

# BSAI forage species report



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**BSAI Plan Team \* September 2019**



# **forage fish report outline**

- 1) overview of forage species and their management**
- 2) trends in abundance and spatial distribution (focus on changes relative to NBS)**
- 3) bycatch and other impacts of federal fisheries on forage species (focus on high squid catch in 2019)**

# forage species overview

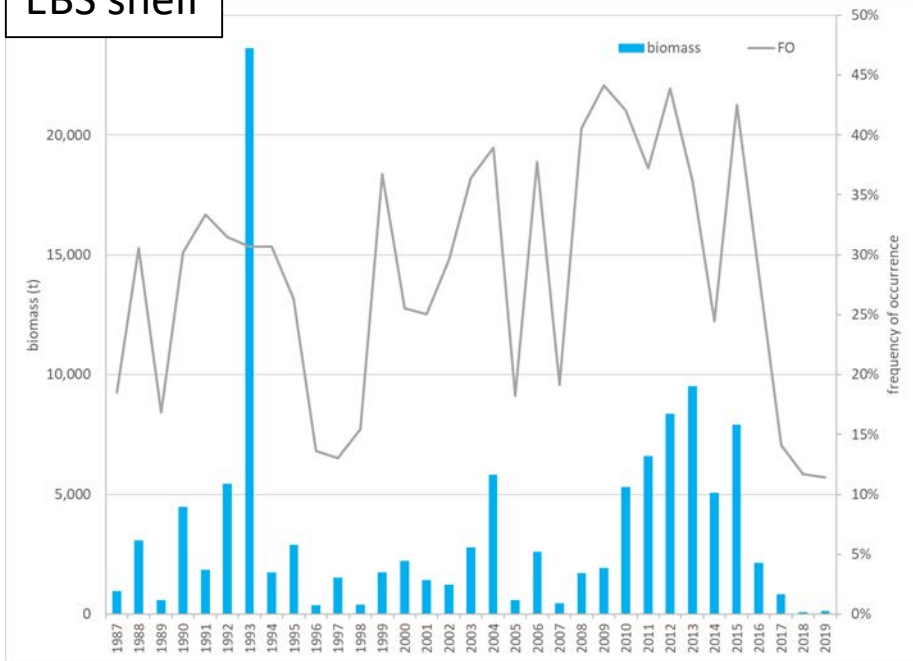
- members of the “forage fish group” listed in the BSAI Fishery Management Plan (FMP)
- Pacific herring *Clupea pallasii*
- juvenile groundfishes and salmon
- shrimps
- squids (now part of forage report)
- Arctic cod *Boreogadus saida*

# **EC squid management measures**

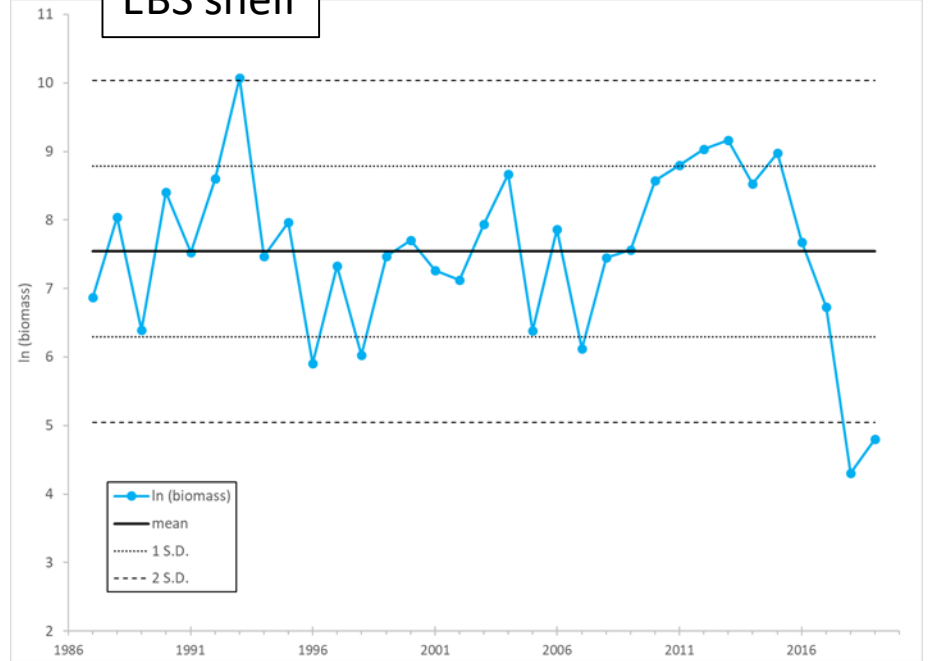
- **Place squids in the Ecosystem Component category of the FMP**
- **Prohibit directed fishing for squid**
- **Establish a 20% maximum retention allowance (MRA)**
- **Limit processing to fishmeal production**
- **Retain recordkeeping and recording requirements**

# capelin abundance

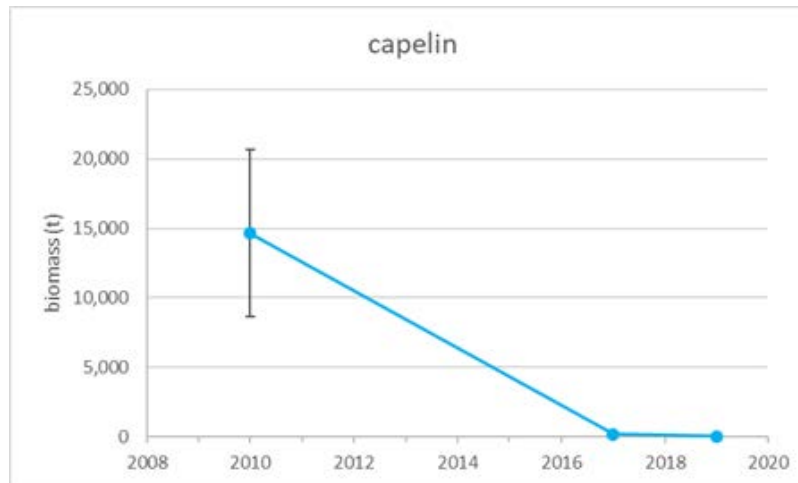
EBS shelf



EBS shelf

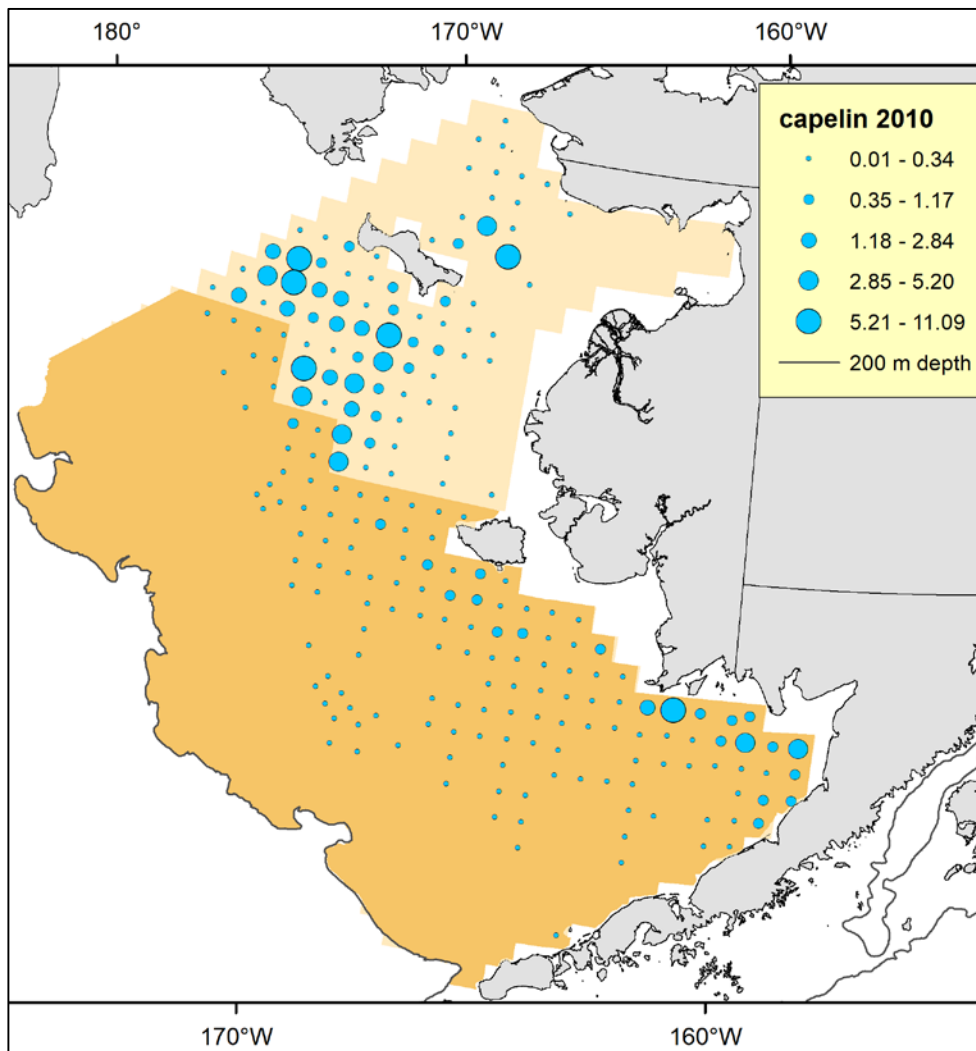


NBS

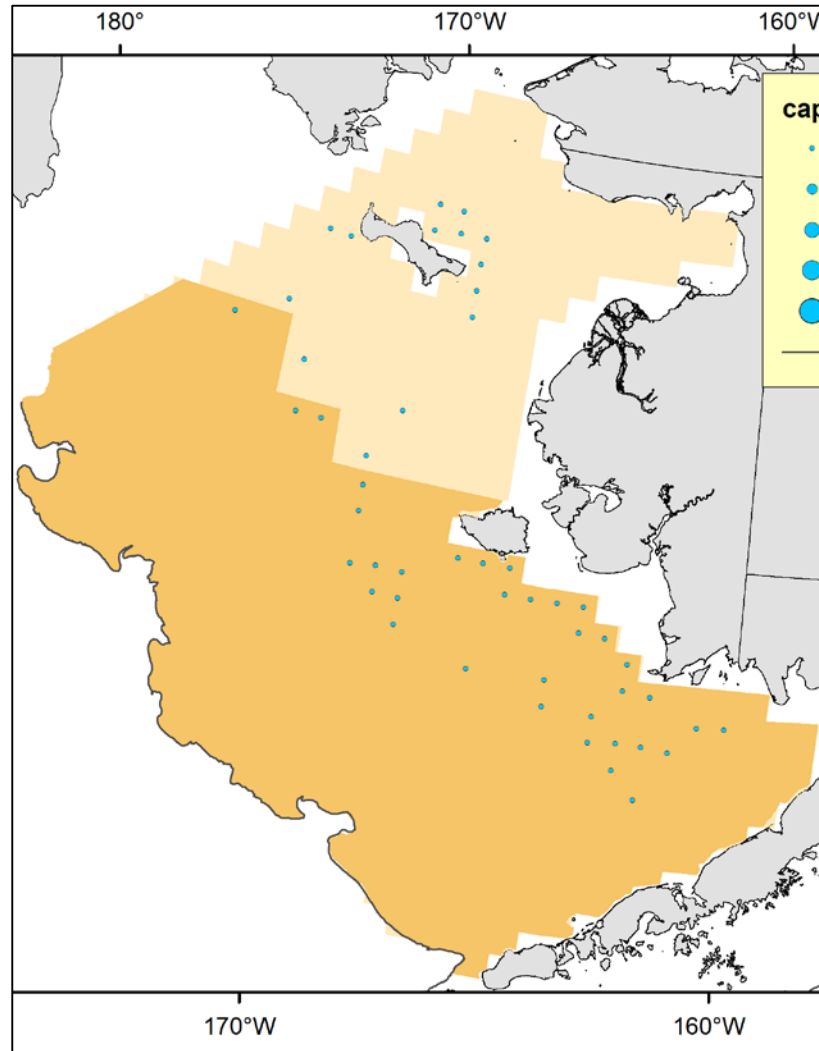


# capelin distribution 2010 vs 2019

2010

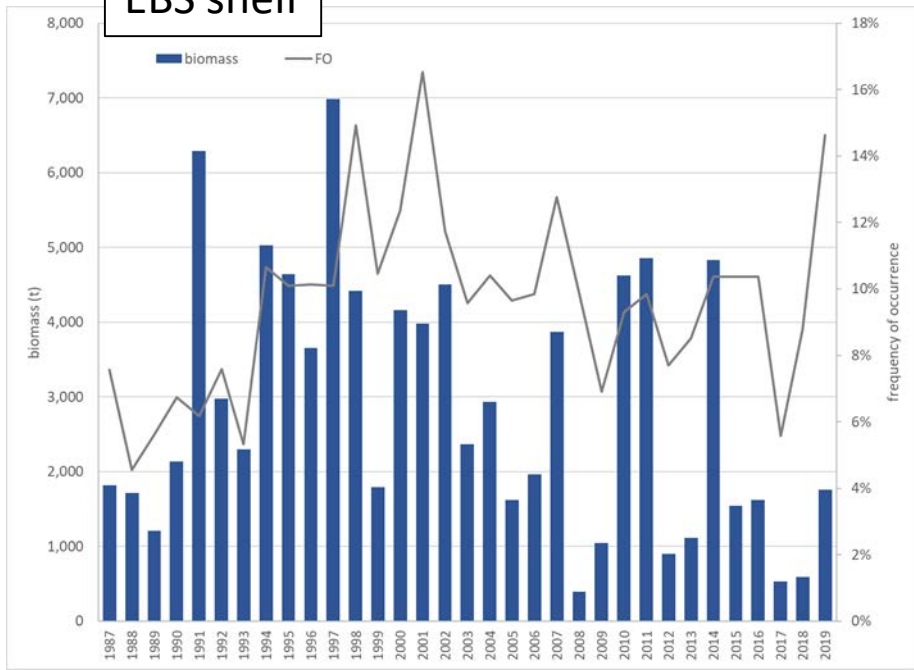


2019

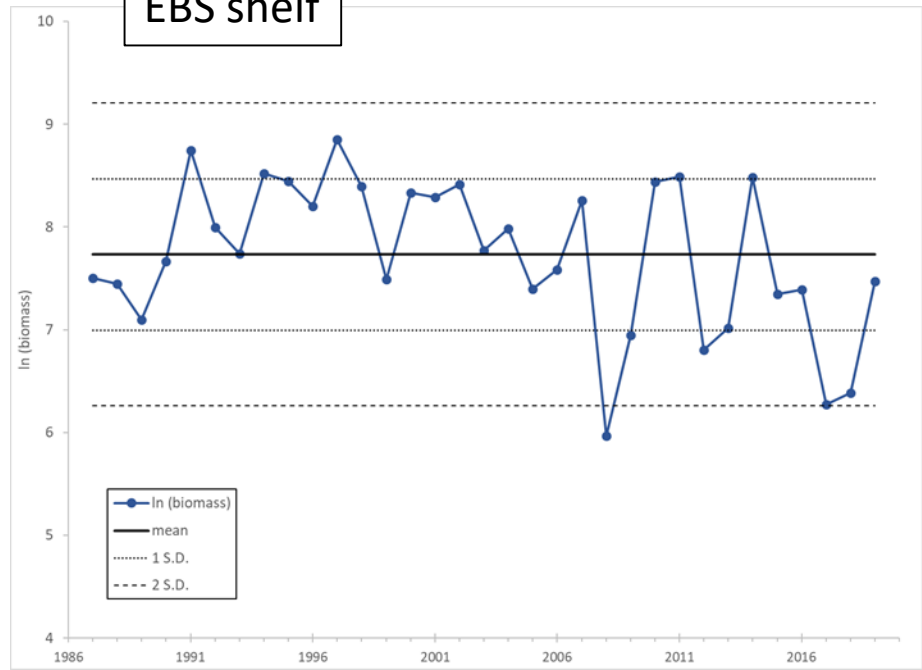


# eulachon abundance

EBS shelf

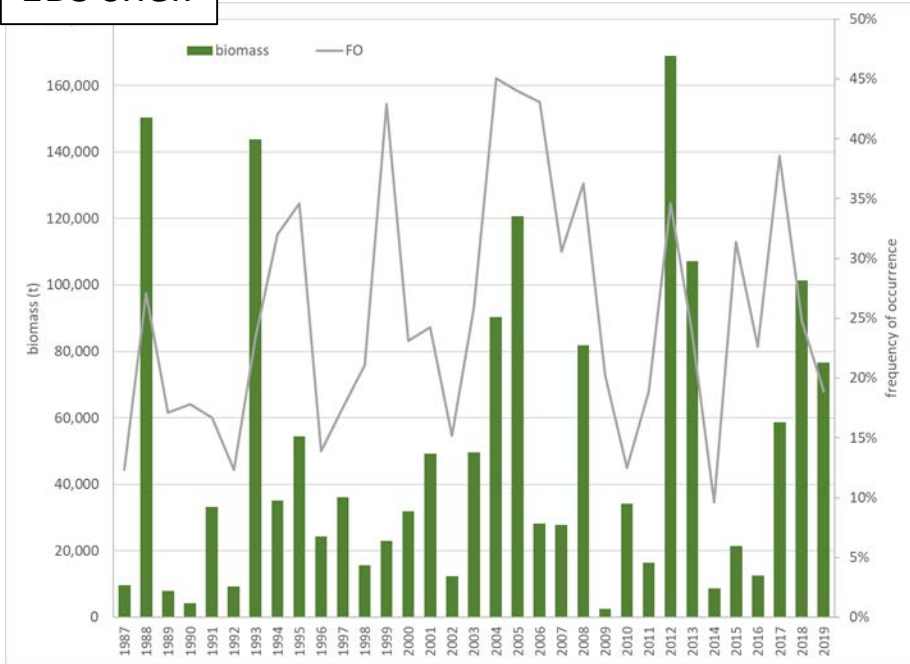


EBS shelf

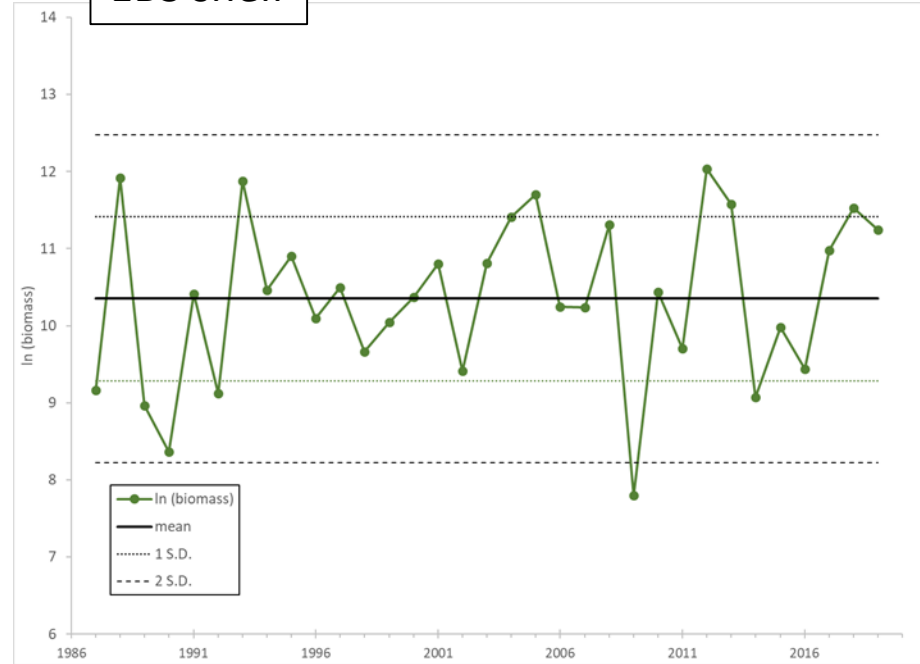


# herring abundance

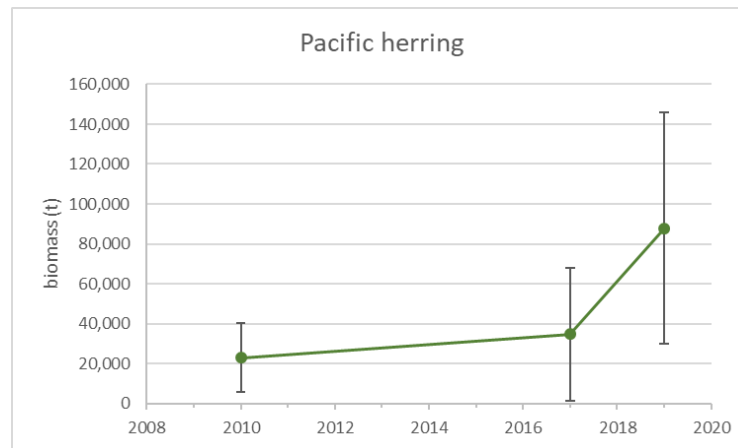
EBS shelf



EBS shelf



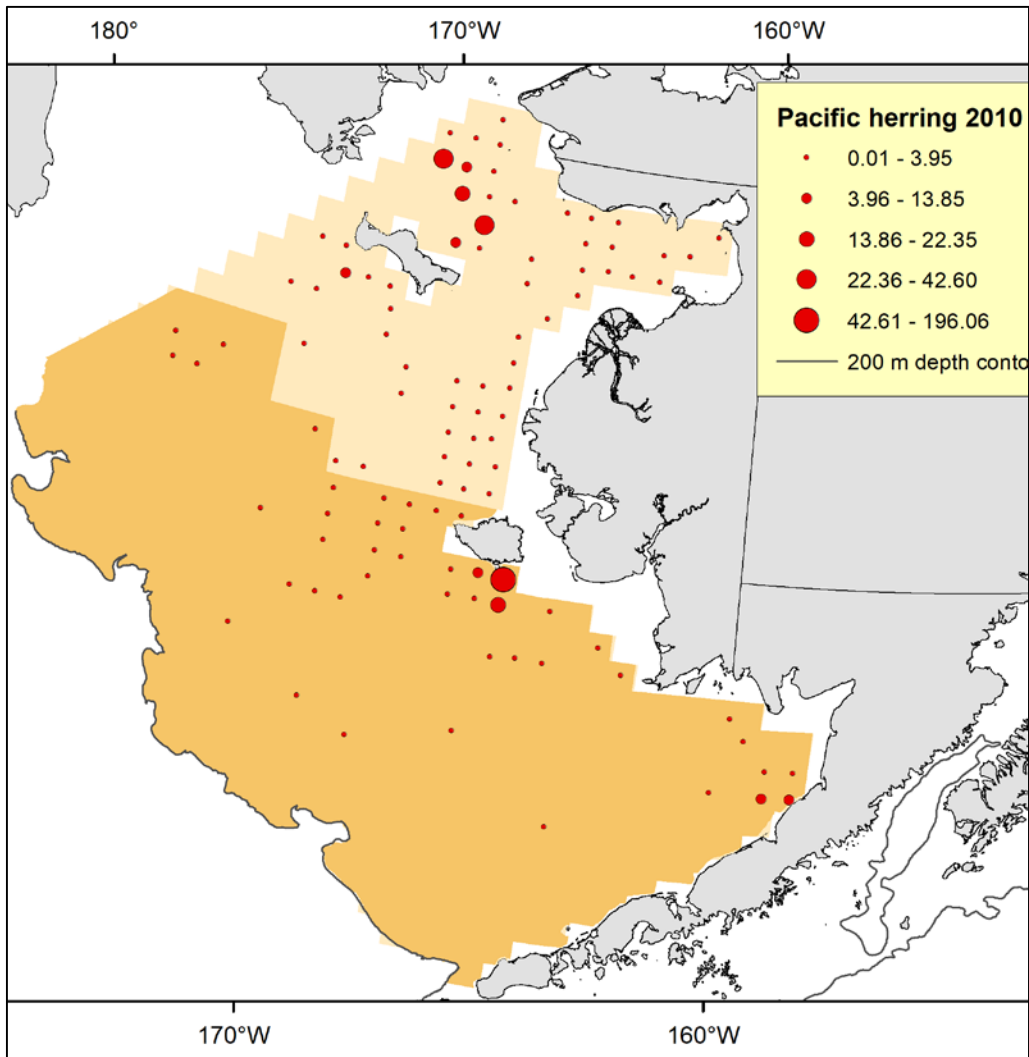
NBS



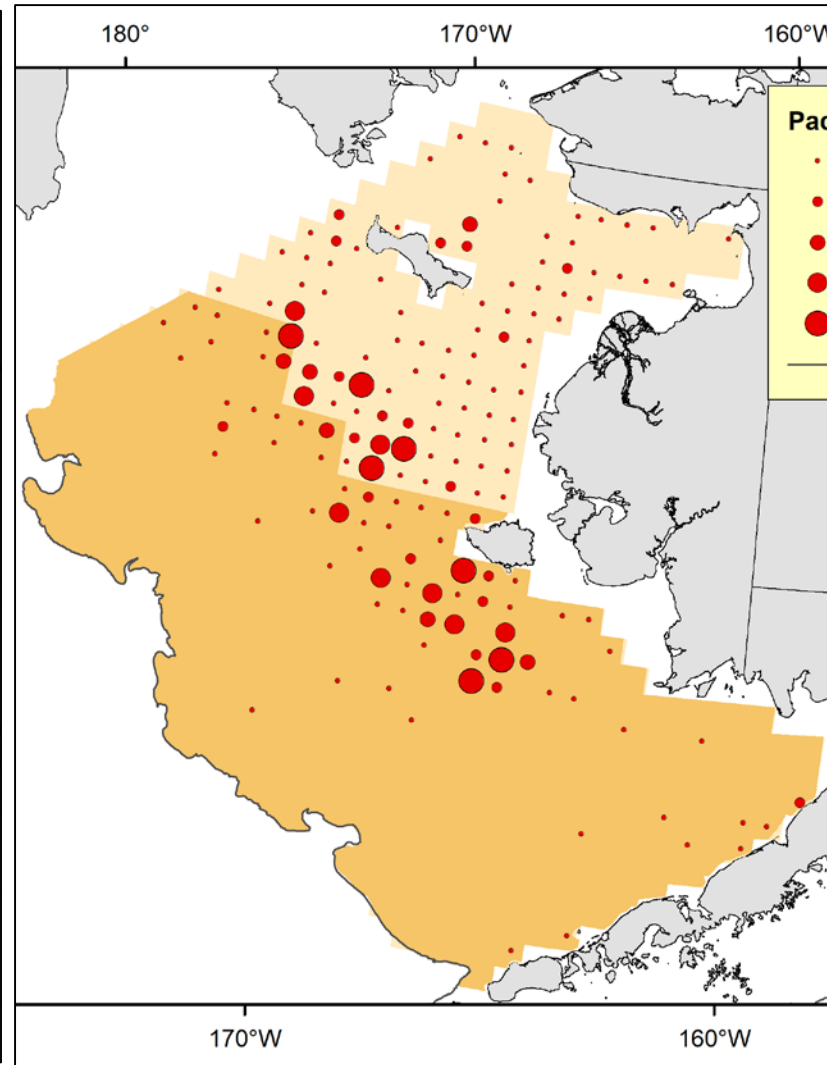


# herring distribution 2010 vs 2019

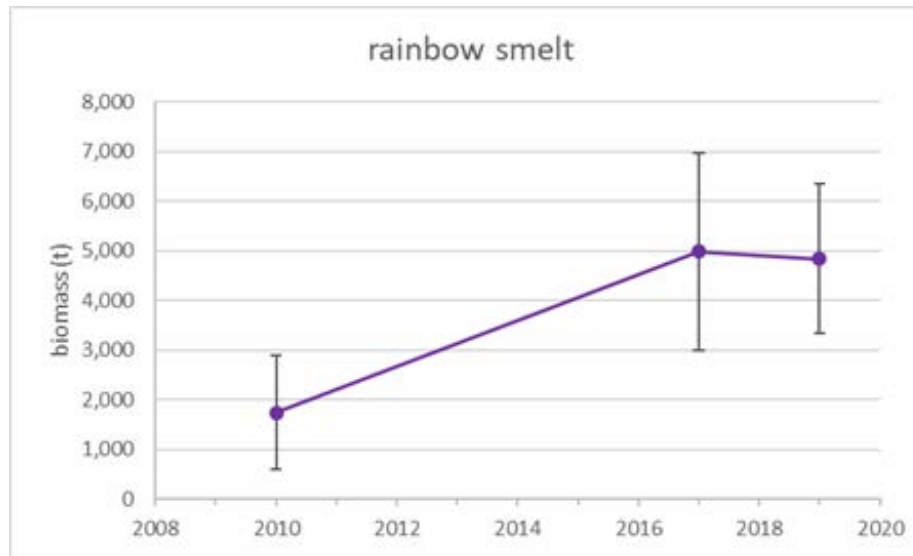
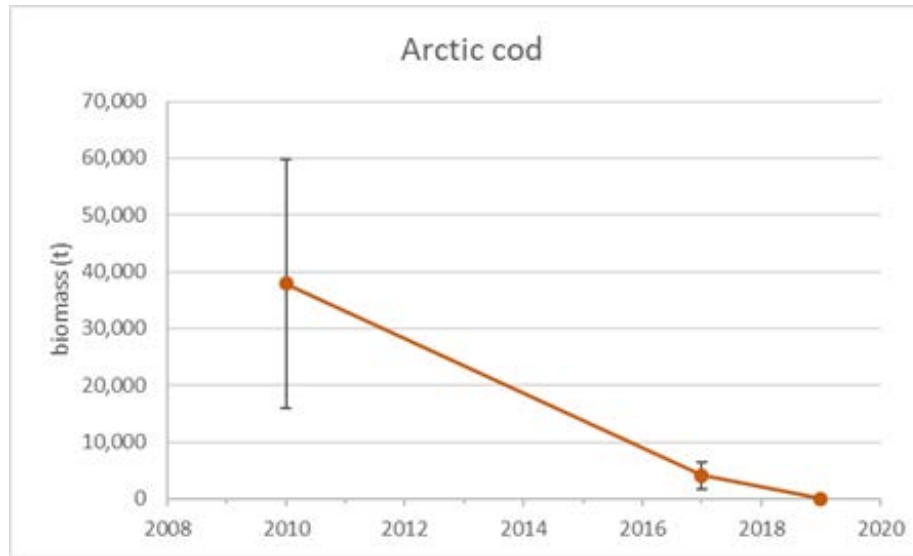
2010



2019

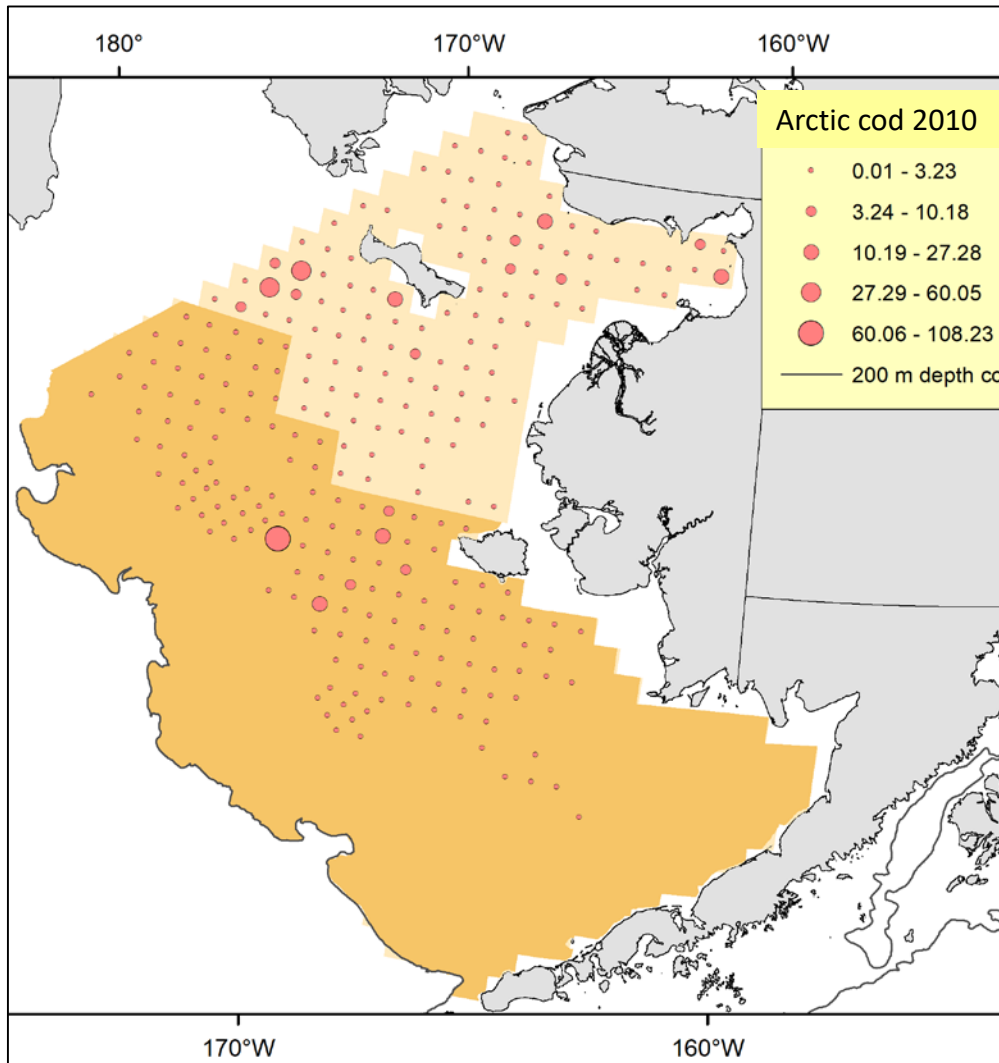


# NBS survey trends – Arctic cod & rainbow smelt

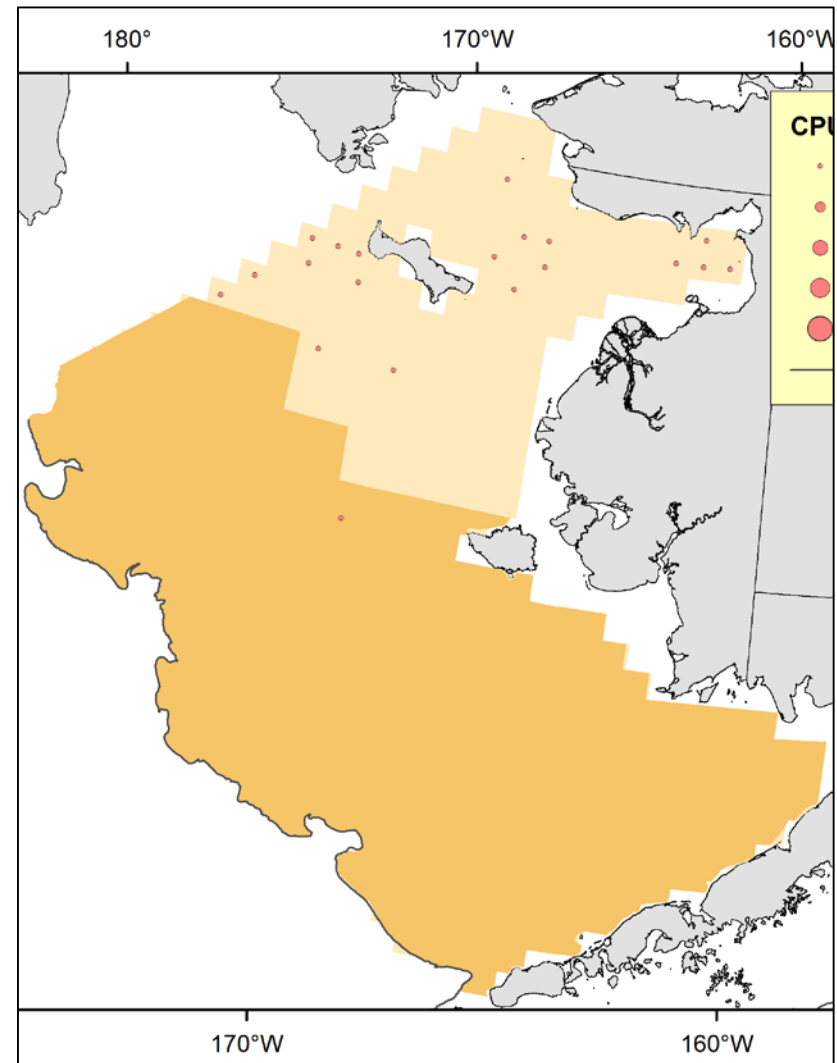


# Arctic cod distribution 2010 vs 2019

2010

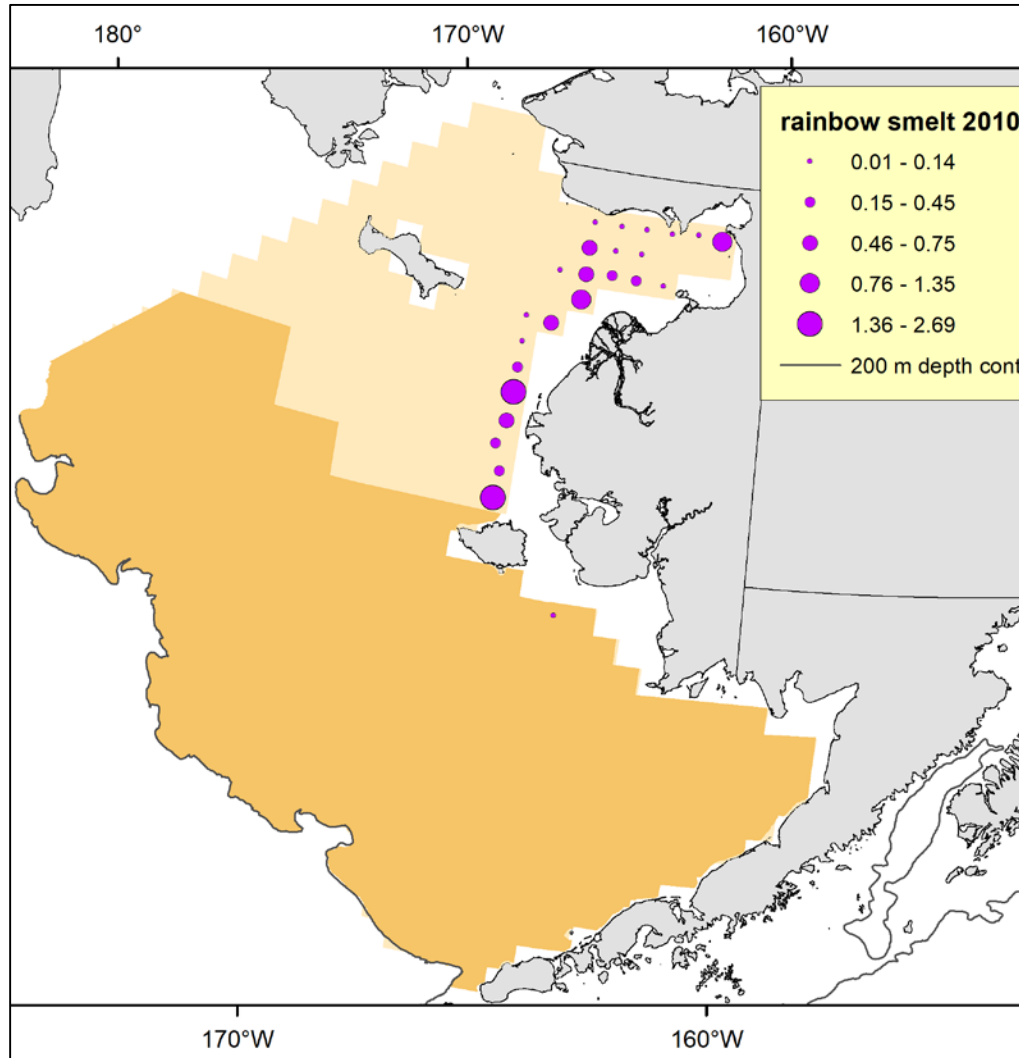


2019

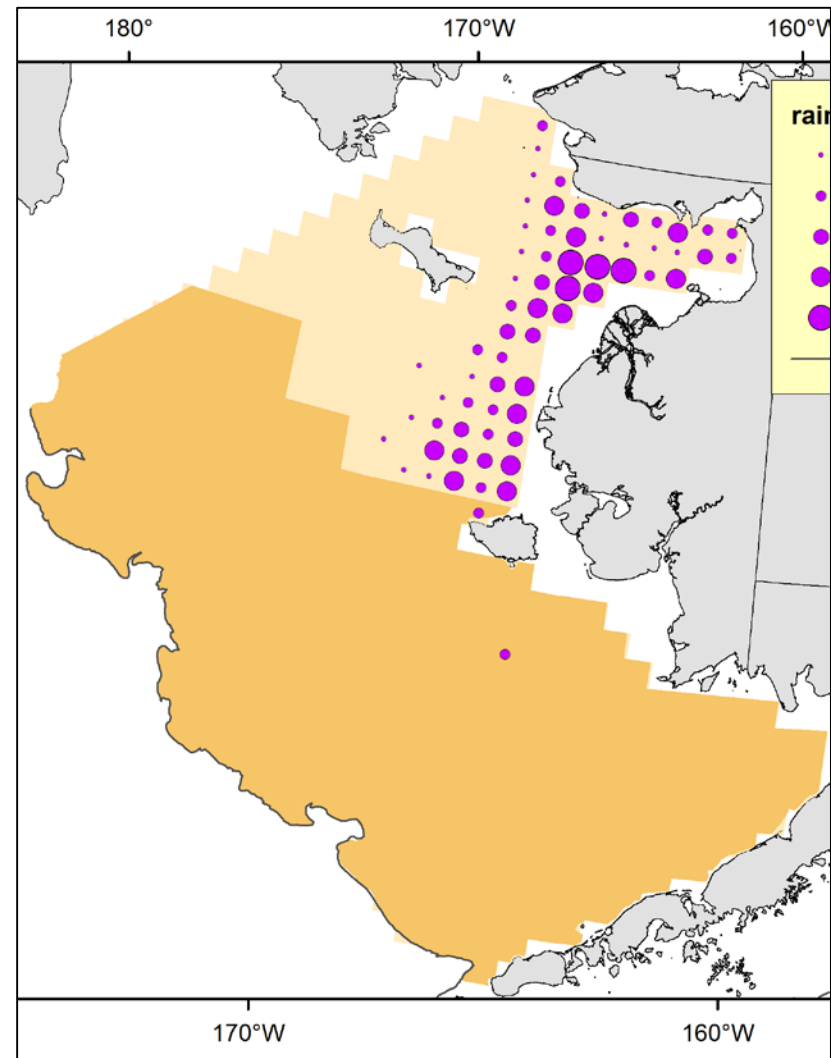


# rainbow smelt distribution 2010 vs 2019

2010



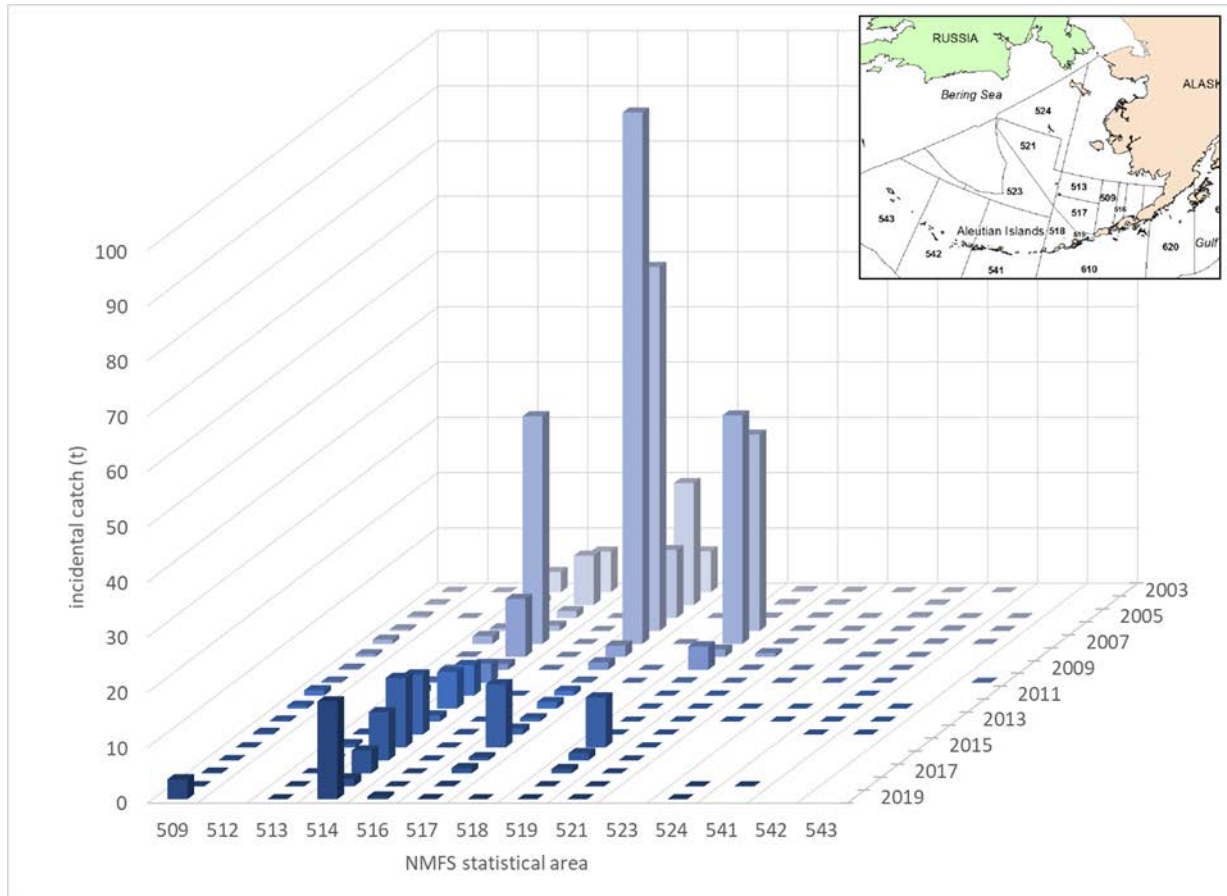
2019



# summary - trends

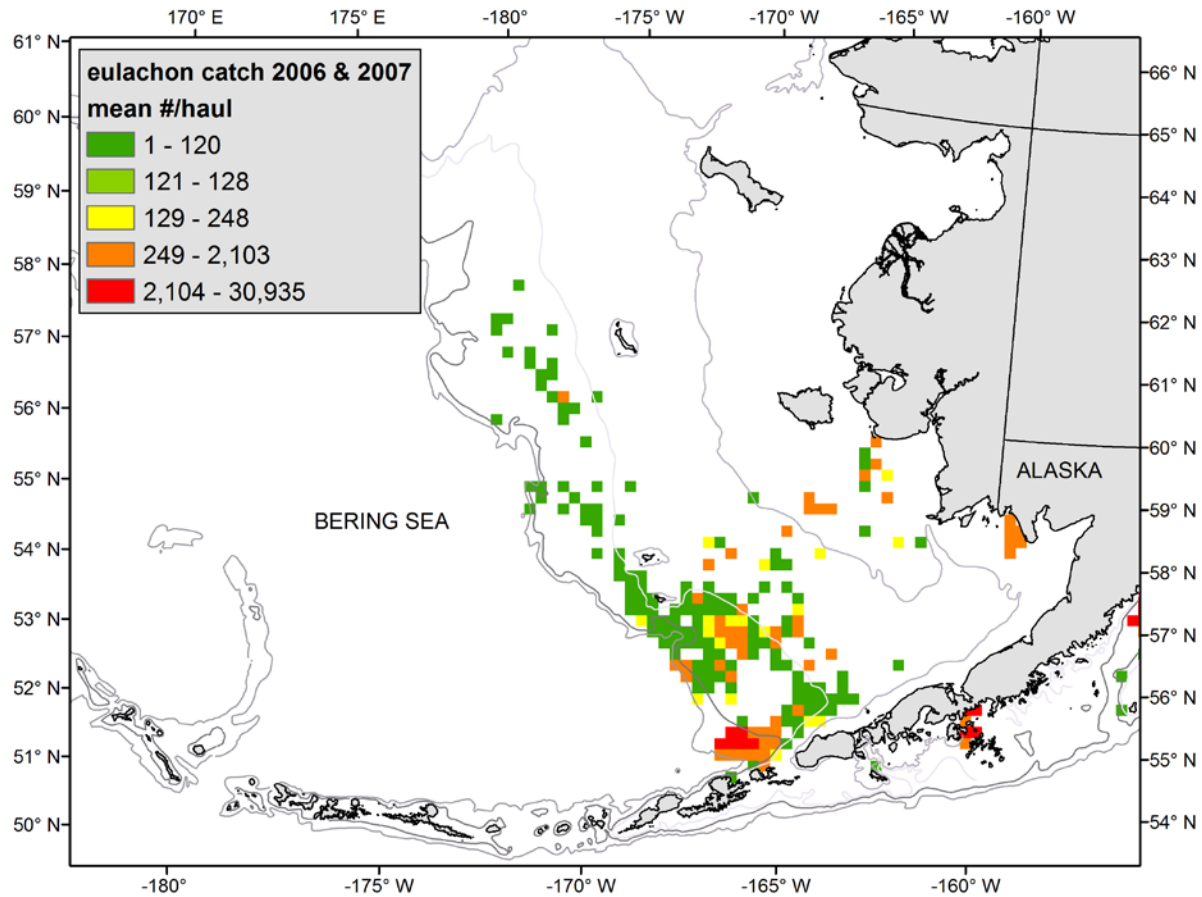
- 1) Capelin and Arctic cod seem to have almost disappeared from the BTS (capelin data supported by surface trawl results).
- 2) Eulachon abundance lower than average.
- 3) Herring abundance above average, but highly variable.
- 4) Rainbow smelt more abundant offshore?

# eulachon/osmerid bycatch



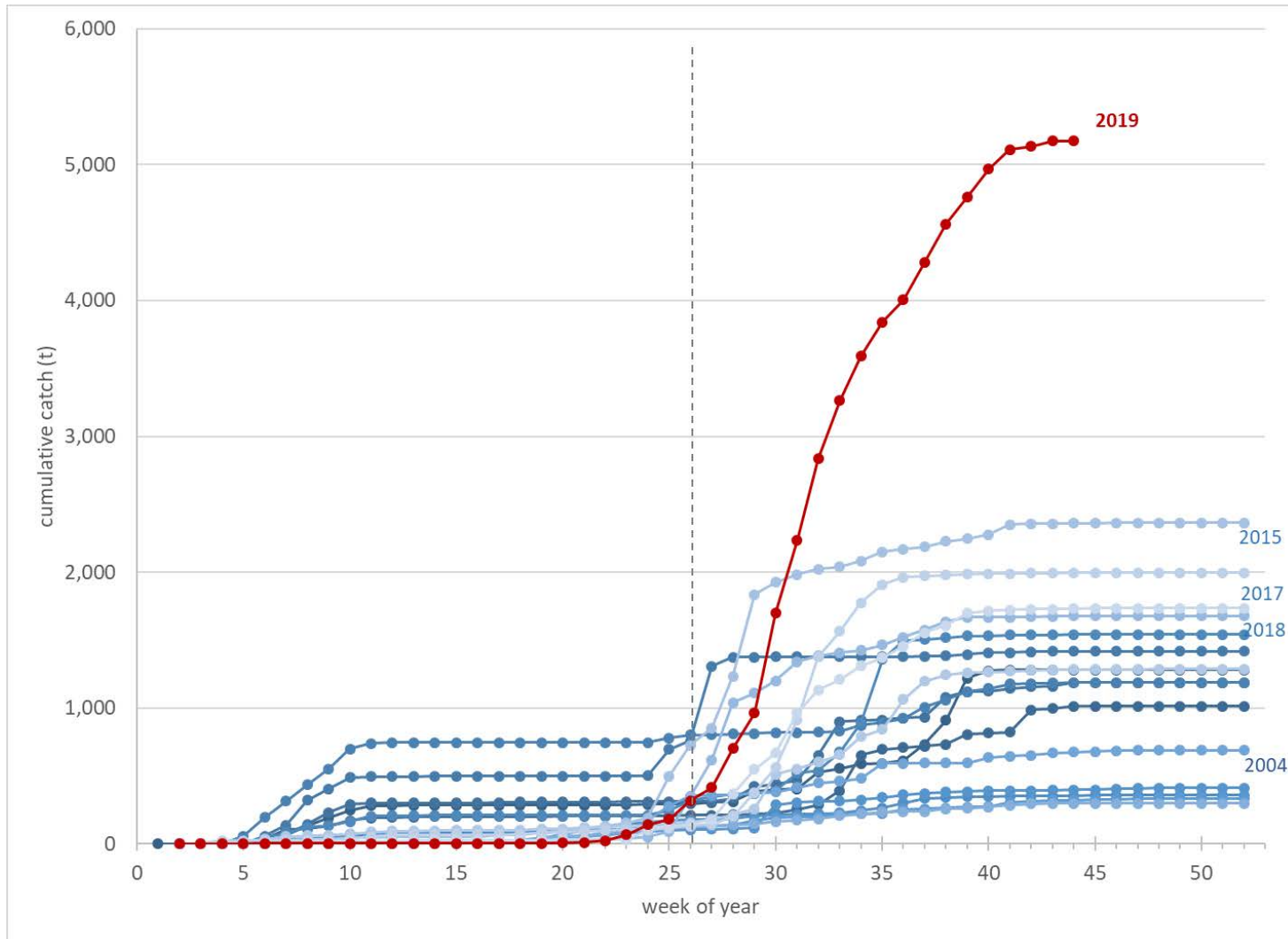
- largest catches in the pollock fishery
- in recent years, low catches that occur mainly in yellowfin sole fishery

# eulachon/osmerid bycatch



2006 & 2007 data only

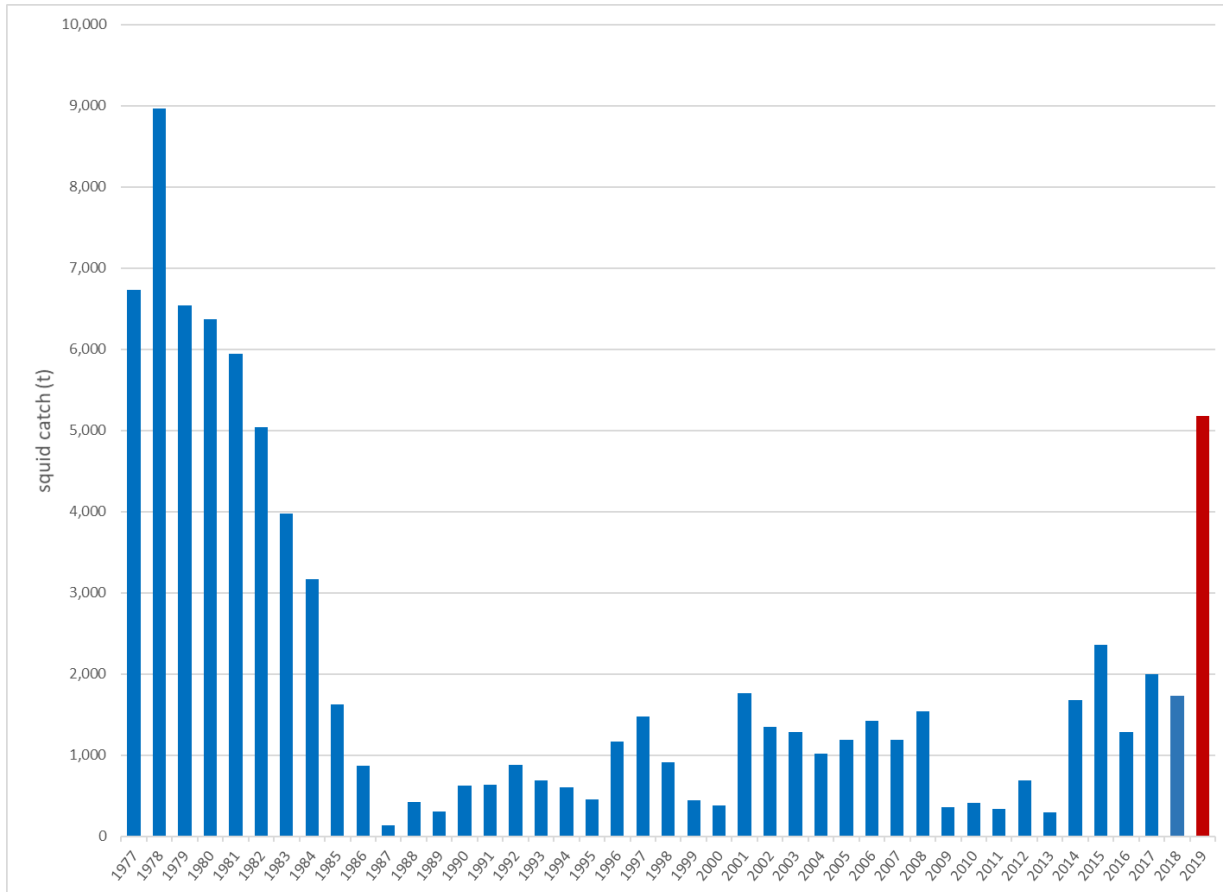
# squid bycatch



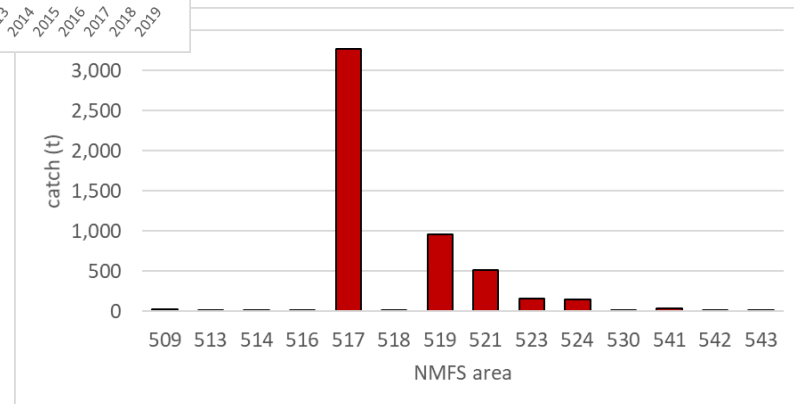
- pollock fishery under pressure to avoid salmon, sablefish
- fishery processed squid for bait, against regs



# squid bycatch



- 2019 highest catch since 1981



# Council motion: remove limits on processing

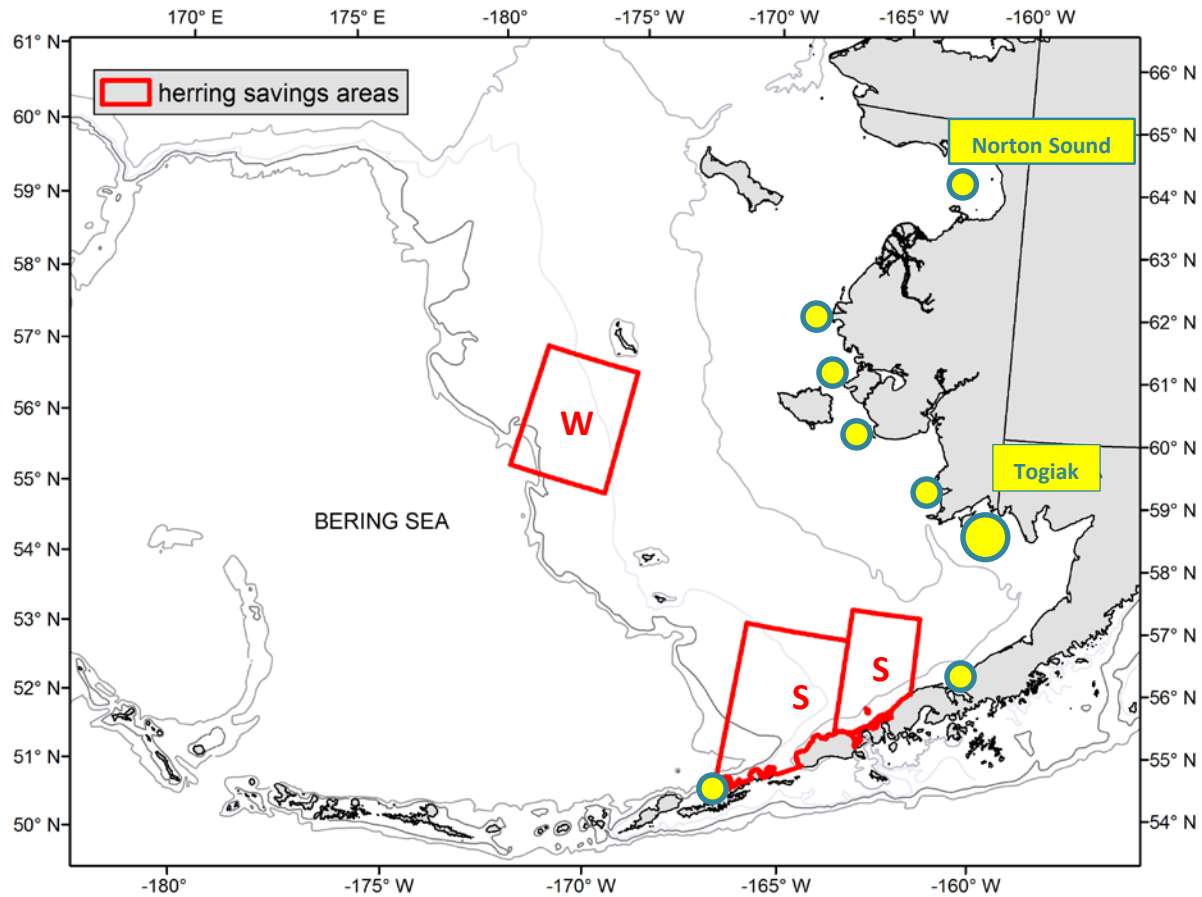
The Council's June 2017 action to reclassify the squid complex into the ecosystem component in the BSAI and GOA groundfish FMPs was based on the best available scientific information and was consistent with the revised National Standard 1 guidelines. However, the federal rulemaking to implement the Council's action incorrectly prohibited any use or sale of incidentally caught squid unless processed into fish meal. The June 2017 Council action and supporting analyses indicated: 1) retention of squids would continue at or slightly above current levels, and 2) past production types would continue to be allowed including whole bait and whole fish/food fish. The purpose of this action is to align regulations with the long-standing use of squid, the permissible use of squid based on the Council's June 2017 analysis and preferred alternative, and the permissible use of squid under the EC category.

Alternative 1: ...The sale, barter, trade, or processing of squids and sculpins is prohibited, except as fishmeal...

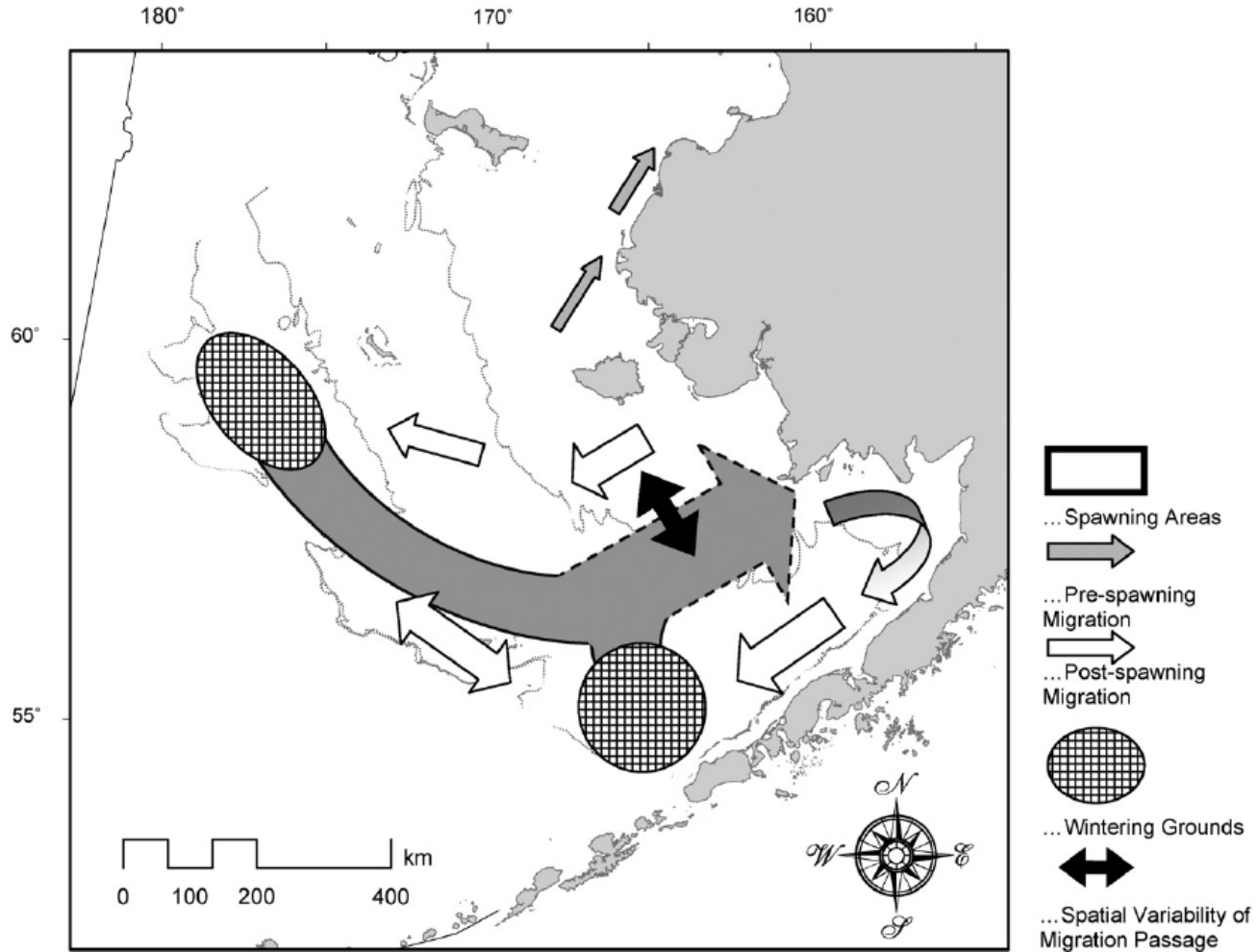
Alternative 2: ...There is no prohibition on the sale, barter, trade, or processing of incidental, retained squids or sculpins...

**Any PT comments?**

# herring: fisheries & savings areas

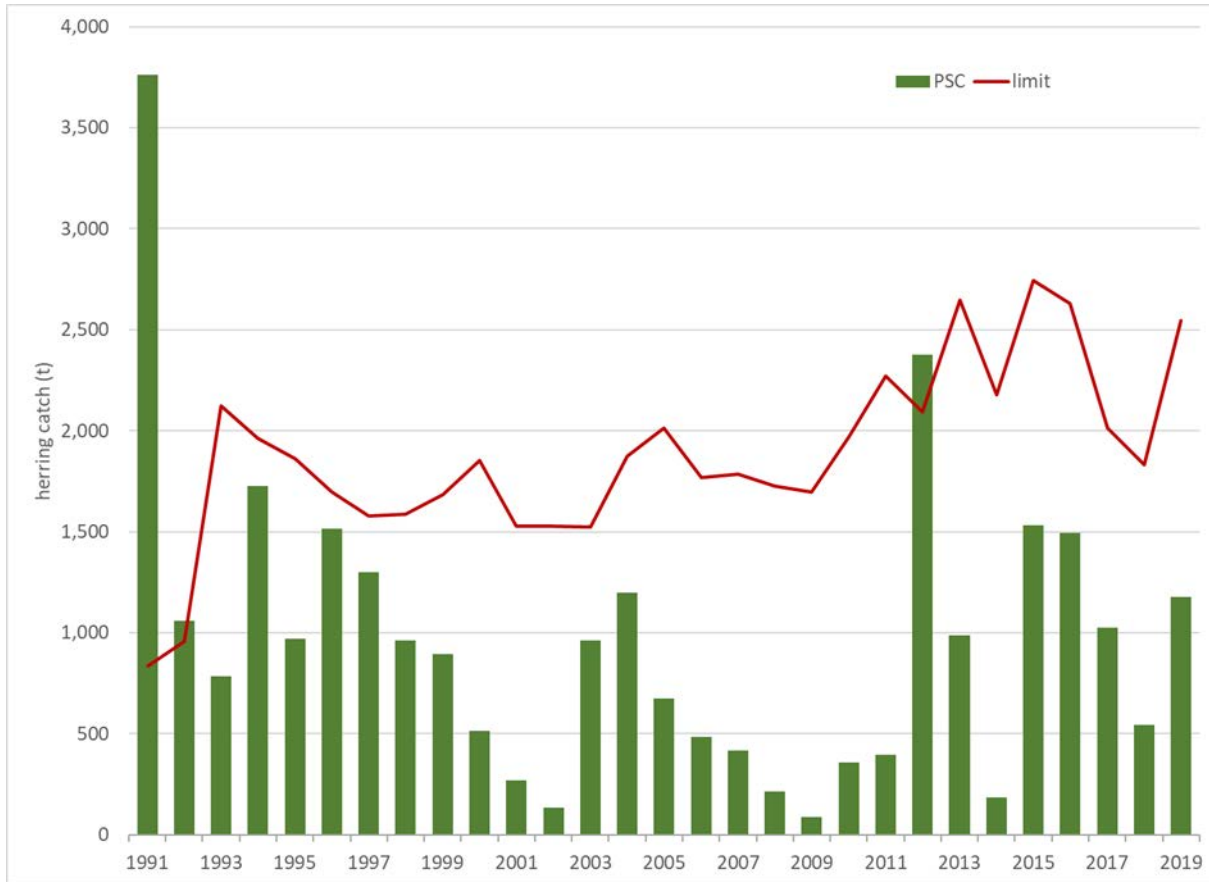


# herring: migration patterns

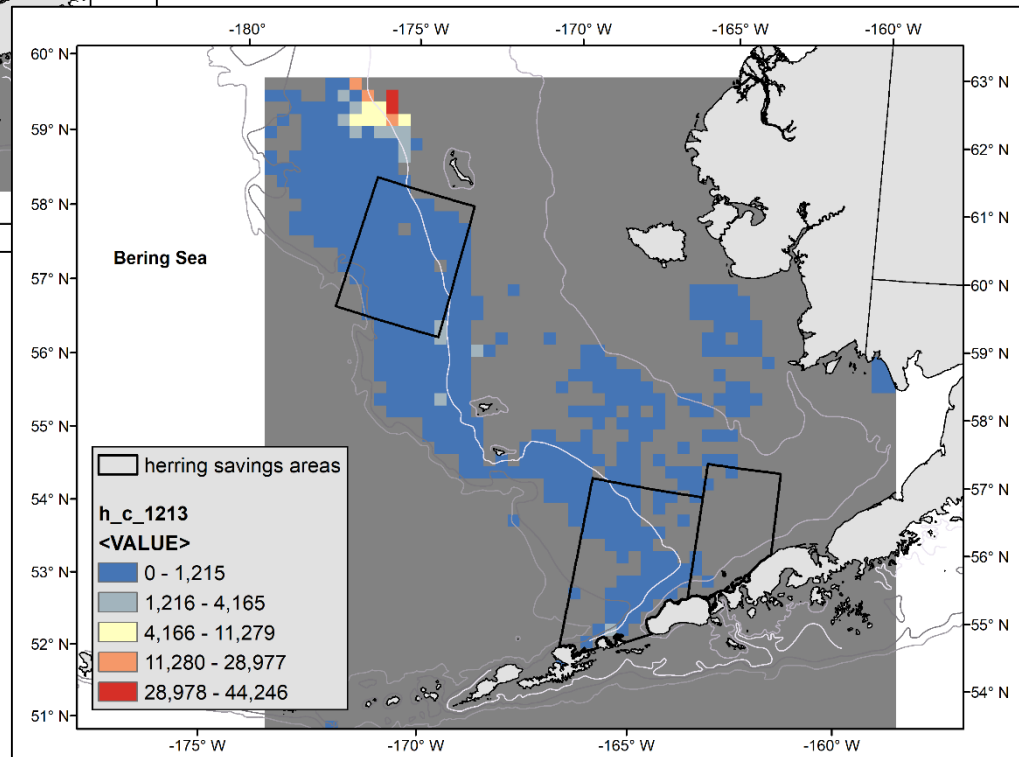
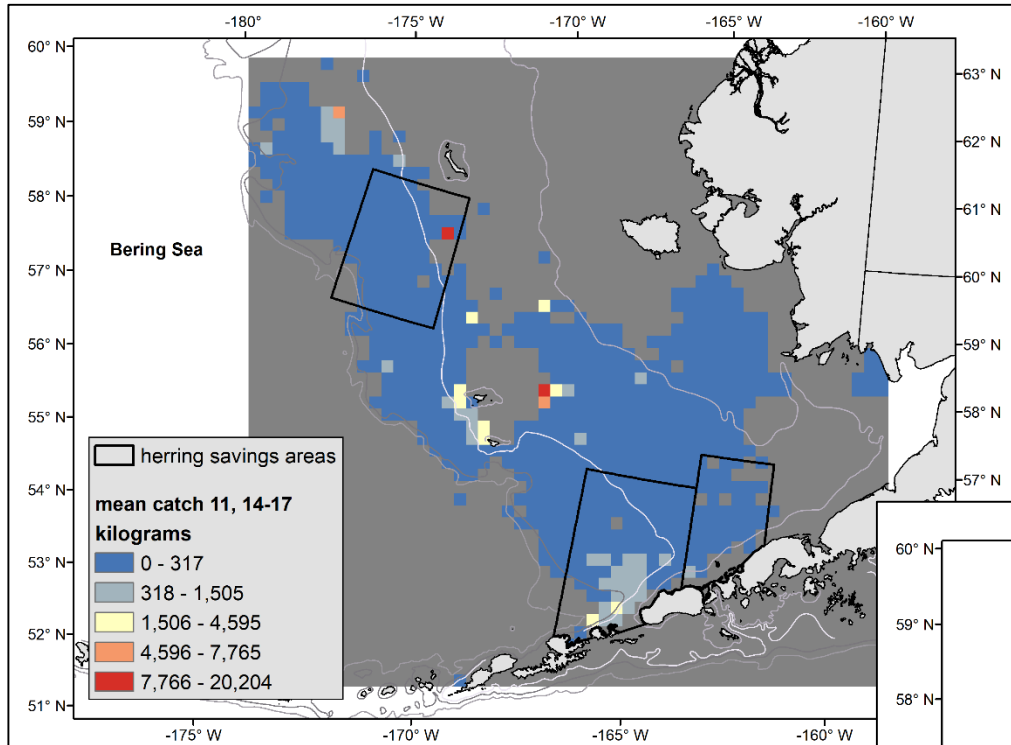


(from Tojo et al. 2007)

# herring bycatch



# herring bycatch



- high 2012 catch occurred north of usual catches

# herring bycatch – spatial pattern

