GAP Production Data Documentation

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1 Welcome

> Please consider this resource to be a **Living Document**. The code in this repository is regularly being updated and improved. Please refer to releases for finalized products and project milestones.

1.1 What is the research objective?

The objectives of these surveys are to:

- monitor trends in the marine ecosystem of the Bering Sea, Aleutian Islands, and Gulf of Alaska
- produce fishery-independent biomass and abundance estimates for commercially important fish and crab species
- collect biological and environmental data for use in ecosystem-based fishery management.

Learn more about the program

Figure 1.1: Sorting and weighing fish on deck on the 2022 Bering Sea groundfish survey aboard the F/V Alaska Knight. Credit: Emily Markowitz/NOAA Fisheries.

Part I

Introduction

Our Objective

As part of our commitment to open science and transparency, we provide this interactive metadata guide to compliment our public-domain data. Please refer to our Draft Data Changes Brief. Once finalized, this language will be included here.

User Resources

- GitHub repository.
- Access Tips and Documentation for All Production Data
- Fisheries One Stop Shop (FOSS)
- Groundfish Assessment Program Bottom Trawl Surveys
- AFSC's Resource Assessment and Conservation Engineering Division
- Survey code books
- Publications and Data Reports
- Research Surveys conducted at AFSC

Cite this data

Use the below bibtext citations, as cited in our group's citation repository for citing the data created and maintained in this repo. Add "note = {Accessed: mm/dd/yyyy}" to append the day this data was accessed. Included here are AFSC RACE Groundfish and Shellfish Assessment Program's:

- Design-Based Production Data (internal) (NOAA Fisheries Alaska Fisheries Science Center, Goundfish Assessment Program, 2023).

- AFSC RACE Groundfish Data for AKFIN (Alaska Fisheries Information Network (AKFIN), 2023).
- Public Data hosted on the Fisheries One Stop Shop (FOSS) Data Platform (NOAA Fisheries Alaska Fisheries Science Center, 2023).

Cite this data

```
@misc{GAPProducts,
  author = {{NOAA Fisheries Alaska Fisheries Science Center, Goundfish Assessment Program}}
  year = {2023},
  title = {AFSC Goundfish Assessment Program Design-Based Production Data},
  howpublished = {https://www.fisheries.noaa.gov/alaska/science-data/groundfish-assessment-
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  copyright = {Public Domain}
}

@misc{FOSSAFSCData,
  author = {{NOAA Fisheries Alaska Fisheries Science Center}},
  year = {2023},
  title = {Fisheries One Stop Shop Public Data: RACE Division Bottom Trawl Survey Data Quer
  howpublished = {https://www.fisheries.noaa.gov/foss},
  publisher = {{U.S. Dep. Commer.}},
  copyright = {Public Domain}
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@misc{GAPakfin,
  author = {{Alaska Fisheries Information Network (AKFIN)}},
  institution = {{NOAA Fisheries Alaska Fisheries Science Center, Goundfish Assessment Prog
  year = {2023},
  title = {AFSC Goundfish Assessment Program Design-Based Production Data},
  howpublished = {https://www.psmfc.org/program/alaska-fisheries-information-network-akfin}
  publisher = {{U.S. Dep. Commer.}},
  copyright = {Public Domain}
}
```

Or cite our latest data reports for survey-specific data and other findings:

Alaska Fisheries Information Network (AKFIN). (2023). *AFSC goundfish assessment program design-based production data*. NOAA Fisheries Alaska Fisheries Science Center, Goundfish Assessment Program; https://www.psmfc.org/program/alaska-fisheries-information-network-akfin; U.S. Dep. Commer.

Hoff, G. R. (2016). *Results of the 2016 eastern Bering Sea upper continental slope survey of groundfishes and invertebrate resources* (NOAA Tech. Memo. NOAA-AFSC-339). U.S. Dep. Commer. https://doi.org/10.7289/V5/TM-AFSC-339

Markowitz, E. H., Dawson, E. J., Anderson, A. B., Rohan, S. K., Charriere, N. E., Prohaska, B. K., and Stevenson, D. E. (2023). *Results of the 2022 eastern and northern Bering Sea continental shelf bottom trawl survey of groundfish and invertebrate fauna* (NOAA Tech. Memo. NMFS-AFSC-469; p. 213). U.S. Dep. Commer.

NOAA Fisheries Alaska Fisheries Science Center. (2023). *Fisheries one stop shop public data: RACE division bottom trawl survey data query*. https://www.fisheries.noaa.gov/foss; U.S. Dep. Commer.

NOAA Fisheries Alaska Fisheries Science Center, Goundfish Assessment Program. (2023). *AFSC goundfish assessment program design-based production data*. https://www.fisheries.noaa.gov/alaska/science-data/groundfish-assessment-program-bottom-trawl-surveys; U.S. Dep. Commer.

Von Szalay, P. G., and Raring, N. W. (2018). *Data report: 2017 Gulf of Alaska bottom trawl survey* (NOAA Tech. Memo. NMFS-AFSC-374). U.S. Dep. Commer. https://doi.org/10.7289/V5/TM-AFSC-374

Von Szalay, P. G., and Raring, N. W. (2020). *Data report: 2018 Aleutian Islands bottom trawl survey* (NOAA Tech. Memo. NMFS-AFSC-409). U.S. Dep. Commer. https://doi.org/10.25923/qe5v-fz70

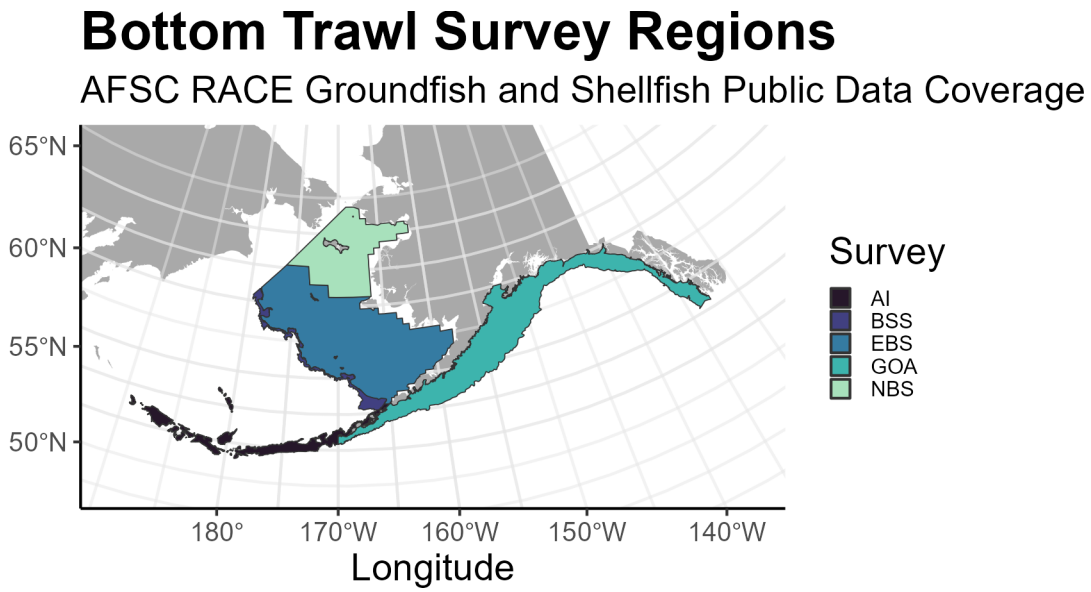
Access Constraints

There are no legal restrictions on access to the data. They reside in public domain and can be freely distributed.

User Constraints: Users must read and fully comprehend the metadata prior to use. Data should not be used beyond the limits of the source scale. Acknowledgement of AFSC Groundfish Assessment Program, as the source from which these data were obtained, in any publications and/or other representations of these data, is suggested.

2 Survey Background

2.1 Bottom trawl surveys and regions



- **Aleutian Islands (AI)** (Von Szalay and Raring, 2020)
  - Triennial (1990s)/Biennial since 2000 in even years
  - Modified Index-Stratified Random of Successful Stations Survey Design
- **Eastern Bering Sea Slope (BSS)** (Hoff, 2016)
  - Intermittent (funding dependent)
  - Modified Index-Stratified Random of Successful Stations Survey Design
- **Eastern Bering Sea Shelf (EBS)** (Markowitz et al., 2023)
  - Annual
  - Fixed stations at center of 20 x 20 nm grid
- **Gulf of Alaska (GOA)** (Von Szalay and Raring, 2018)