Port Biological Sampling

Presentation for NRCC Spring 2022 Meeting

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Background

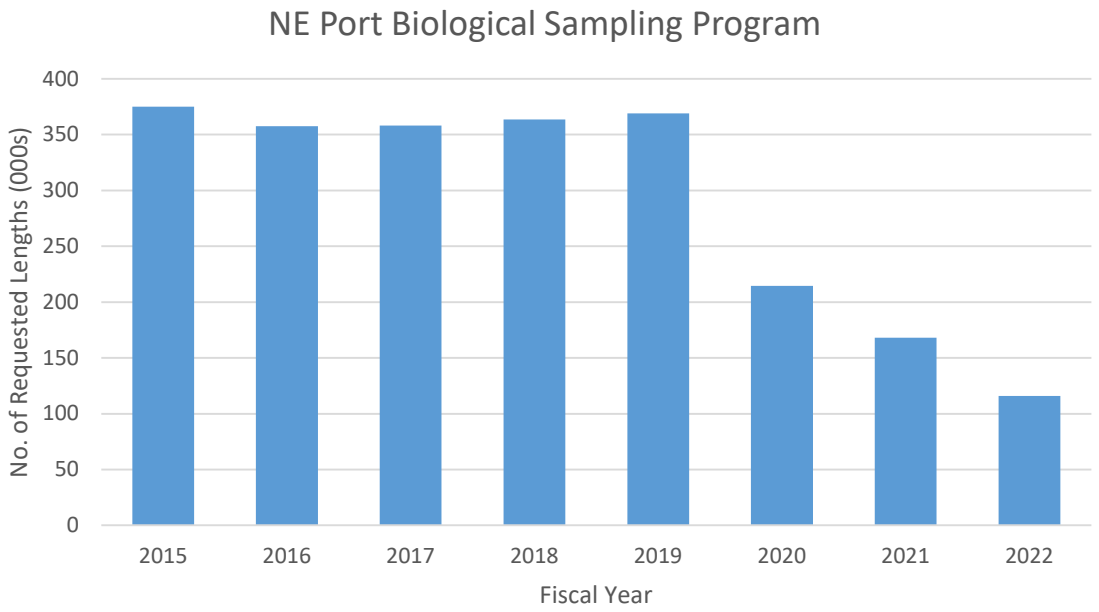
- The Greater Atlantic Regional Fisheries Office announced a predicted 50% reduction in the number of commercial biological samples collected by the Northeast Port Biological Sampling Program (PBSP) in FY2020, due to funding issues

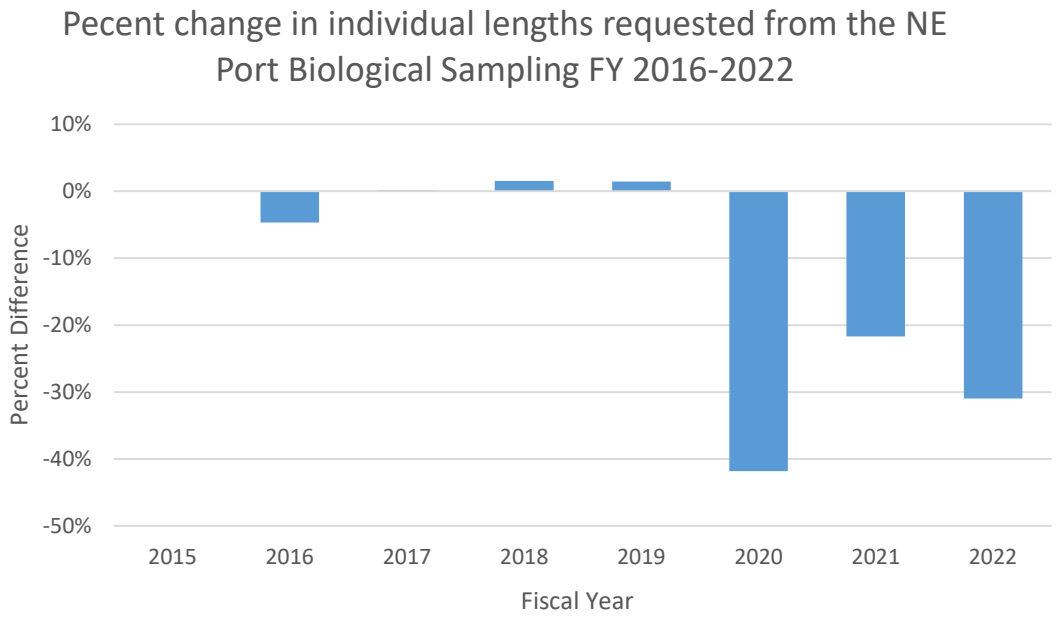
- As a result, an FY2020 port biological sampling prioritization plan was developed to address how the Northeast Fisheries Science Center (NEFSC) might allocate the reduced number of port biological samples available to us in FY2020.

- The FY2022 biological sampling requests are affected by the same funding issues that constrained the FY2020 and FY2021 sampling requests.

- This included the start of the new Protech contract on February 1, 2021, which increased costs and further reduced the number of biological samples that could be collected.

Total number of Individual lengths requested FY 2015 - 2022





Potential consequences of reduced sampling for stock assessments

- Note: Length and age data are used for converting landings by market category to derive commercial length expansions and landings-at-age
- Impact of funding on the operations (i.e. ME/NH in FY21 does not have a dedicated port sampler)
- Impact will likely be stock specific and will vary by the amount of landings, spatial distribution and availability of port sampler
- Systematic temporal and spatial gaps in sampling and increased uncertainty in fishery dependent data leading to biased age and length compositions.
- Potential reduced tracking ability of cohorts and year class strength (i.e. Impact estimation of reliable recruitment)
- Increased uncertainty in estimation of fishery selectivity.
- Impact on model performance (i.e. retrospective bias due to data inconsistencies in the model)

Potential Opportunities for Exploration

- Examine candidate list of stocks for simulation based on life-history and FMP
- Develop simulation analyses to examine the impact of reduced sampling on size and age distribution of commercial landings as well as measures of uncertainty
- Test simulated data to evaluate the impact of reduced port sampling on performance of stock assessment models and results.

Summary

- Reduced port biological sampling will likely introduce uncertainty in landings-at-age data
- Simulation testing is needed. Useful to understand the magnitude of the issue on model performance and scientific advice
- Simulation will also be useful to help us understand the tradeoffs between sampling cost and level of sampling necessary to maintain reliable scientific advice
- Populaion Dynamics Branch does not have the full capacity to investigate this issue but this topic offers the opportunity for potential collaboration.