

Status of forage species in the Gulf of Alaska region



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November Plan Team 2018

overview

- 1) responses to Plan Team & SSC comments
- 2) squid management changes
- 3) capelin biomass
- 4) eulachon distribution and biomass
- 5) catch monitoring

comments re: the report itself

“The Team then discussed the value of having the forage fish chapter in with the Ecosystem chapter since greater meaning could be gained from just looking at catch trends- for example food availability for birds. To avoid duplication, and increase the interpretability of the forage fish data, the **Team recommends that the forage fishes report be incorporated into the Ecosystem Chapter...**”

“The SSC acknowledges the Plan Team’s concern that forage fish information is contained in two **places...but recommends that the Forage fish chapter be retained as a separate chapter due to (1) the different purposes of the two chapters and (2) concern over losing information if it is incorporated into the Ecosystem chapter...**Recognizing that forage fish contributions are included in more than one SAFE document, the SSC recommends that **authors state the types of information that are contained in each** at the start of the chapter (e.g., this chapter includes distribution, abundance and catch information for forage fishes, this chapter includes summaries of interactions of forage fishes with other members of the ecosystem) and cross-list where other contributions are located. This would help make readers aware that there are several efforts to assess interannual forage fish information.”

Response: The author has made additional strides towards reducing duplication and confusion between this report and the Ecosystem chapter. For example, the document now cross-references information that is in the Ecosystem chapter.

comments re: catch reporting

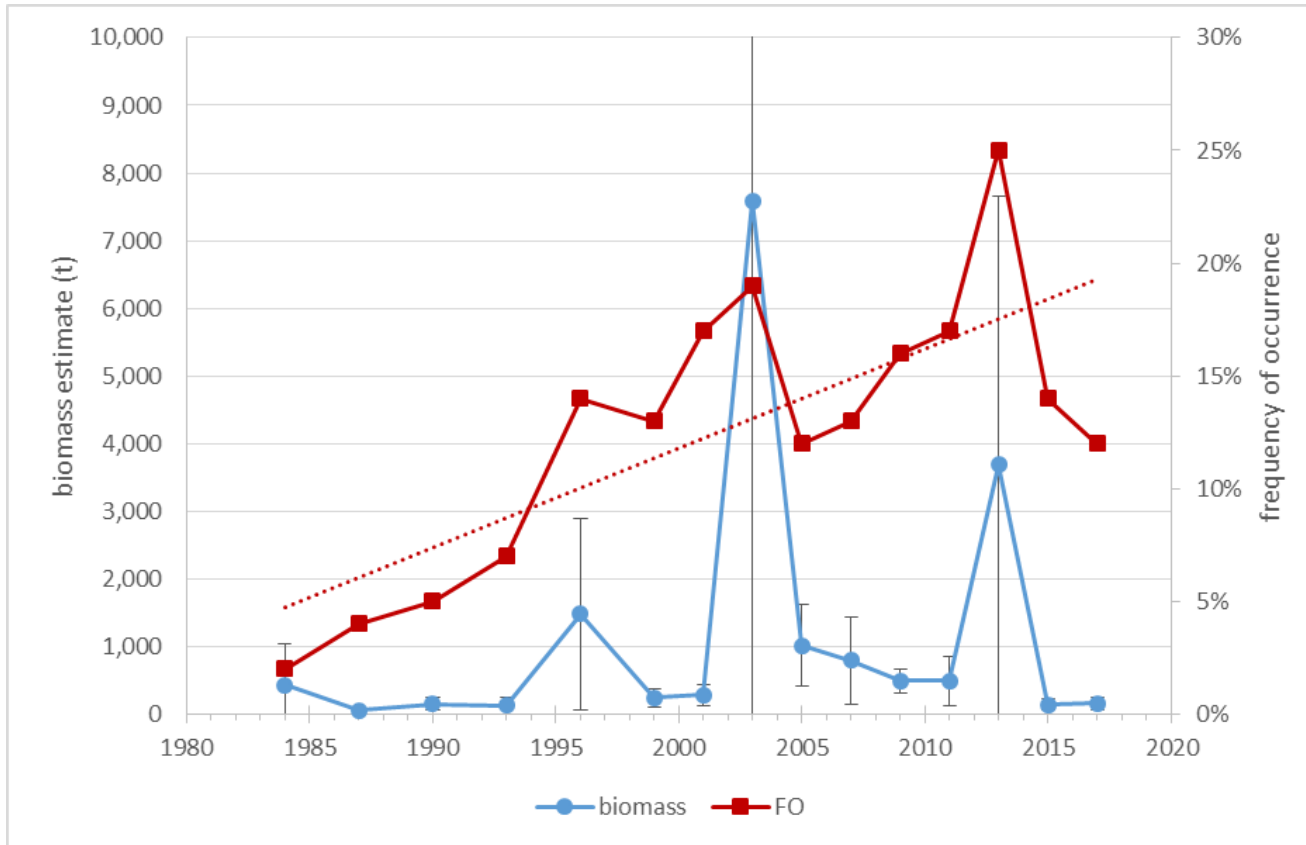
“The Team discussed whether or not we have a cause for concern for forage fish. This led to a discussion of what data is useful...The author noted that he would be alarmed if he saw a series of years in a row with high bycatch amounts relative to historical values. **This warrants comparison to a temporal mean with some uncertainty.**”

Response: The report now includes analysis of temporal means and uncertainty for the main species/species groups for which catch is reported (osmerids, squids, pandalid shrimps, and Pacific herring).

squid management changes

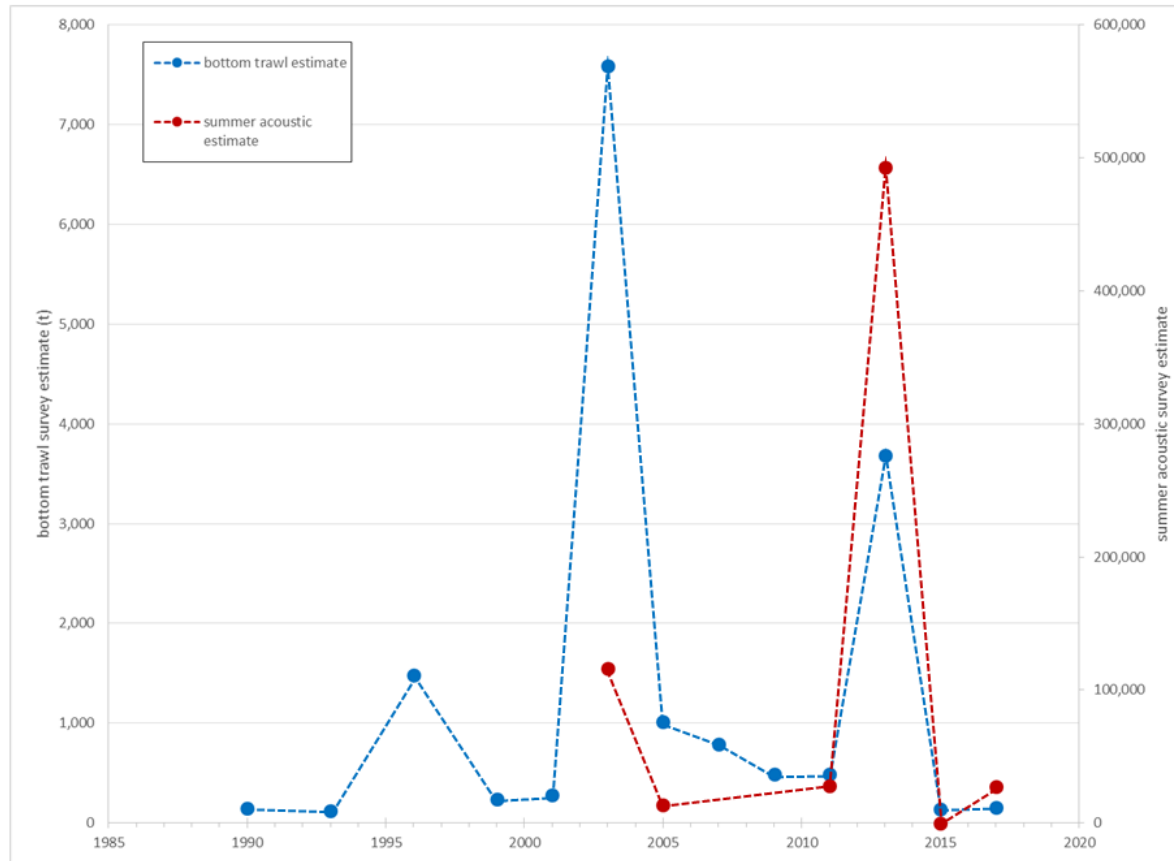
- Amendment 106 to GOA FMP implemented effective August 8, 2018:
 - Place squids in the Ecosystem Component category of the FMP
 - Prohibit directed fishing for squid
 - Establish a 20% maximum retention allowance (MRA)
 - Retain recordkeeping and recording requirements
- will affect harvest specifications beginning in 2019
- suggest squid reporting in forage species document

capelin – bottom trawl survey



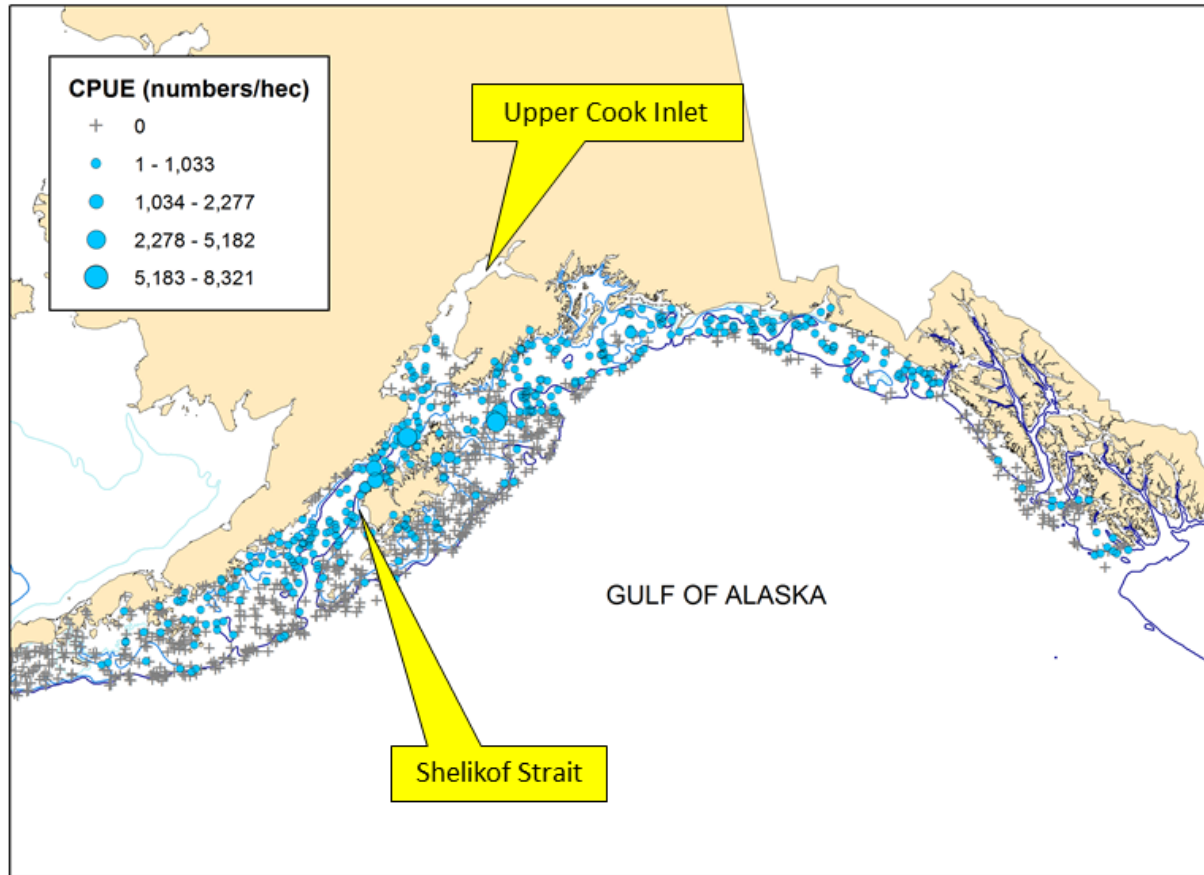
- bottom trawl survey poor sampler of capelin
- freq. of occurrence has increasing trend, except for 2015-2017
- increase & blob impacts consistent with other indices

capelin biomass – BTS vs AT



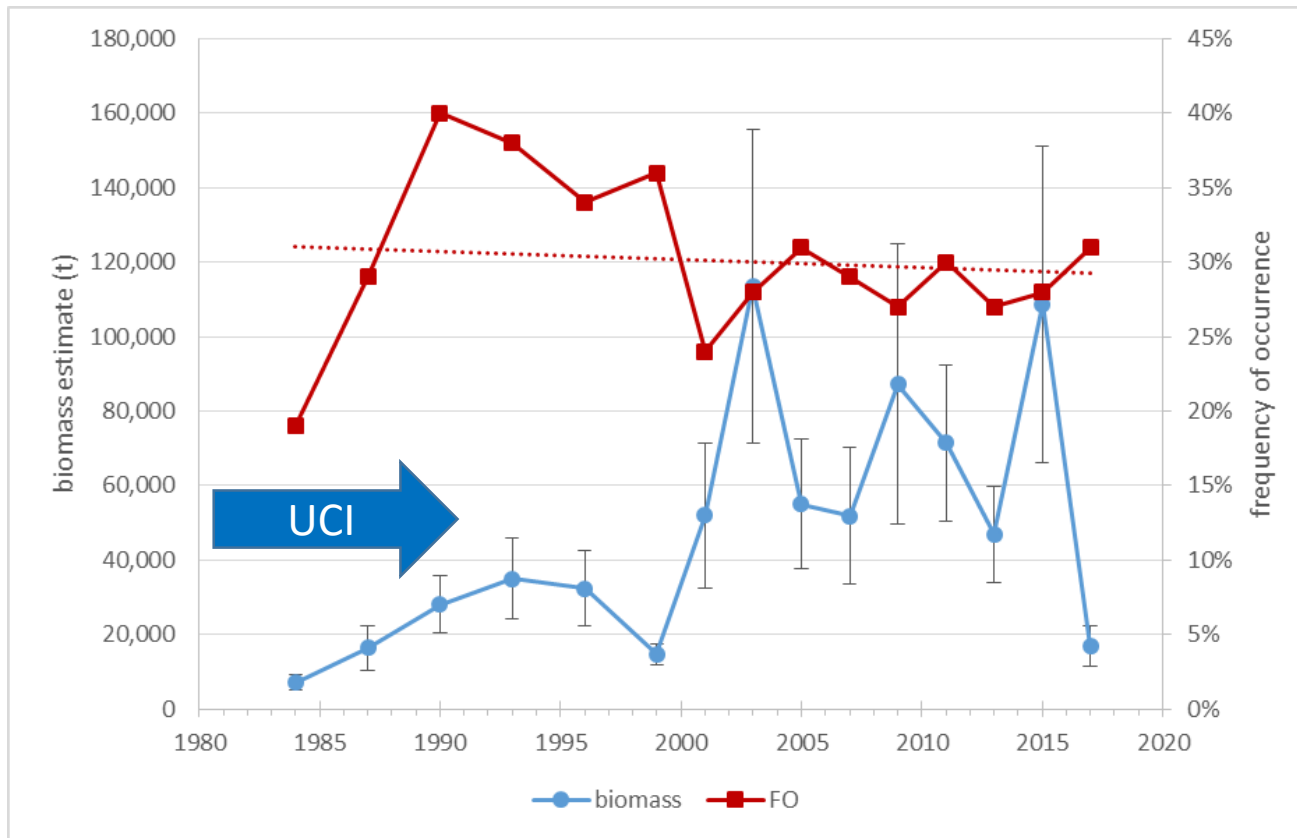
- starting to have a real time series from AT survey
- suggests coherence between BTS and AT surveys
- AT survey suggests post-blob recovery (consistent with diet data)

eulachon distribution



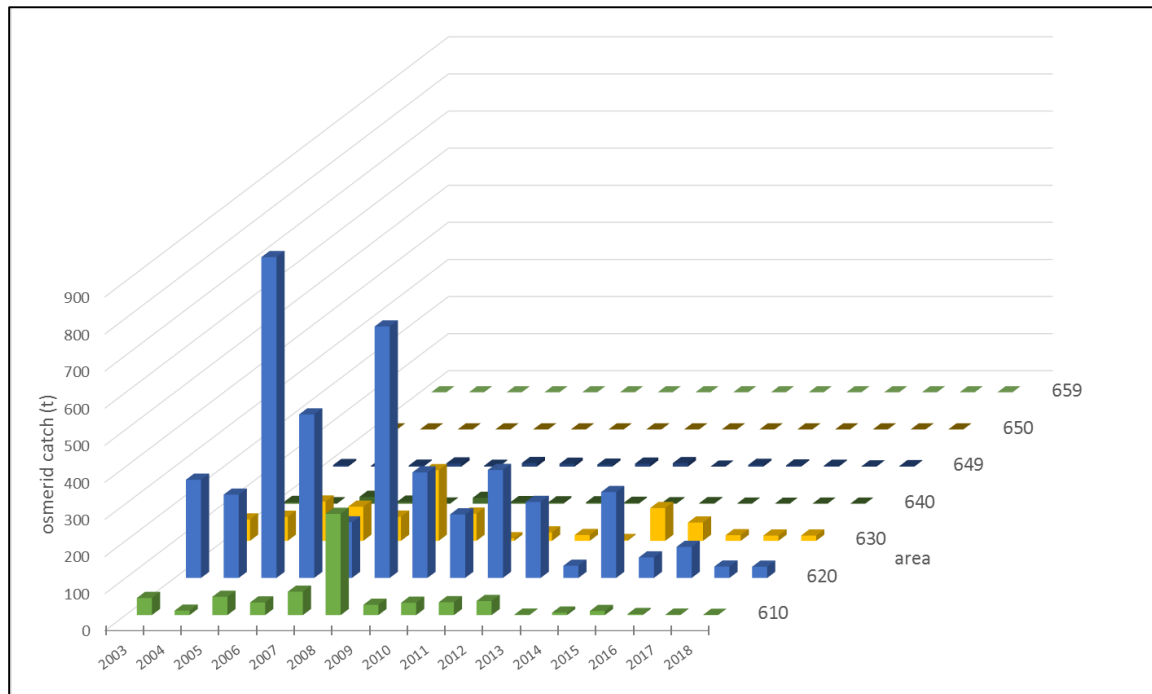
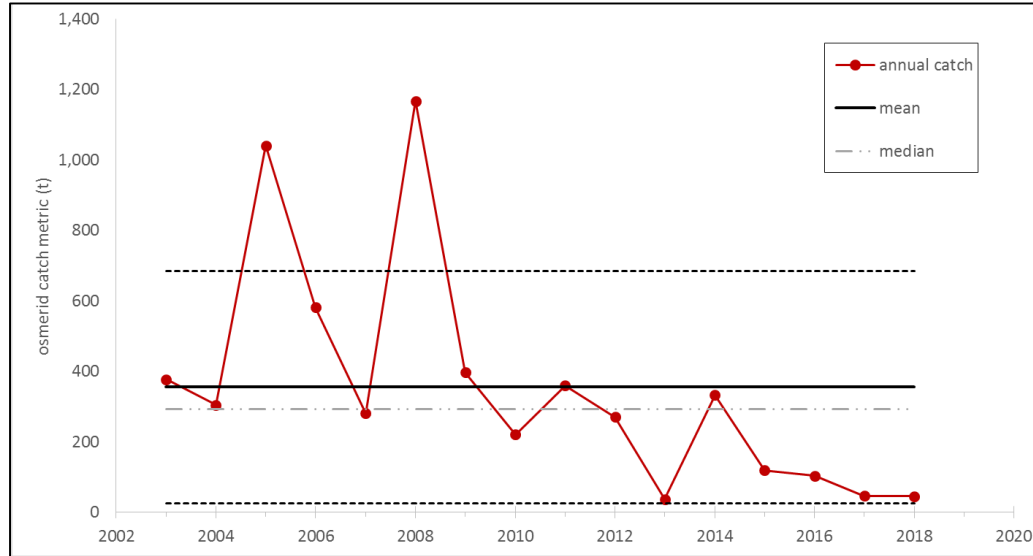
- summer: eulachon ubiquitous on shelf, concentrations in Shelikof and NE of Kodiak
 - winter catches mainly in Shelikof Strait
 - spawning runs & state commercial fishery in Upper Cook Inlet
- relationship between shelf populations and spawning runs unknown

eulachon – bottom trawl survey

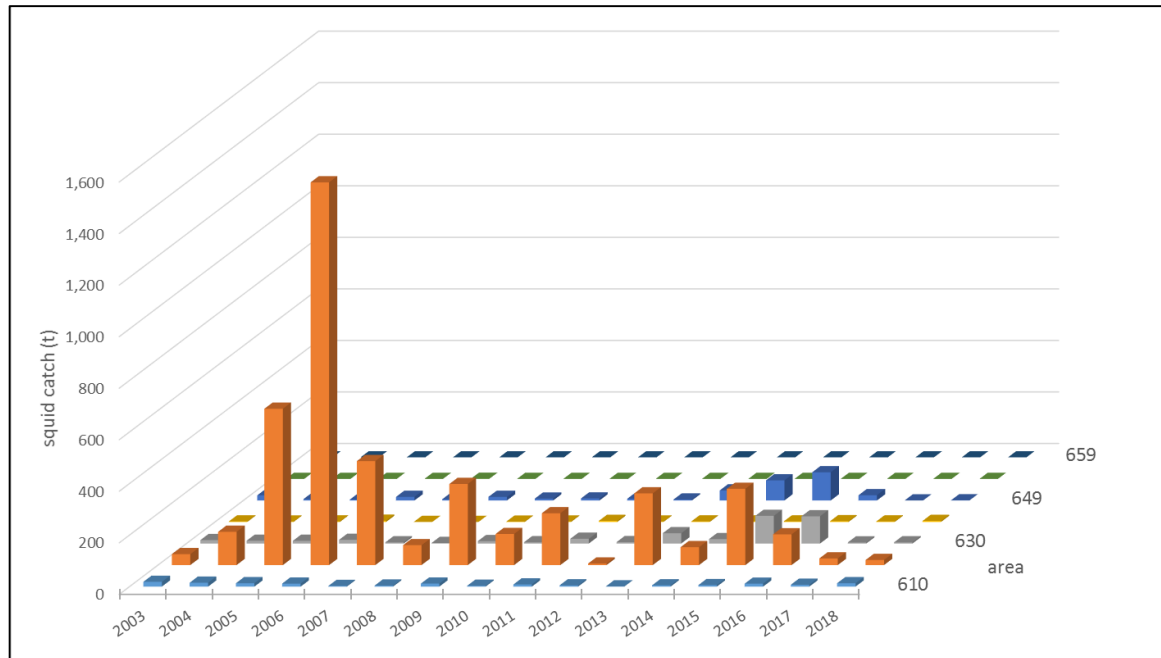
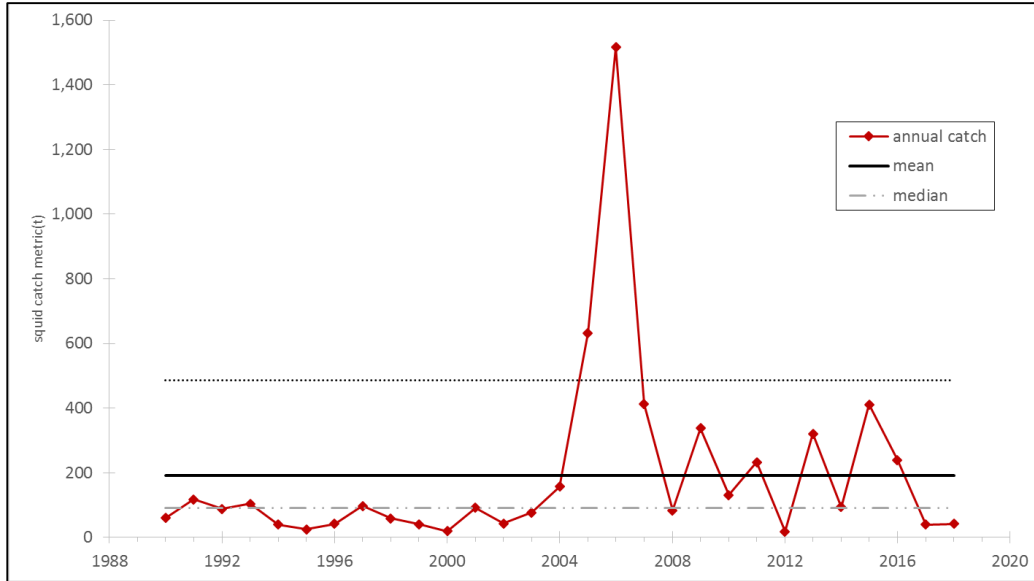


- BTS not great for eulachon, but better than for capelin
- biomass decline in 2017, consistent with low state catch
- frequency of occurrence pretty stable
- Upper Cook Inlet biomass estimate of 48,000 t (larvae-based)

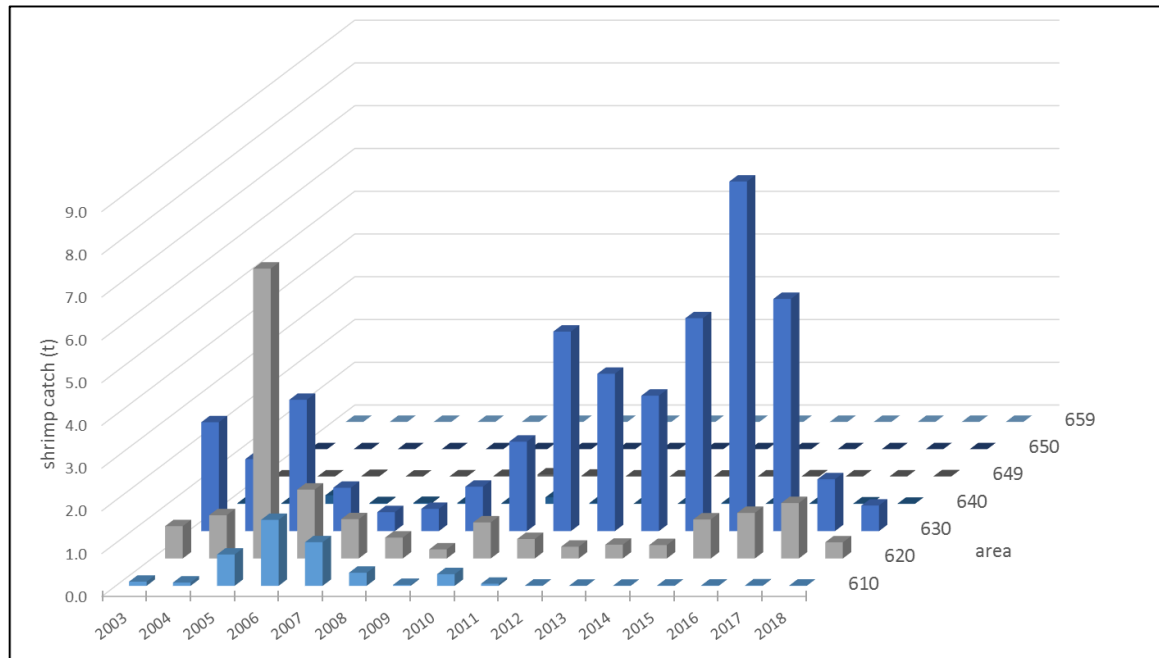
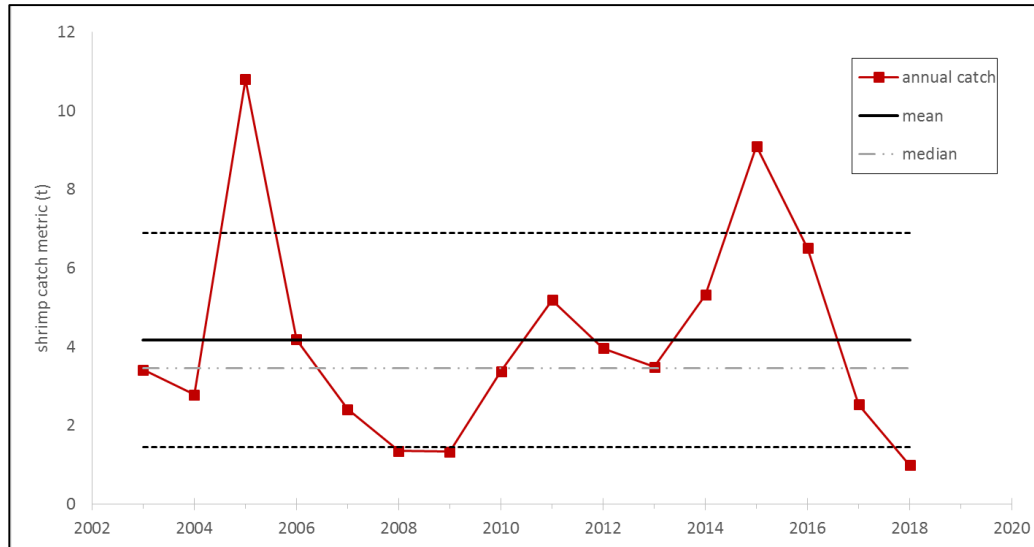
osmerids (eulachon) catch



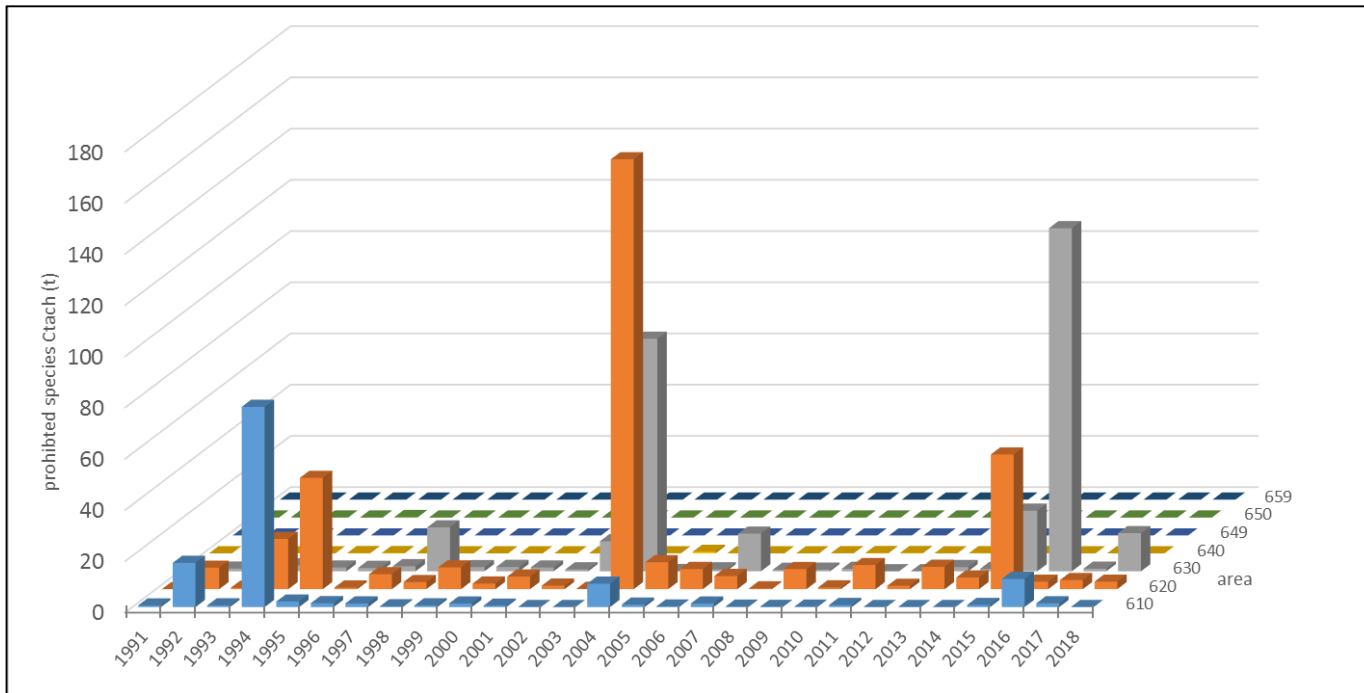
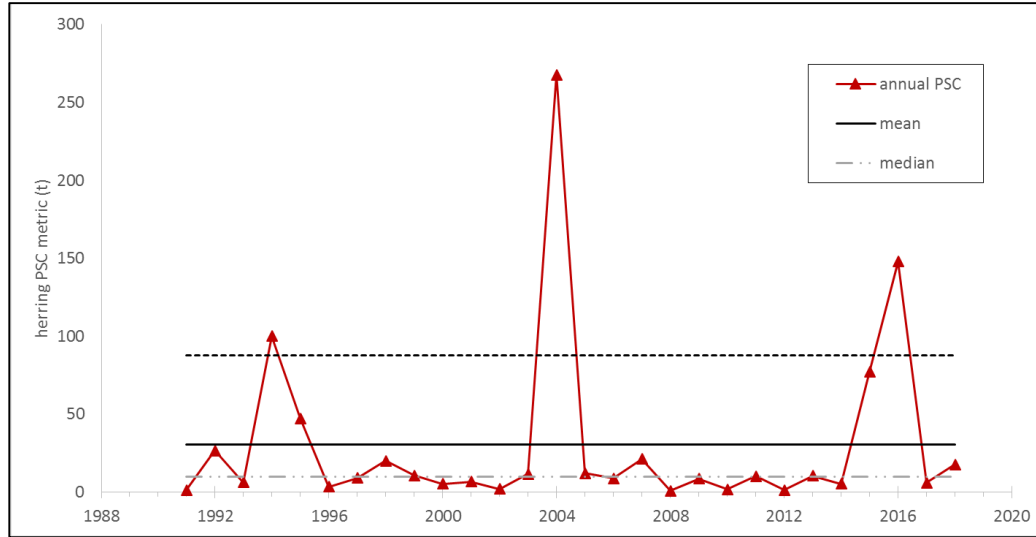
squid catch



pandalid shrimps catch



Pacific herring PSC



capelin synthesis paper

- part of GOA IERP synthesis, Dave McGowan lead
- focus on spatial distributions of GOA capelin
- spawning habitat predictions
- individual-based model
- analysis of temporal trends
- recommendations for better use of existing surveys
- completed but not yet submitted for review

