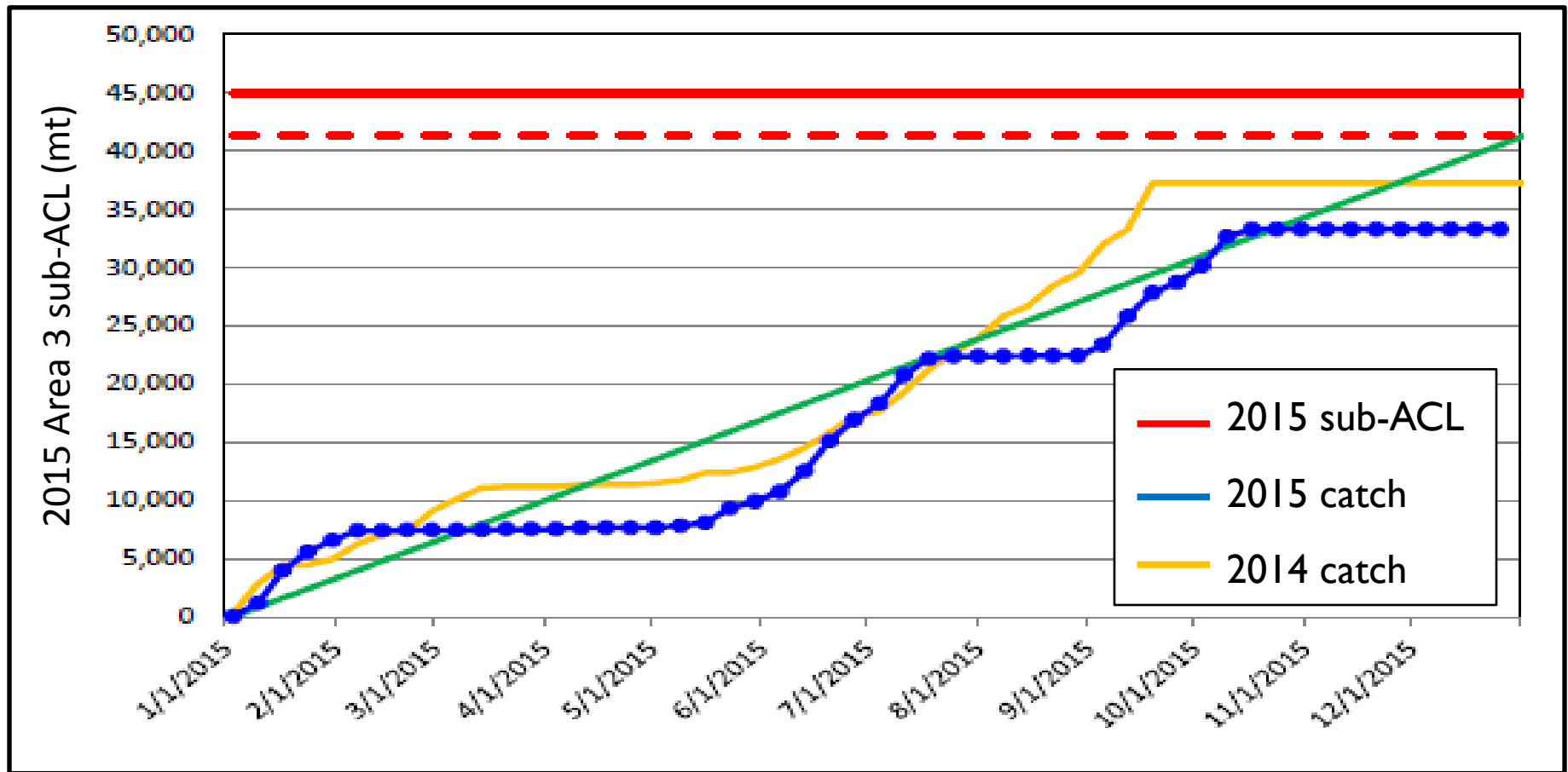
- As of August 12, **8%** of the cap estimated to be used.
- Then additional observer data became available.
- As of October 31, **103.76%** of the cap used.



Source: GARFO quota monitoring website, 12/27/2015 update

GB haddock cap

- The AM constrained 2015 effort in Area 3; fishery inactive in Area 1B since early June.
- 2016 cap expected to increase by 125%, to 511 mt.



Source: GARFO quota monitoring website, 12/27/2015 update

GB haddock catch cap

- Revising AM generally in realm of Herring Cte.
- Revising AM trigger would need joint H/GF action.
- Any revisions would at least involve Groundfish PDT.

Ideas for AM trigger changes

- % of GB haddock ACL; degree of overage that triggers AM

Ideas for AM changes

- Area closure in following year, area closure boundary, closure size linked to degree of overage

Herring Cte tasked PDT with exploring the approach of the scallop AM for GB yellowtail flounder, and reviewing the closure area boundary.



River herring/shad catch cap monitoring



Should portside data be used for in-season cap monitoring?

Sept. 2015 Council motion:

“That because River herring/Shad bycatch in the sea herring fishery is monitored by NMFS solely from observer data, the Council requests NMFS include state port-side monitoring of RH/S catch to determine that catch relative to the bycatch caps.”

Council motion postponed to a later meeting due to the need for more information.

Herring AP – no motion; support for Study Fleet.

Herring Cte – motion to support; add haddock.



PDT input

- MEDMR and MADMF run similar voluntary portside programs; sampling differences & data transmission lags, could be resolved.
- Some offload locations not sampled due to safety.
- From 2008-2014, portside sampling measured 16% additional trips.
- Requiring participation/safety standards may resolve any data biases; requires Council action.

- Support moving towards using the data to monitor RH/S and haddock catch caps.
- Technical work needed to determine if program differences would bias estimations.

