



Unmanaged Forage Omnibus Amendment



Council Meeting
February 9, 2016
New Bern, NC

Outline

- List of forage taxa
- Purpose statement, goals and objectives
- Management alternatives
- EFP process
- Plans for next steps

Objectives

- Approve for public hearing documents:
 - List of species
 - Purpose/goals and objectives
 - Range of alternatives
- Guidance for next steps (e.g. FMAT analysis, public hearing plans)

List of Forage Species



John McMurray

List of Forage Species

- FMAT recommendation
- EOP AP recommendation
- EOP Committee recommendation

List of Forage Species

- Because an FMP amendment, forage species need to be linked to FMPs (predator/prey or bycatch)
- FMAT examined stomach contents and observed bycatch on bottom trawl trips

List of Forage Species

FMAT list contains:

- 285 taxa identified from diet data, scoping comments, and a literature review
- Contains additional information on bycatch, presence in diet of HMS and marine mammals, size of adults, distribution

List of Forage Species

FMAT comments

- 47-110 taxa identified as high priorities (depending on prioritization scheme used)
- Narrowing down the list any further will require policy decisions better left to the Committee and Council

List of Forage Species

AP comments

- Many thought list was too long
- No consensus on how to prioritize
 - Focus on those with most information or highest importance vs. be as comprehensive as possible
- Many thought 0.1% and 0.001% thresholds for “important” and “potentially important” were too low. No consensus on preferred %.

List of Forage Species

>5% relative mean stomach weight

NEFSC

Mackerels

Comb jellies

Rock crabs

Octopods

NEAMAP

Copepods

Nematodes

Bay anchovy

Rock crab

Sand shrimp

Mysids

Striped anchovy

Flounders

Polychaetes

Bloodworms

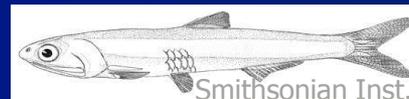
List of Forage Species

AP comments

- 9 species presented during scoping, now 285 taxa – some AP members think the Council should re-scope
- Some AP members preferred the initial 9
- One AP member wanted initial 9 plus those added during scoping

White Paper/Scoping List

- Bay anchovy
- Striped anchovy
- Silver anchovy
- Round herring
- Thread herring
- Spanish sardine
- Sand lances
- Atlantic silverside



Managing Forage Fishes in the Mid-Atlantic Region, a White Paper to Inform the Mid-Atlantic Fishery Management Council. November 2014.

Available at: mafmc.org/actions/unmanaged-forage

Committee Recommendation

- Engraulidae (anchovies)
- Clupeidae (herrings, sardines)
- Argentinidae (argentines)
- Atherinopsidae (silversides)
- Ammodytidae (sand lances)
- Sternoptychidae (pearlsides)
- Moronidae (perches)
- Chlorophthalmidae (greeneyes)
- Trachipteridae (ribbonfish)

Continued...

Committee Recommendation

- Scombridae (chub, bullet, frigate, little tuna)
- *Scomberesox saurus* (Atlantic saury)
- Hemiramphidae (halfbeaks)
- *Peprilus paru* (harvestfish)
- *Tautogolabrus adspersus* (cunner)
- Ophidiiformes (cusk eels)
- Pelagic molluscs (squids, cuttlefish etc.)
- Copepods, Krill, Amphipods and any other species under 1 inch as adults

Committee Recommendation

- Contains 49+ species
- Ribbonfish vs. cutlassfish
 - Replace trachipteridae (ribbonfish) with trichiuridae (cutlassfishes)
- Inshore species (remove?):
 - Gizzard shad
 - Moronidae (perches)
- Added erroneously (not in Mid-Atlantic)
 - Atlantic argentine

Committee Recommendation

- **FMAT comments**

- Not clear why certain taxa are on the list and others are not
- No link to FMPs identified:
 - Ribbonfish (trachipteridae/trichiuridae)
 - Halfbeaks (hemiramphidae)
- Recommend including full FMAT list as appendix in public hearing documents

Purpose statement, goals and objectives



Bay anchovy (VIMS)

Purpose Statement

Draft considered at Dec. 2015 Council meeting:

"...to use the Council's discretionary authority to prohibit the development of new or expansion of existing directed fisheries on unmanaged forage species in the Mid-Atlantic."

Purpose Statement

- Required under National Environmental Policy Act (NEPA)
- Range of management alternatives must address purpose statement
- Statement should be considered a draft until the EA/EIS is complete

Purpose Statement

- "...until adequate information is available to promote ecosystem sustainability"
- FMAT: not necessary to include this in the purpose statement
 - Alternatives must be measured against the purpose statement
 - Would require the Council to define "adequate information to promote ecosystem sustainability"
 - EFP process already exists – doesn't require an alternative or NEPA analysis

Goals and Objectives

- No specific requirements under NEPA, unlike purpose and need
- Not yet explicitly stated by Council
- Could be used to address concerns about the purpose statement

Goals and Objectives

■ Goals

- What is the Council trying to accomplish?
- Similar to the purpose statement

■ Objectives

- How will the Council achieve their goals?

Goals and Objectives

"The goal of this amendment is to prohibit the development of new and expansion of existing directed commercial and recreational fisheries on unmanaged forage species in Mid-Atlantic Federal waters until the Council has had an adequate opportunity to both assess the scientific information relating to any new or expanded directed fisheries and consider potential impacts to existing fisheries, fishing communities, and the marine ecosystem, in order to advance ecosystem approaches to fisheries management in the Mid-Atlantic."

Goals and Objectives

FMAT-suggested objectives:

- 1) Develop criteria to identify unmanaged forage species that are important for Council-managed predators,*
- 2) Regulate catch of those species, and*
- 3) Allow new fisheries for those species to develop, or existing fisheries to expand, only after the Council has had an adequate opportunity to both assess the scientific information relating to the fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem*

AP Comments

- Purpose statement should include “until adequate information is available to promote ecosystem sustainability” (2 AP members)
- Purpose statement and/or goals and objectives should state that the intent is not to constrain existing fisheries (2 AP members)

Committee Recommendation

Add *"in order to advance ecosystem approaches to fisheries management in the Mid-Atlantic"* to the goal statement and need statement (not yet articulated)

Management Alternatives



Draft Alternatives

- Need to consider a reasonable range of alternatives (not too narrow or too broad)
- Should have a justifiable reason for removing alternatives (“considered but rejected”)

Draft Alternatives

1. No action
2. Prohibit harvest
3. Limit capture
4. Administrative alternatives



Sand Lance (Department of Fisheries and Oceans Canada)

Alt. 2: Prohibit Harvest

2a: Prohibit all possession

2b: Prohibit directed fishing, but allow an incidental possession limit

2c: Prohibit possession once a catch limit (e.g. a directed fishery possession limit or an annual landings limit) is met

Alt. 2: Prohibit Harvest

AP comments:

- Alt. 2c (catch limits) seems inconsistent with EC approach (1 AP member)
- Alt. 2b (allow incidental possession limit) seems only logical choice (1 AP member)

Alt. 2: Prohibit Harvest

EOP Committee recommendations:

- Add 2d: Allow an incidental possession limit once an annual catch limit is met
- Intended for species with existing fisheries, others can be addressed through 2b (incidental possession limit)
- Intended to prevent bycatch problems, but still be constraining enough to prevent “a backdoor to a directed fishery”

Alt. 2: Prohibit Harvest

2a: Prohibit all possession

2b: Prohibit directed fishing, but allow an incidental possession limit

2c: Prohibit possession once a catch limit (e.g. a directed fishery possession limit or an annual landings limit) is met

2d: Allow an incidental possession limit once an annual catch limit is met

Alt. 3: Limit Capture

3a: Spatial closures

3b: Seasonal closures

3c: Gear regulations

Alt. 3: Limit Capture

- AP comments:
 - Should remove alt. 3, alt. 2 sufficient (1 AP member)
- Committee recommendation:
 - Remove alt. 3, but retain alternatives 4b ii-iv (see next slide)

Alt. 4: Administrative

4a: Modify list of approved fisheries and gear types (50 CF 600.725)

4b: Frameworkable items

i: List of ecosystem component species

ii: Spatial and seasonal closures

iii: Gear regulations

iv: Possession limits

Committee recommendations

- FMAT should develop alternatives to allow new fisheries to develop
- EFP process not sufficient

EFP Process

- EFPs issued by GARFO for fisheries-related research, including:
 - Seafood product development
 - Market research
 - Compensation fishing
 - Collection of fish for public display

www.greateratlantic.fisheries.noaa.gov/aps/permissions/forms/efploaeeaapossessionloaguidance.pdf

EFP Process

EFPs must:

- Be consistent with management objectives of respective FMP, with MSA, and other laws
- Not have a detrimental effect on respective resources and fishery
- Not cause any quota to be exceeded
- Not create significant enforcement problems

EFP Process

- Applicants must submit letter, application, research plan, and NEPA documents (if necessary) to NMFS at least 60 days before desired start date of exempted fishing
- Regional Administrator shall consult with the Executive Director of the MAFMC regarding exemptions to MAFMC FMP regulations

EFP Process

- Pacific Council EFPs for forage species:
 - Review by SSC, AP, other advisory bodies
 - Initial review at November Council meeting
 - Final action at March Council meeting
 - Approved applications sent to NMFS
- Similar EFP process for all FMPs, not just for forage

Next Steps

Staff recommendation:

- FMAT meeting February or March 2016
- AP meeting March 2016
- EOP Committee meeting March 2016
- Council meeting April 2016
- Public hearings May 2016?

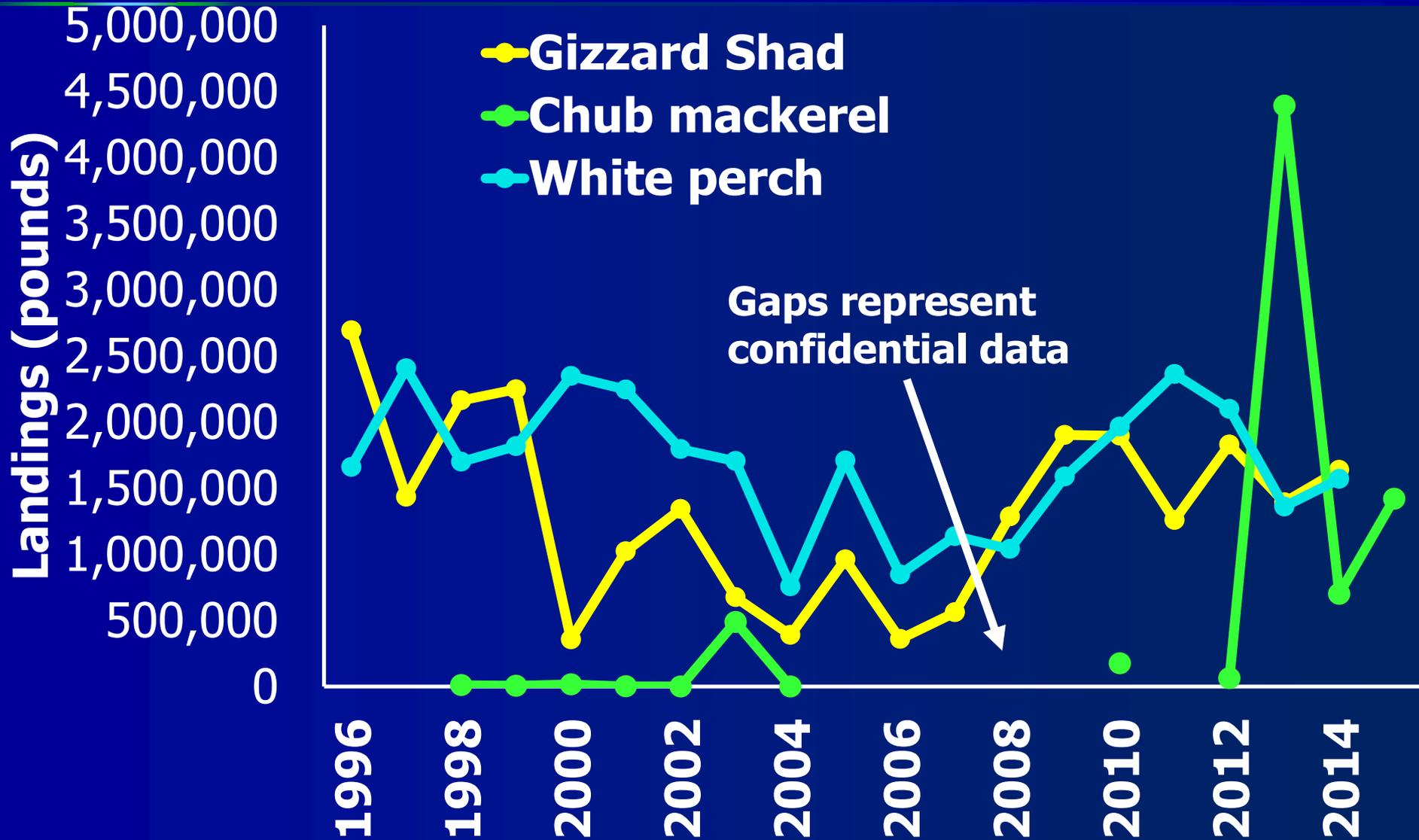
Decision Points

- For public hearings:
 - List of forage species
 - Purpose/goals and objectives
 - Management alternatives
- Guidance on next steps
(including requests to FMAT)

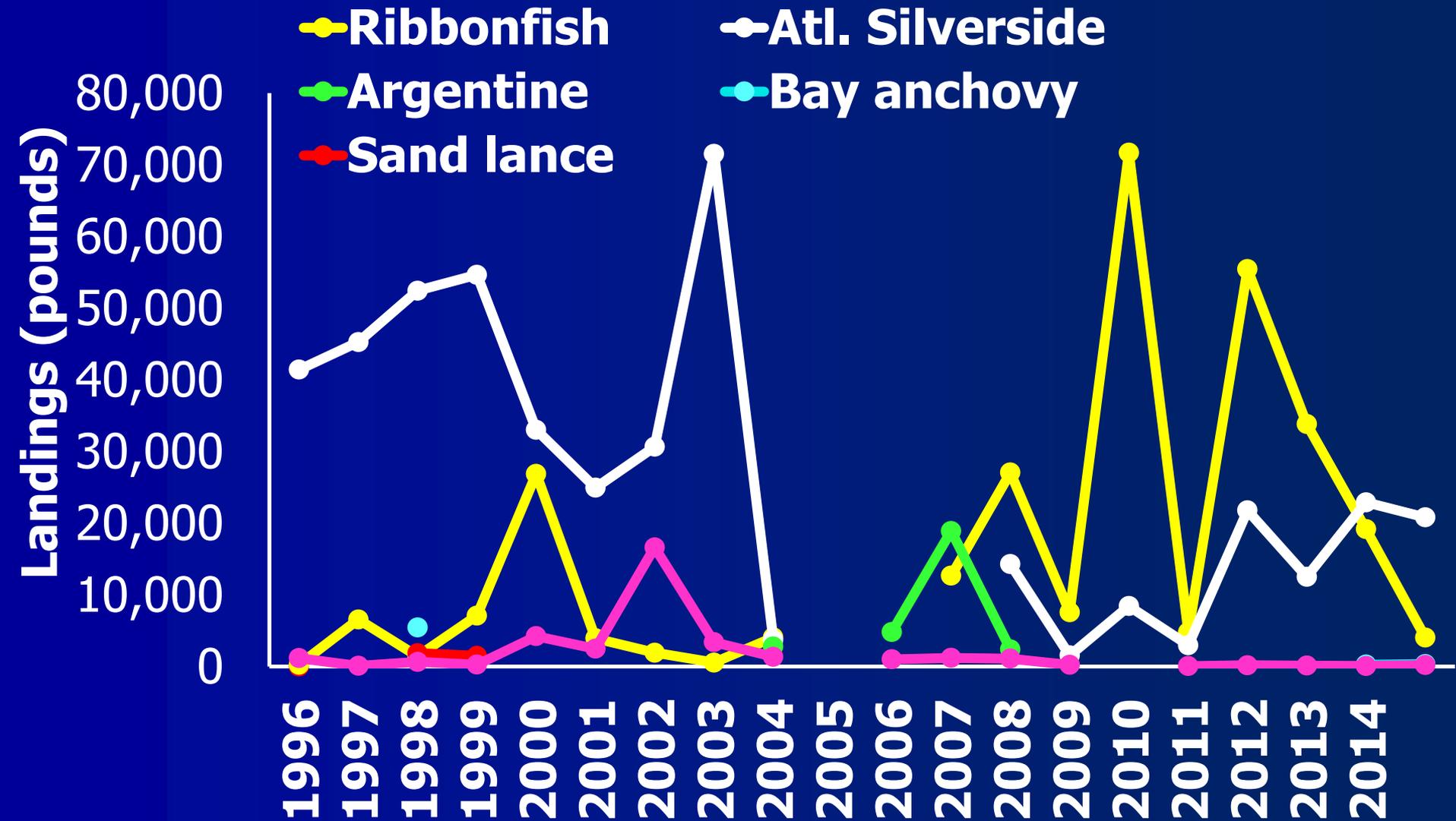
Landings

- FMAT examined dealer, VTR data
- Summarized at annual level
- Some species on FMAT list don't have species codes
- Confidential data in many years
- FMAT will focus on landings and draft trip limits for next steps

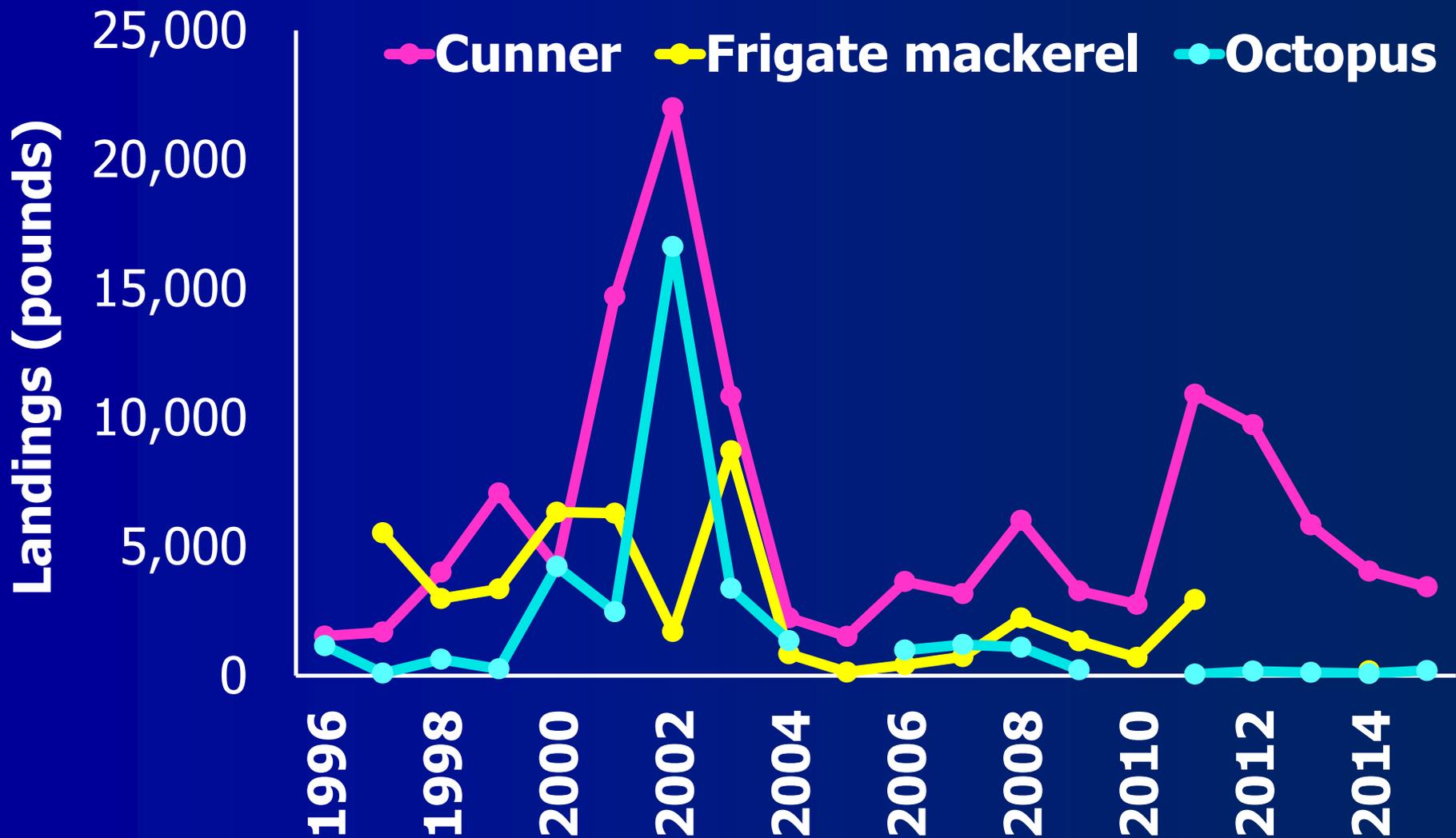
Landings



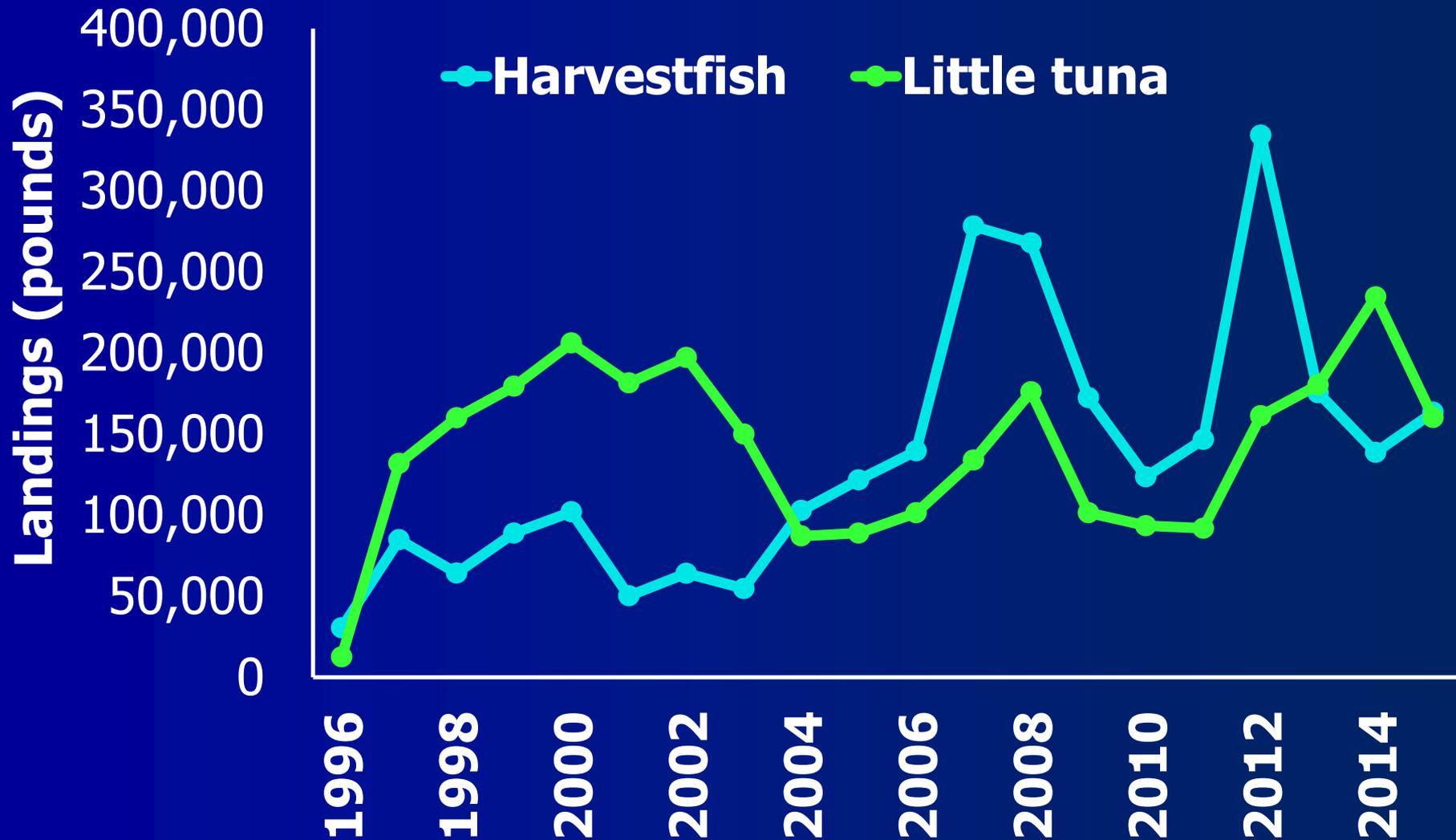
Landings



Landings



Landings



Ecosystem Components

Should:

- Be non-target species
- Not be subject to overfishing, not be overfished or approaching overfished
- Not be likely to become subject to overfishing or overfished in the absence of conservation and management measures
- Not generally be retained for sale or personal use

Ecosystem Components

May be included in FMPs for any of the following reasons:

- Data collection purposes
- Ecosystem considerations related to specifications of OY for the associated fishery
- As considerations in the development of conservation and management measures for the associated fishery
- To address other ecosystem issues

Stocks in need of conservation and management (1 of 2)

- Is an important component of the marine environment
- Is caught by a fishery
- Whether an FMP can improve or maintain the condition of the stock
- Is the target of a fishery
- Is important to commercial, recreational, or subsistence users
- Fishery is important to the Nation and regional economy

Stocks in need of conservation and management (2 of 2)

- Need to resolve competing interests and conflicts among user groups and whether an FMP can further that resolution
- Economic condition of the fishery and whether an FMP can produce more efficient resolution
- Needs of a developing fishery and whether an FMP can foster orderly growth
- Extent to which fishery could be or is adequately managed by states, by state/Federal programs, by Federal programs, by international commissions, or by industry self-regulation, consistent with MSA

Forage definition

- Small to moderate in size throughout lifespan
- Subject to extensive predation throughout lifespan
- Comprises considerable portion of diet of predators throughout lifespan
- Consumptive removals are a major element of mortality

Forage definition

- A lower to mid-trophic level species
- High number of trophic linkages as predator and prey –important conduit of energy/biomass
- Often form schools
- Often have high inter-annual variability in recruitment
- Relative to primary production and primary producers, has a ratio of production and biomass, respectively, to those producers not smaller than on the order of 10^{-3} to 10^{-4}

List of Forage Species

Jan. 2016 staff recommendation (1 of 2)

COMMON NAME	SPECIES NAME	FAMILY
AMPHIPODS		MANY (ORDER AMPHIPODA)
ATLANTIC SAURY	SCOMBERESOX SAURUS	SCOMBERESOCIDAE
BEARDFISH	POLYMIXIA LOWEI	POLYMIXIIDAE
BLOODWORMS	GLYCERA SP.	GLYCERIDAE
BRITTLE STARS		MANY (CLASS OPHIUROIDEA)
COMB JELLIES		MANY (PHYLUM CTENOPHORA)
COPEPODS		MANY (SUBCLASS COPEPODA)
CUSK-EELS		OPHIDIIDAE
DECAPOD CRABS		MANY (ORDER DECAPODA)
EELS		MANY (ORDER ANGUILLIFORMES)
FLATWORMS		MANY (PHYLUM PLATYHELMINTHES)
FOURBEARD ROCKLING	ENCHELYOPUS CIMBRIUS	LOTIDAE
HERRINGS		CLUPEIDAE
ISOPODS		MANY (ORDER ISOPODA)
JELLYFISH		MANY (CLASS SCYPHOZOA)
KRILL		MANY (ORDER EUPHAUSIACEA)
LADY CRABS	OVALIPES OCELLATUS	PORTUNIDAE
LANTERNFISH		MYCTOPHIDAE

List of Forage Species

Jan. 2016 staff recommendation (2 of 2)

COMMON NAME	SPECIES NAME	FAMILY
LARVACEANS		MANY (CLASS APPENDICULARIA)
LONGFIN SQUID	LOLIGO SP BESIDES DORYTEUTHIS PEALII	LOLIGINIDAE
MACKERELS		SCOMBRIDAE
NEMATODES		MANY (PHYLUM NEMATODA)
OCTOPODS		MANY (ORDER OCTOPODA)
POLYCHAETES		MANY (CLASS POLYCHAETA)
PTEROPODA		MANY (SUPERORDER PTEROPODA)
ROCK CRAB	CANCER IRRORATUS	CANCRIDAE
SAND FLOUNDERS		PARALICHTHYIDAE
SAND LANCES	AMMODYTES SP	AMMODYTIDAE
SEA CUCUMBERS		MANY (CLASS HOLOTHUROIDEA)
SEA SQUIRTS		MANY (CLASS ASCIDIACEA)
SEAROBINS	PRIONOTUS SP	TRIGLIDAE
SHRIMP		MANY (CLASS CRUSTACEA)
SMALLMOUTH FLOUNDER	ETROPUS MICROSTOMUS	LOTIDAE
SNAILS		MANY (CLASS GASTROPODA)
SNAKE EELS		OPHICHTHIDAE
TUNICATES		MANY (SUBPHYLUM UROCHORDATA)
URCHINS, SAND DOLLARS		MANY (CLASS ECHINOIDEA)

50 CFR 600.725

Fishery	Authorized gear type
16. Coastal Gillnet Fishery (Non-FMP)	Gillnet
17. Recreational Fishery (Non-FMP)	Rod and reel, handline, spear, hook and line, hand harvest, bandit gear, powerhead, gillnet, cast net.
27. Commercial Fishery (Non-FMP)	Trawl, pot, trap, gillnet, pound net, dredge, seine, handline, longline, hook and line, rod and reel, spear.

Bluefish diet

**NEFSC trawl
surveys,
Mid-Atlantic
offshore strata**

**Unmanaged prey
only**

Common Name	% Relative Mean Weight
SAND LANCES	5.528
ROUND HERRING	4.911
RED HAKE	2.153
OCEAN POUT	1.827
SEAROBINS	1.308
ATLANTIC SAURY	0.532
SCUP FAMILY	0.473
LONGHORN SCULPIN	0.303
SNAKE EELS	0.295
LEFTEYE FLOUNDERS	0.276
TRUE JELLYFISHES	0.236
COMB JELLIES OR SEA WALNUTS	0.230
SHRIMP	0.224
SPOTTED HAKE	0.217
STRIPED ANCHOVY	0.162
NORTHERN SEAROBIN	0.118
ROCK CRABS	0.118
FAWN CUSK-EEL	0.099
BAY ANCHOVY	0.055
BUTTERFISHES	0.020