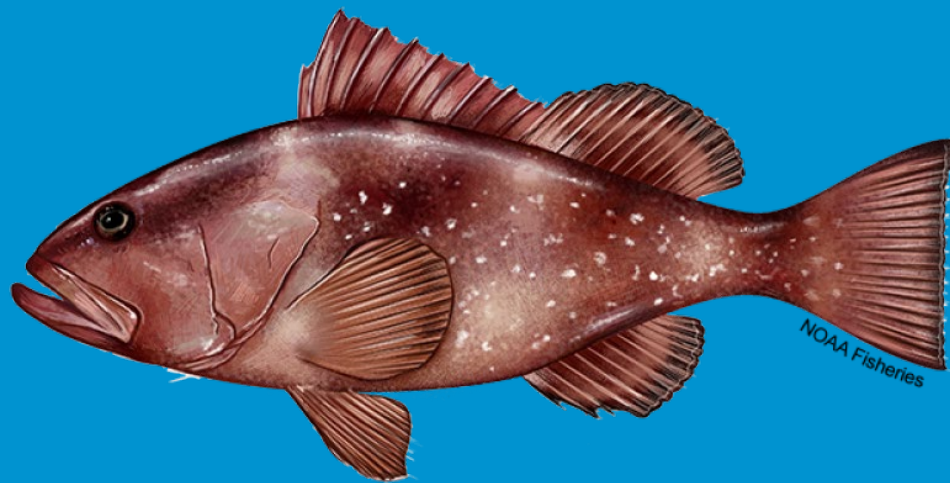




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SEDAR 88: Gulf of Mexico Red Grouper



SRFS Topical Working Group
March 6th, 2024

Overview

- SRFS private mode estimates as replacement for MRIP private mode estimates
- Associated length and age comps
- Oct 5th 2023: Data scoping webinar
- Jan 26th 2024: Call with SEFSC and SRFS data providers



SEDAR

SouthEast Data, Assessment, and Review

4055 Faber Place Drive #201
North Charleston SC 29405

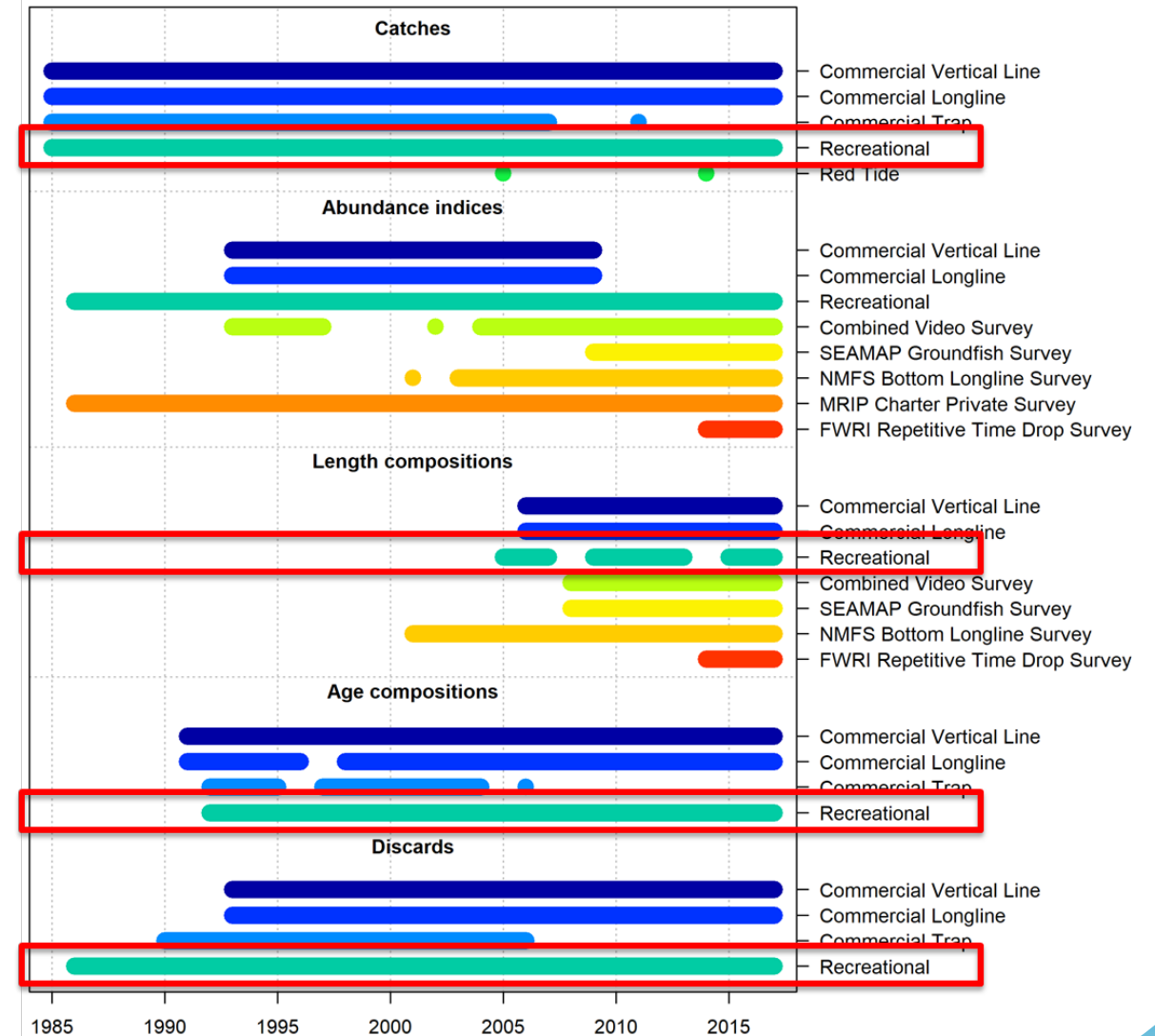
Phone (843) 571-4366
Fax (843) 769-4520
www.sedarweb.org

**SEDAR 88 Gulf of Mexico Red Grouper
Operational Assessment Terms of Reference
April 2023**

1. Update the approved SEDAR 61 Gulf of Mexico red grouper base model with data through 2022.
 - Use the State of Florida's State Reef Fish Survey (SRFS) to inform private recreational landings data, if historical SRFS landings have been calibrated and SRFS has been certified by the NOAA Office of Science and Technology.

SEDAR 61 Data Inputs

- Start year 1986
- Single recreational fleet (no shore mode)
- Fleet structure the same for S88
- Differences in data input sources
 - Charter (S61 MRIP, S88 MRIP)
 - Private (S61 MRIP, S88 SRFS)
 - Headboat (S61 SRHS, S88 SRHS)



Length Compositions



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SEDAR 61 Recreational Length Comps

- Single recreational fleet comprised of Private, Charterboat, and Headboat
- Imputed lengths from MRIP included for Private and Charterboat modes
- Length composition included sample weights provided from MRIP
- Nominal length comps for SRHS headboat mode and MRIP private/charter computed separately
 - Used to re-weight the age comps

Imputed Lengths

- **S61**: Imputed lengths from MRIP were included for Private and Charterboat modes
- **S88**: Imputed lengths were not used
 - The hot deck/cold deck procedure used to impute lengths uses data from the current AND previous year(s)
 - Imputed lengths may not be representative of the current year



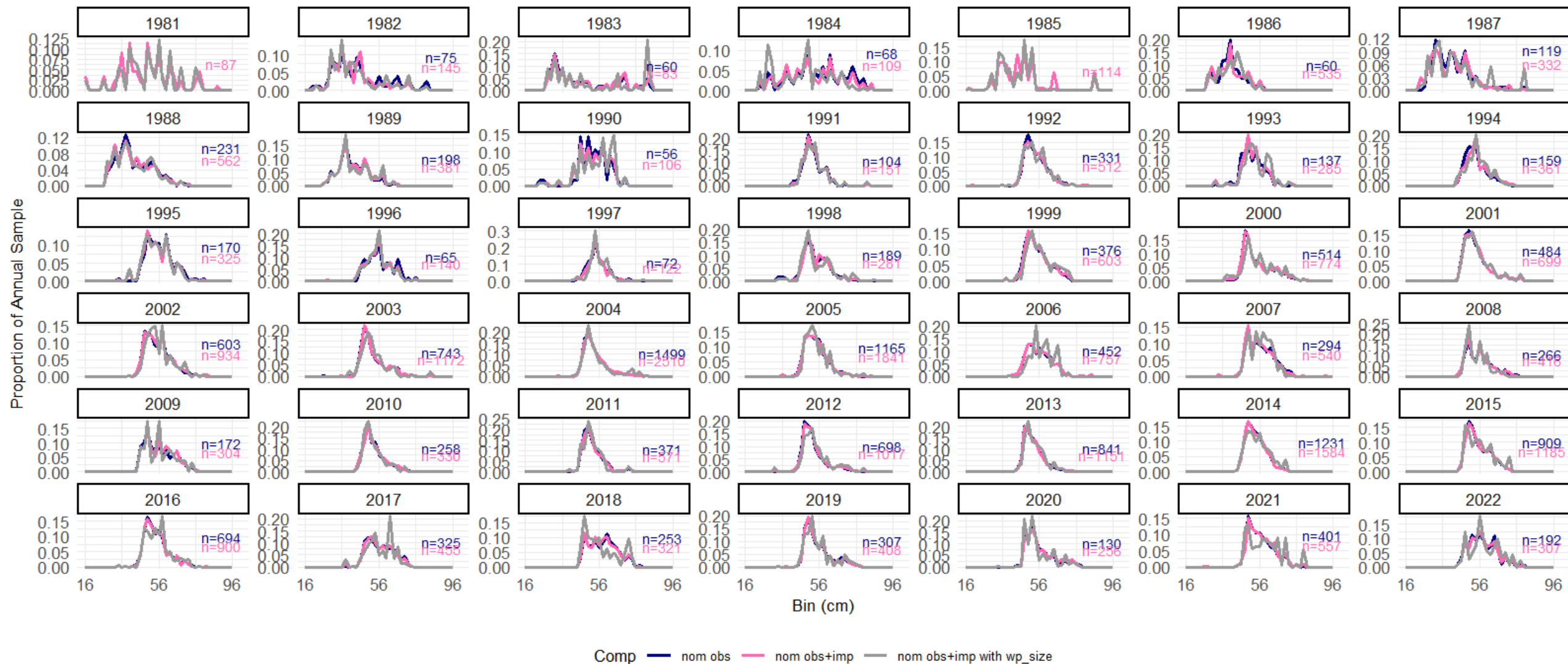
WP_SIZE

- WP_SIZE represents the amount (number) of the catch estimate represented by the sampled fish
- **S61**: WP_SIZE included in MRIP Private and Charterboat modes
- **S88**: WP_SIZE not included
 - When sample sizes are relatively large, WP_SIZE does not have a large effect on the length comps, however, for years with smaller sample sizes, using WP_SIZE can result in ‘spikier’ comps
 - Examined previous assessment as comparison
- Imputed lengths and WP_SIZE not normally included in recent Gulf assessments



WP_SIZE

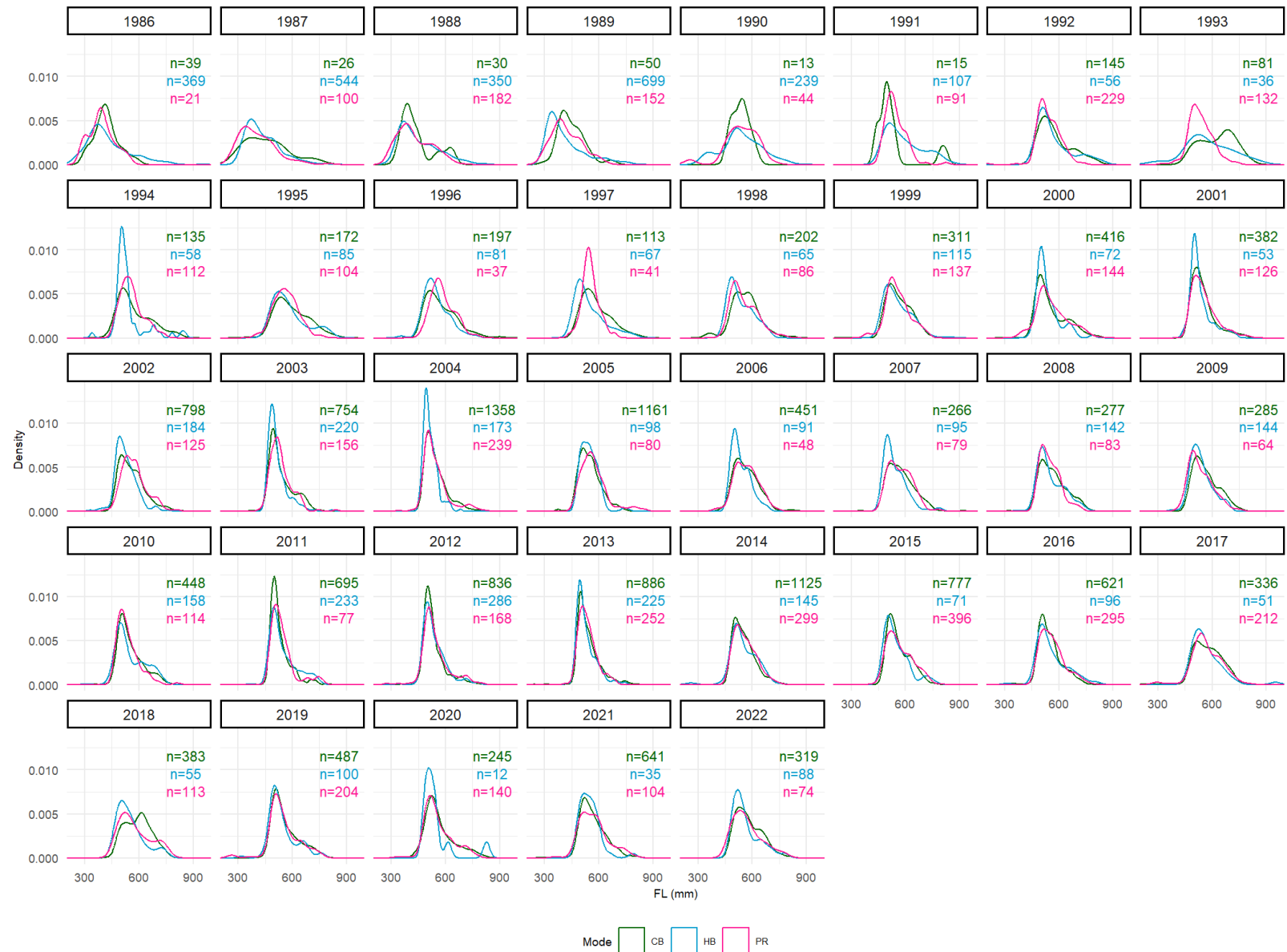
S88 GOM Red Grouper



Length Comp Overview

- **S61**: Nominal length comps for each mode (Cbt/Pri and Headboat) were computed separately
- **S88**: Nominal length comps computed for all modes combined and were weighted by North or South GOM
 - Regional weighting was not pursued in S61 because of low sample sizes
 - Increased sample size for S88
 - Did not have to exclude private and charterboat samples that did not have associated WP_SIZE estimate
 - Improvements in data provision as a result of the SEDAR life history template allowed for fish from the length-only and age data to be matched, resulting in the addition of **2,712** samples.

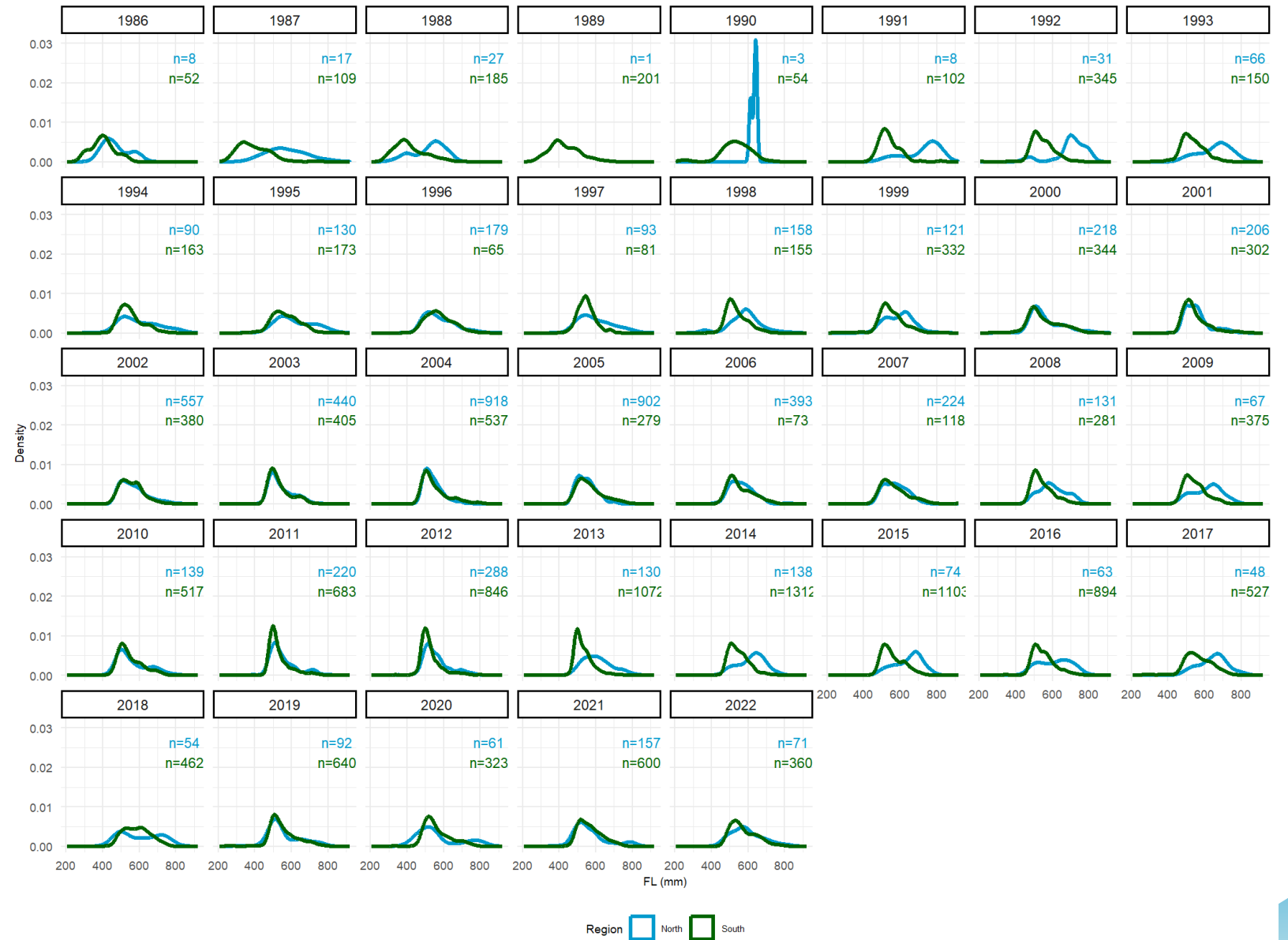
Length distribution by mode



Length distribution by region

North = TX, LA, MS, AL, and FL Panhandle

South = FL Peninsula



Comparison of Treatment of Length Comps

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Nominal Length Comp
Private/Charter MRIP

Nominal Length Comp
Headboat

- Length comps used to weight age compositions
- Not explicitly included in assessment model

SEDAR 88

Nominal Length
Comp North



Landings North

Nominal Length
Comp South



Landings South

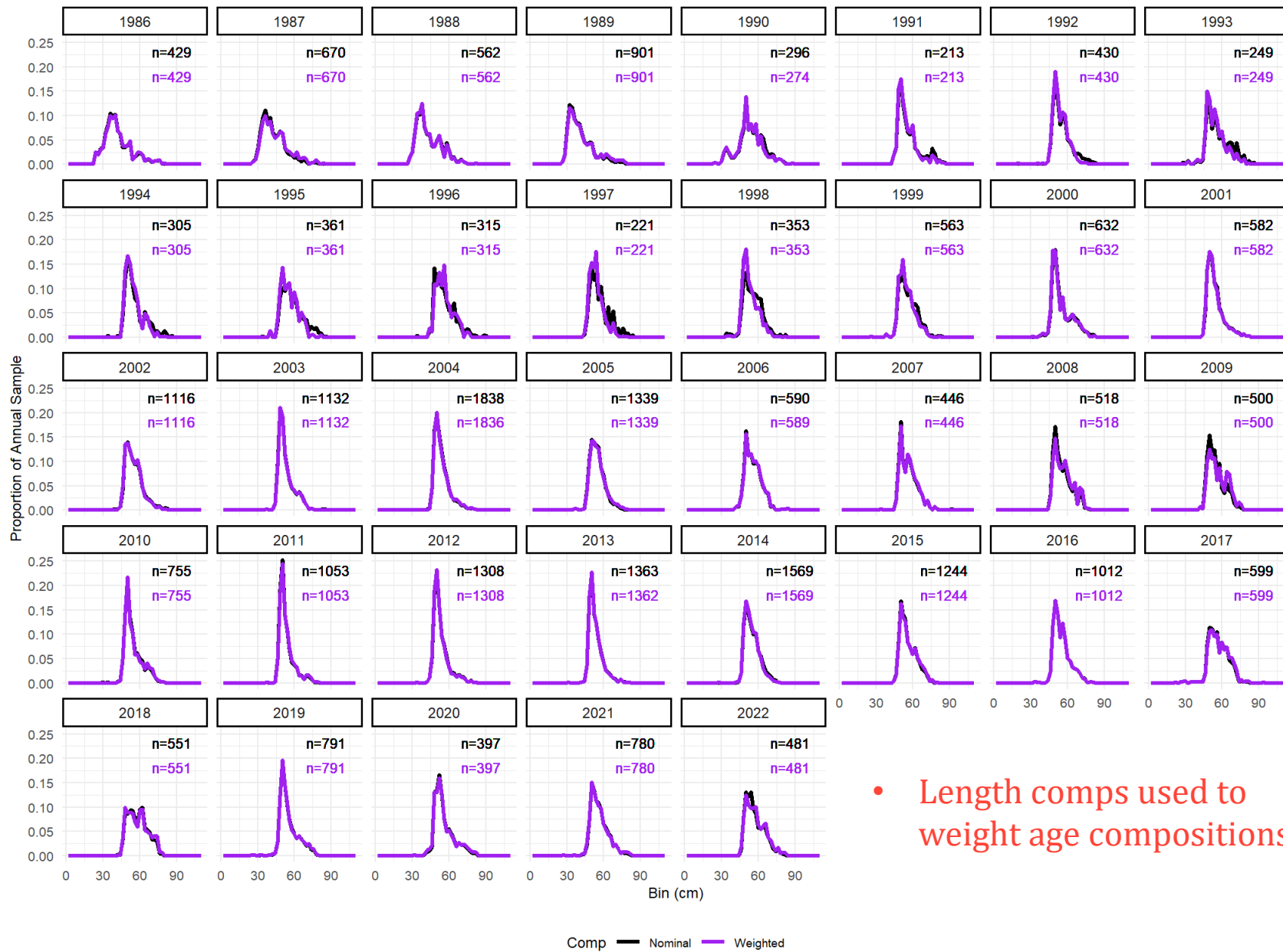
Weighted Length
Comp Recreational

❖ S88 methods reflects current best practices



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Weighted Length Comps



- Length comps used to weight age compositions

Age Compositions



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Age Compositions

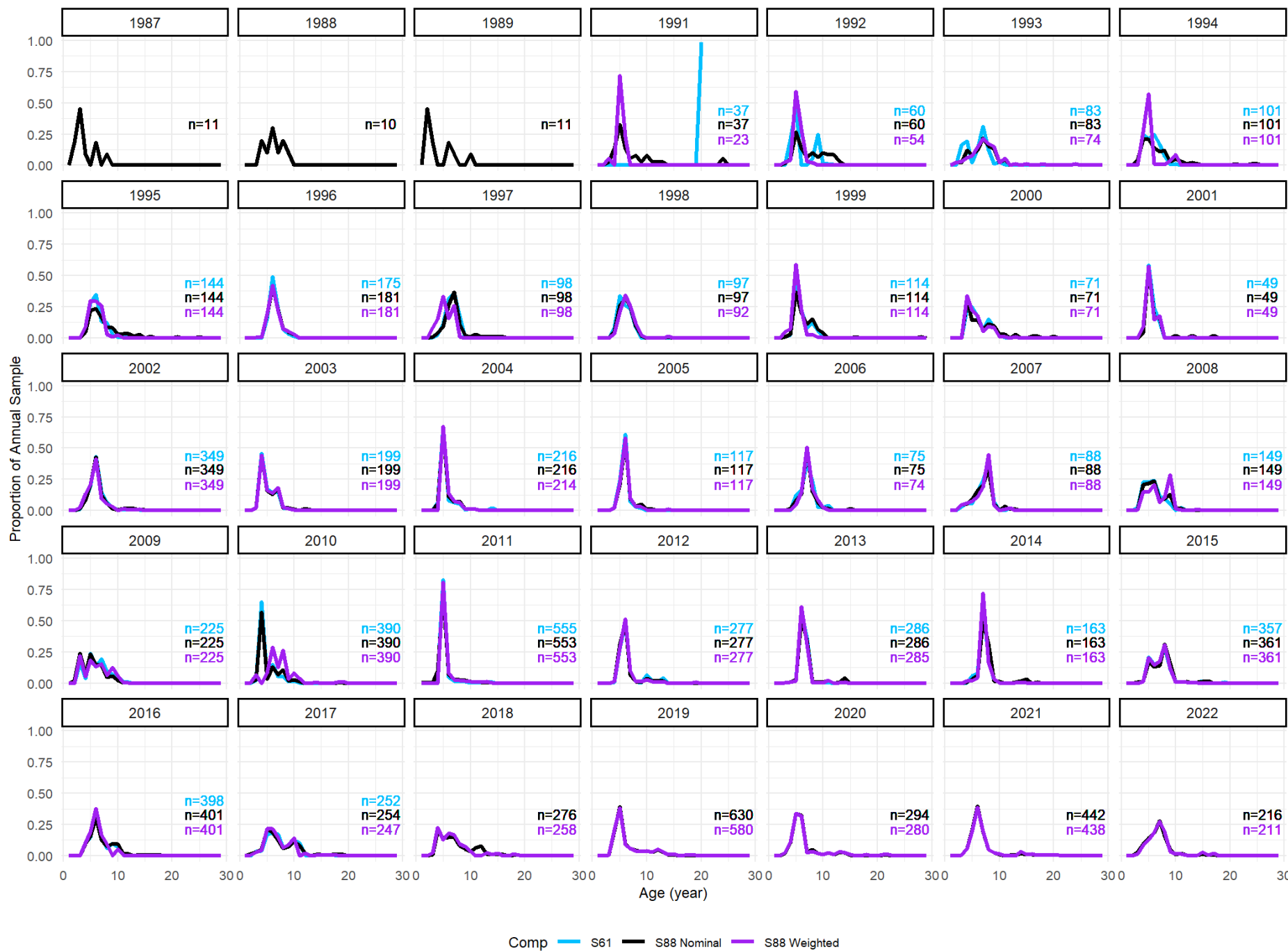
- Nominal age comps were reweighted by the weighted length comps to produce the final age comps (Chih 2009*)
 - Age compositions are weighted to account for potential sampling biases associated with fishery-dependent sampling (e.g. opportunistic vs random sampling)

*Chih, C.P. 2009. Evaluation of sampling efficiency of three otolith sampling methods for king mackerel fisheries. Transactions of the American Fisheries Society, 138: 990-999.

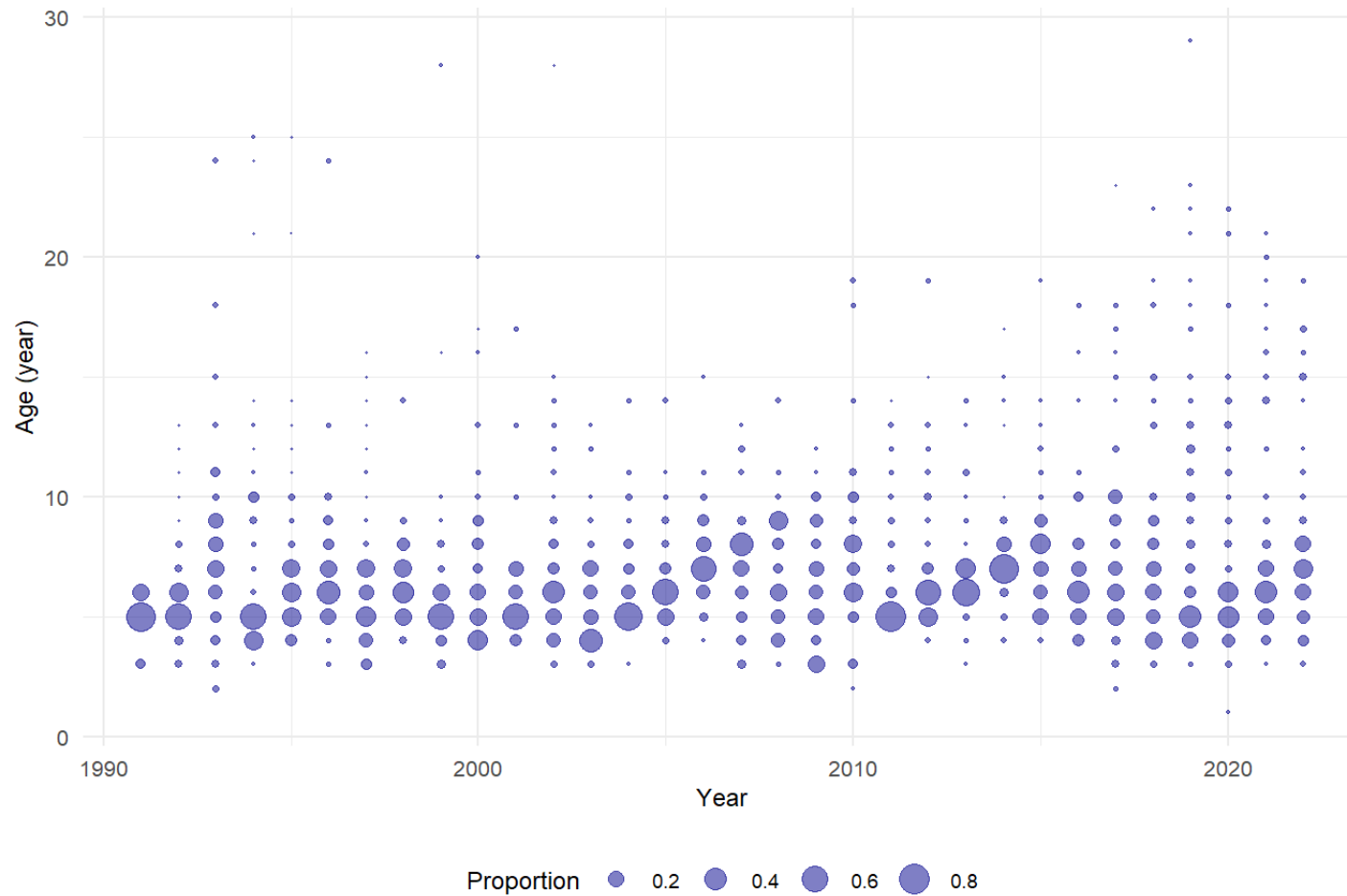


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Age Comps



Weighted Age Comps

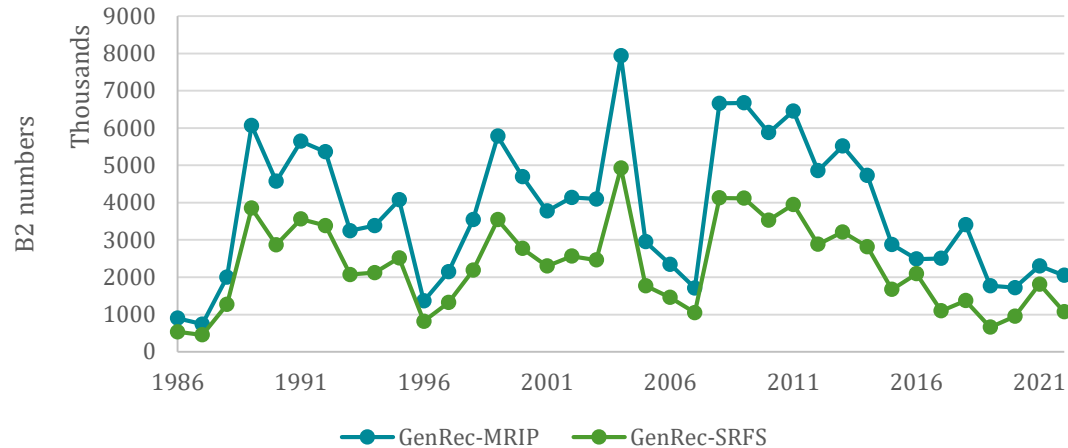
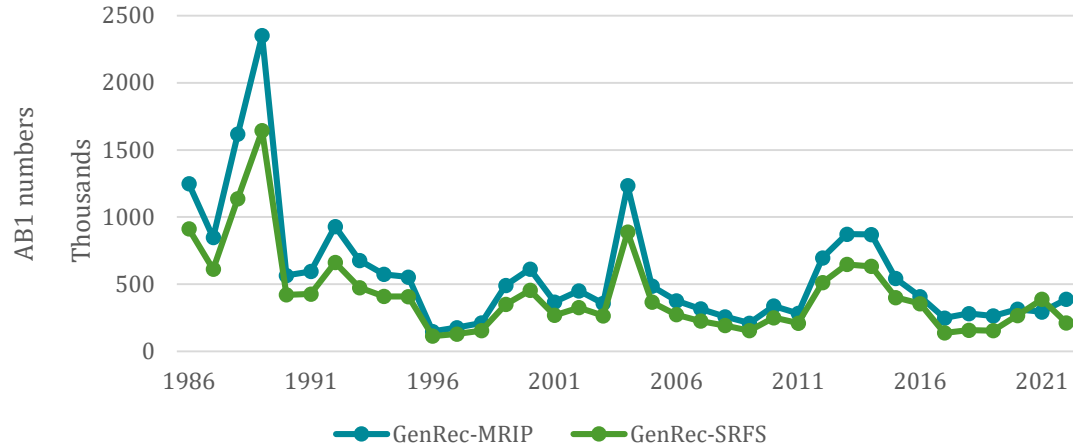


Landings and Discards

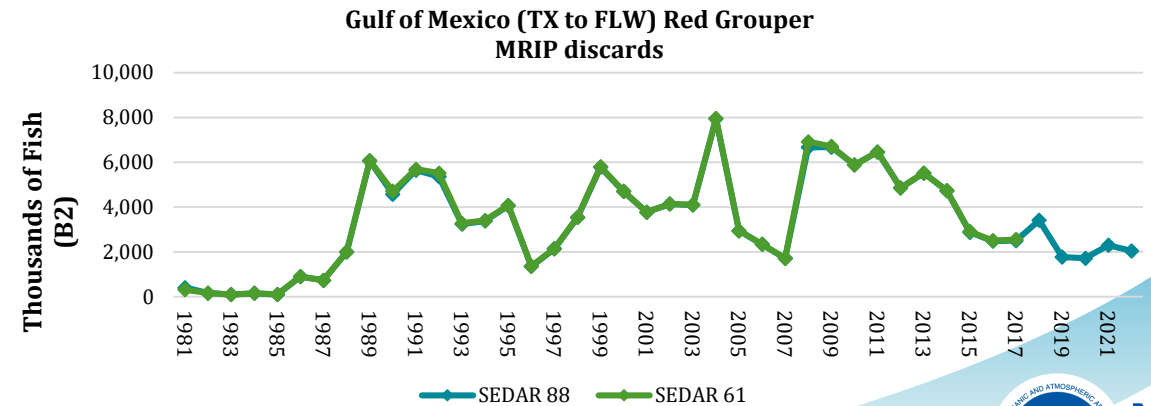
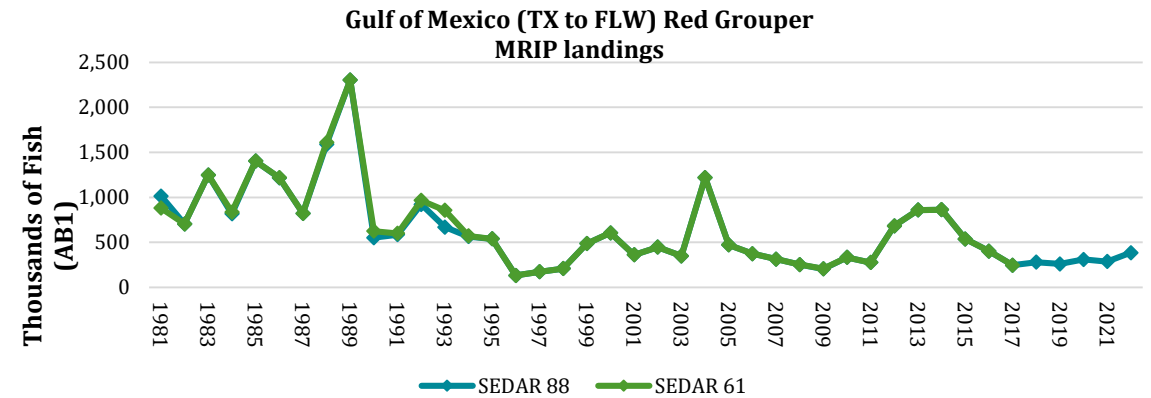


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Recreational Catches

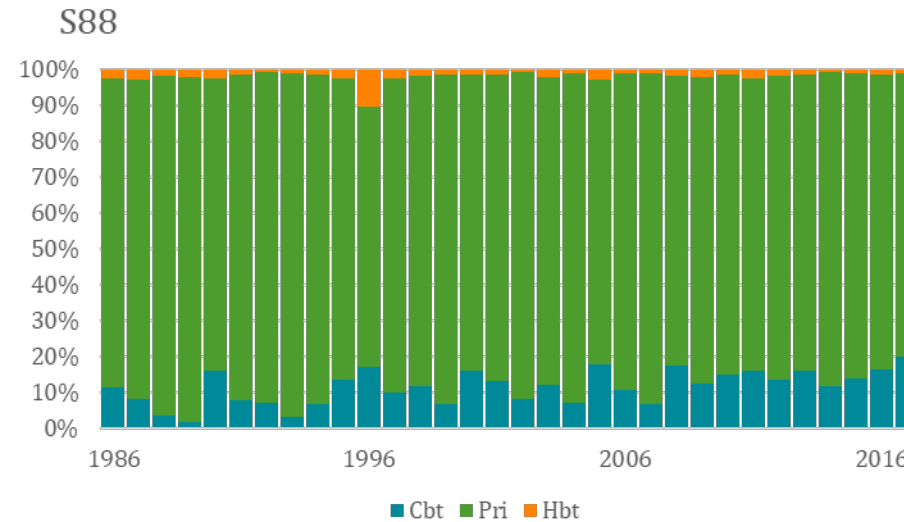
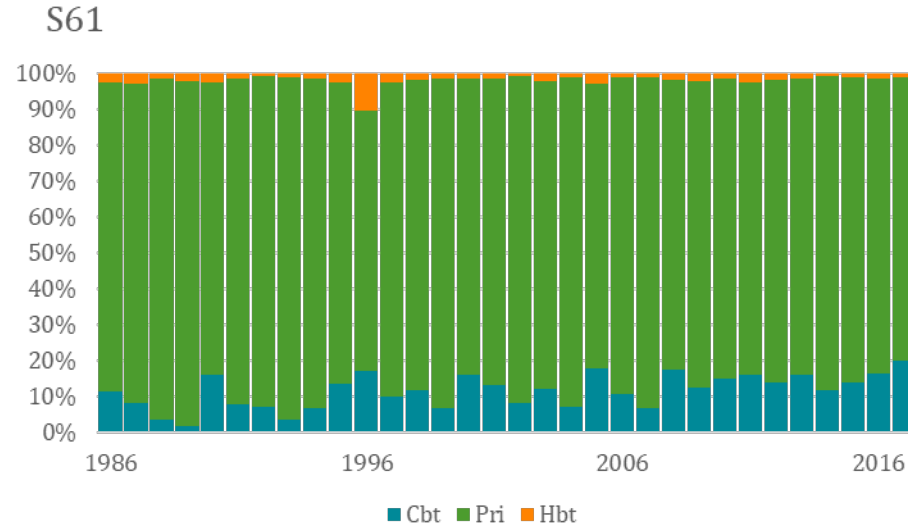


- Differences observed in landings and discards
- Due to replacing MRIP private mode with SRFS private mode



Modes by Proportion

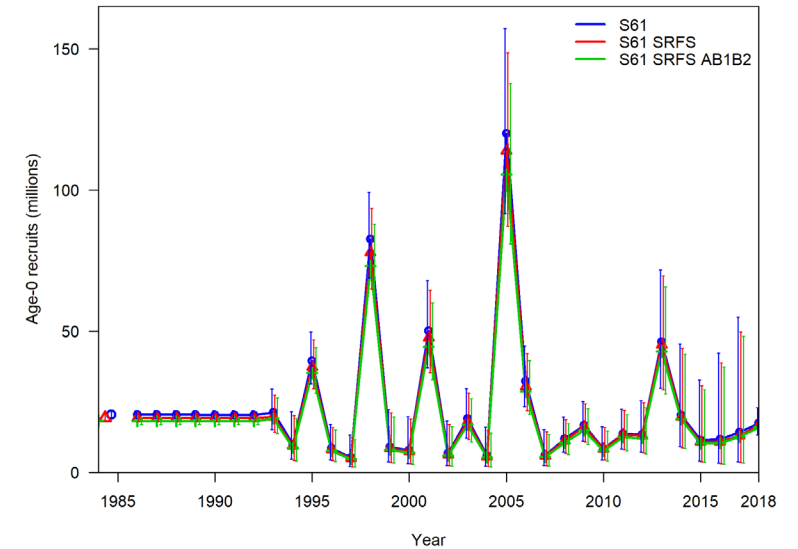
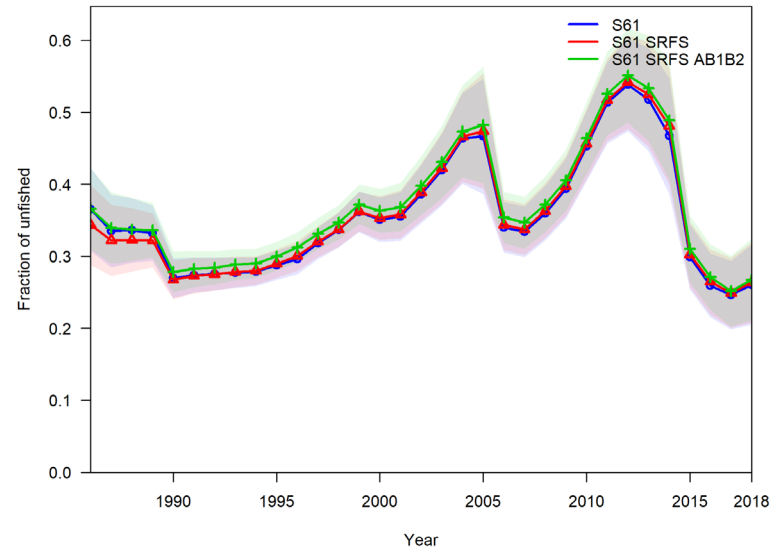
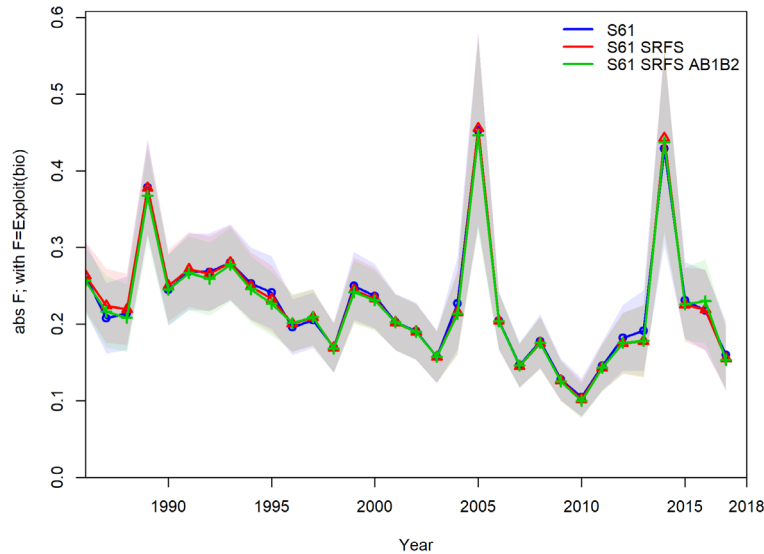
- No change in landings by mode proportions
- S61 Pri from MRIP, S88 Pri from SRFS



*Figure truncated in 2017 for comparison purposes

S61 Model with SRFS Data

- Ran S61 with private mode landings and discards from SRFS data (TY 2017)



CVs

- Constant CV of 0.3 used in S61 for recreational landings
- Yearly CVs available for AB1 and B2 for S88
 - Variance estimates from different modes/surveys (e.g., MRIP vs. SRHS) were treated as independent and additively combined using the Variance Sum Law to produce uncertainty (CV) estimates for total recreational catch (by fleet).

Questions?/Discussion



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