



# **Unmanaged Forage Action**

**Council Meeting**

**Philadelphia, PA**

**October 7, 2015**

# Outline

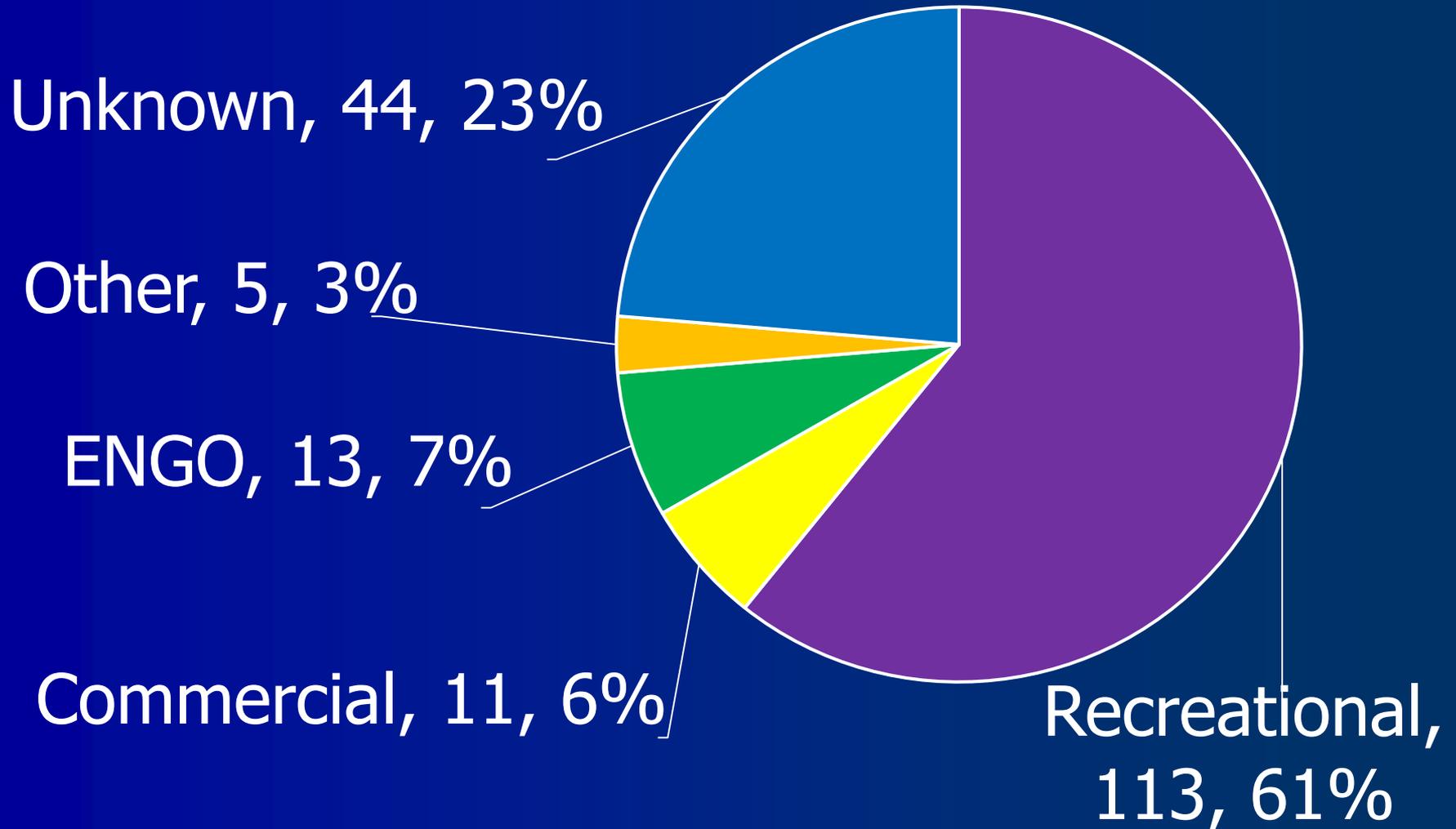
- Scoping results
- Staff recommendation
- FMAT recommendation
- Next steps

# Scoping

- **8 hearings**
- **96 attendees**
  - 38 provided comments
- **143 written comments**
  - 62 copies of a form letter
- **125 unique comments**  
(hearings & written)



# Affiliations

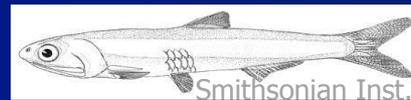


# Which forage species?

- Many (at least 77) in favor of white paper list
- Many emphasized:
  - Sand eels/sand lance (20)
  - Anchovies/bay anchovies (16)
  - Silversides (10)

# White Paper 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](http://mafmc.org/actions/unmanaged-forage)

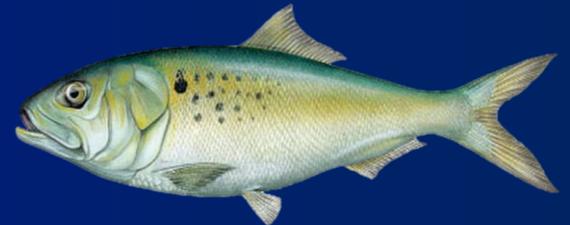
# Which forage species?

- Frequently mentioned additions:
  - Mullet(s) (12)
  - Grass shrimp (12)
  - Krill (64 – including form letter)
  - Half beaks (68 – including form letter)
  - Cinder worms (62 – form letter)
  - Shads (5)
- 6 in favor of FMAT list presented at July SSC meeting

# Which forage species?

## Unmanaged vs. under-managed

- Shrimp (2)
- Menhaden (3)
- River herring (2)
- American eels (1)



# Which forage species?

- Requests for exemptions/exclusions
  - Chub mackerel (2)
  - Spanish sardine (1)
  - Round herring (1)
  - More on this in a bit...
- 4 requested that the list be frameworkable
  - *4 described distribution shifts*



# Why type of action?

- **85 in favor of amendment(s)**

*"If we could tie them into current plans that are already in place, that would streamline getting them into the system"*

- **11 in favor of a new FMP**

*"I think something as big as this should be a stand-alone action, just because of the scope"*

# Which provisions?

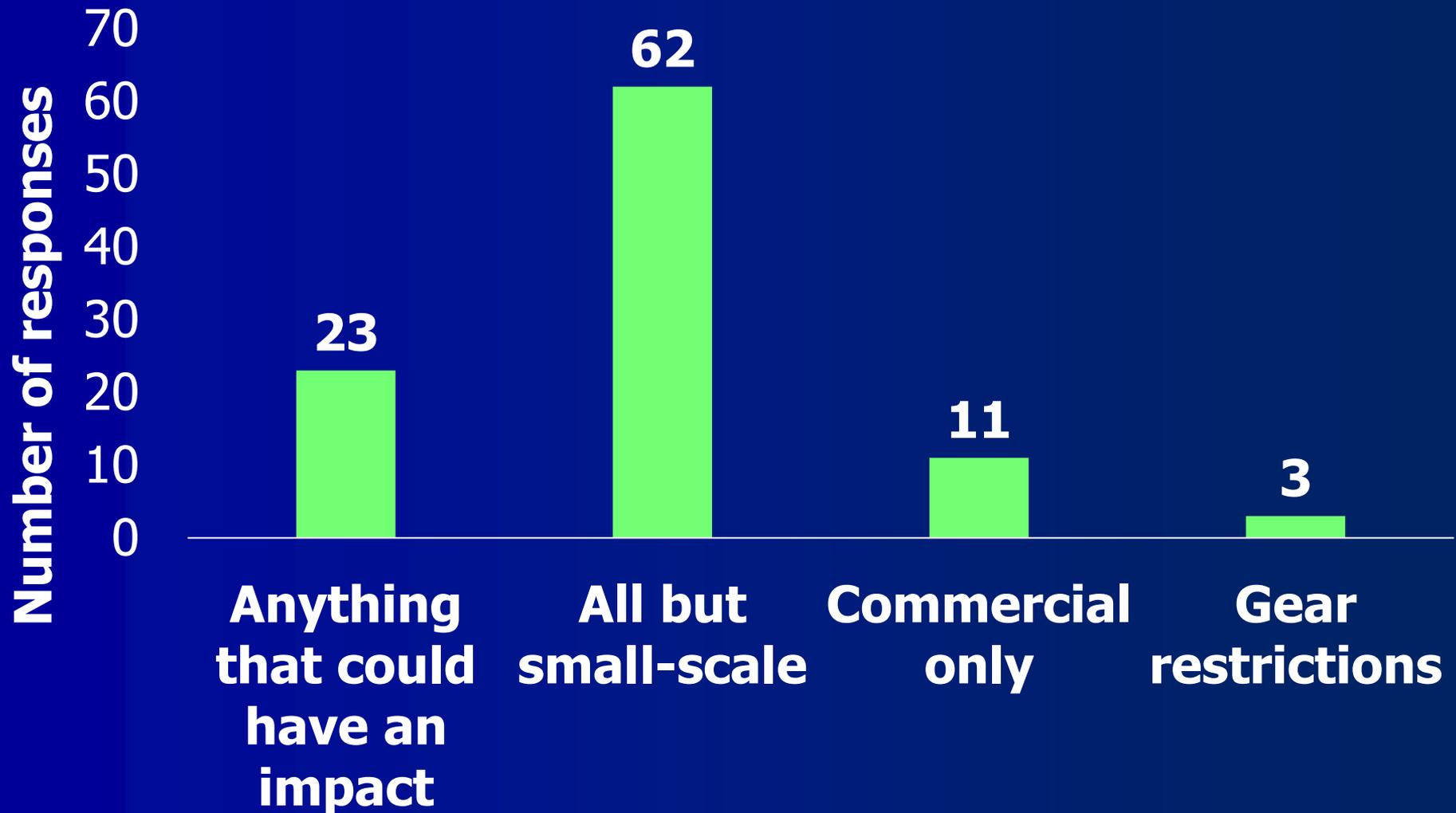
## 85 in favor of Ecosystem Component species

None commented in favor of:

- Stocks in the fishery
- Components of EFH



# What type of fishing?



# What type of fishing?

*"...all harvest...in federal waters. Existing state waters small-scale fisheries such as the raking by hand of sand lance...should not be included."*

*"Allowing commercial fishing of these Forage Species could create an irrevocable impact on the larger fishery."*

*"By cutting out the commercial fishermen, you really haven't done anything. The recreational fishermen are still going to be catching bait."*

# Over what area?

- 82 said “within Council’s jurisdiction”
- 26 said include state waters or cover as large of an area as possible



# Expansion of existing fisheries

- 79 said the Council should prohibit the expansion of existing fisheries
- Few substantive comments on how to do it

*"Freeze the harvest of all unmanaged forage species at their current level or an average of the last few years"*

# Existing Fisheries

*"Some of these unmanaged fish are a bailout for many commercial fishermen when their target species isn't there, like this summer with illex. I switched over to chub mackerel."*

# Existing Fisheries

## Silversides

*"My business has been involved with a commercial fishery for silversides for 25 years. Seasonal landings have been between 5,000 and 50,000 pounds a year."*

*"There are more than 25 actual licensed commercial fishermen who annually pursue these species and depend on this harvest as part of their annual income."*

*"L&L Wholesale Bait processes over 60,000 pounds of Atlantic silversides, where 50% is sold to the Zoos and Aquariums."*

# Existing Fisheries

## Sand lance/sand eel

*"L&L Wholesale Bait processes over 30,000 pounds of Sandlance annually, 90% of which is sold to the Zoo/Aquarium industry."*

*"Forage fish such as silversides and sand eels are an essential part of our fishing industry."*

# Process for new fisheries

- 78 supported Exempted Fishing Permits

*"Allow a small-scale 'experimental' fishery to collect data and test gear and markets"*

*"...establish strict requirements for issuing any EFPs with provisions that include bycatch reduction measures...100% observer coverage..."*

- 3 said no new fisheries would develop, so there's no need to plan for them
- 3 said no new fisheries should be allowed

# Data

- Challenges (5):
  - Little to no data available
  - Landings reported as “bait”
  - Need a baseline
  - Need to prioritize/fund research
- Use what’s available (5)
  - Surveys, dealer data, food web models, etc.
  - Set a reasonable threshold

# Other issues

## Pollution/habitat loss (9)

*"If it doesn't have the environment to live in, it's not going to thrive."*

*"Don't just look at the fish species, look at the habitat and how it's being destroyed over the years".*

*"Vital recreational species...are under so many different pressures now...it's more vital than ever to protect their feeding sources."*

# Staff recommendation

- **Amend Bluefish FMP to include EC species**
  - If “in the fishery” is necessary, do through separate action
- **Focus on Mid-Atlantic**
  - Work with ASMFC on state waters
- **Develop list of species**
  - Should include invertebrates
  - Should be frameworkable

# FMAT Recommendation

- **Focus on Mid-Atlantic**

- State waters if feasible

- **Develop list of species**

- Determine if any may warrant inclusion as stocks in the fishery

- **Decide on type of action after determining which species to include and how to include them**

# FMAT process for determining species to include

- Does the species meet most of the criteria in the SSC definition of a forage species?
- Does it meet most of the criteria for a stock in the fishery/a stock in need of conservation and management?
- Is it likely that a directed fishery for this species could develop?

# FMAT draft list of species

- 45 species/taxa
- FMAT will continue to add to this list
- FMAT will run this list through the process described on previous slide

# FMAT list of species (fish)

<b>GADIDS (BENTHIC)</b>		<b>JACKS (PELAGIC)</b>	
Spotted hake	<i>Urophycis regia</i>	Round scad	<i>Decapterus punctatus</i>
Tomcod	<i>Microgadus tomcod</i>	Round scad	<i>Decapterus punctatus</i>
<b>FLOUNDERS (BENTHIC)</b>		Bigeye scad	<i>Selar crumenophthalmus</i>
Blackcheek tonguefish	<i>Symphurus palgiusa</i>	Rough scad	<i>Trachurus lathami</i>
Hogchoker	<i>Trinectes maculatus</i>	<b>MACKERELS (PELAGIC)</b>	
Fourspot flounder	<i>Paralichthys oblongus</i>	Chub mackerel	<i>Scomber colias</i>
Smallmouth flounder	<i>Etropus microstomus</i>	<b>FLYING FISH AND ALLIES (OFFSHORE/PELAGIC)</b>	
<b>HERRING AND HERRINGLIKE FISHES (PELAGIC)</b>		Flying fish	<i>Exocoetus volitans</i>
Striped anchovy	<i>Anchoa hepsetus</i>	Meek's Halfbeak	<i>Hyporamphus meeki</i>
Bay anchovy	<i>Anchoa mitchilli</i>	Halfbeaks	<i>Hemiramphus balao</i>
Silver anchovy	<i>Engraulis eurystole</i>		
Scaled herring	<i>Harengula jaguana</i>		
Round herring	<i>Etrumeus teres</i>		
Thread herring	<i>Opistonema oglinum</i>		
Spanish sardine	<i>Sardinella aurita</i>		

**Continued...**

# FMAT list of species (fish)

## SAND LANCE (BENTHIC)

Sand lance	<i>Ammodytes americanus</i>
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Sand lance	<i>Ammodytes dubius</i>
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## SCULPINS (BENTHIC)

Grubby	<i>Myoxocephalus aeneus</i>
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## SILVERSIDES (INSHORE/PELAGIC)

Inland silverside	<i>Menidia beryllina</i>
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Atlantic silverside	<i>Menidia menidia</i>
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## SMALL, DEEP WATER PELAGIC FISHES

Striated argentine	<i>Argentina striata</i>
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Greater Argentine	<i>Argentina silus</i>
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Lanternfishes	<i>Myctophidae</i>
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Shortnose greeneye	<i>Chlorophthalmus agassizi</i>
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Longnose greeneye	<i>Parasudis truculenta</i>
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Weitzmans pearlsides	<i>Maurolicus weitzmani</i>
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Antenna codlet	<i>Bregmaceros atlanticus</i>
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## STICKLEBACKS, KILLIFISH (ESTUARIES/MARSHES)

Threespine stickleback	<i>Gasterosteus aculeatus</i>
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Blackspotted stickleback	<i>Gasterosteus wheatlandi</i>
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Killifish	<i>Fundulus spp.</i>
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# FMAT list of species (inverts)

"Krill" or euphausiids	
Un-managed species of squid	
Crabs	Lady crabs, etc
Smaller crustaceans	Many species
Marine worms	Many species
Bivalves	Mussels, small infaunal species
Other shrimp	eg Mysids

# Today's decision points

- **Geographic scope of action**

- Mid-Atlantic only?
- State waters?

- **Type of action**

- Amendment (single or omnibus)
- New FMP

- **Provisions**

- Ecosystem Component species
- Stocks in the fishery
- Other

# Questions?



# FMAT additions as of July 2015

- Rough scad (*Trachurus lathamii*)
- Round scad (*Decapterus punctatus*)
- Antenna codlet (*Bregmaceros atlanticus*)
- Striated argentine (*Argentina striata*)
- Greater argentine (*Argentina silus*)
- Shortnose greeneye (*Chlorophthalmus agassizi*)
- Longnose greeneye (*Parasudis truculenta*)

# FMAT additions as of July 2015

- Weitzmans pearlsides (*Maurolicus weitzmani*)
- Lanternfish (many species)
- Spoon arm octopus (*Bathypolypus arcticus*)
- Bobtail squid (*possibly Stoloteuthis leucoptera, Semirossia tenera, Rossia megaptera, Rossia palpebrosa*)
- Copepods (*Calanus finmarchicus*)

# 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  $10^{-4}$