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FISHERIES

SEDAR 99: Migratory Gulf King Mackerel



SSC Meeting
July 22nd, 2026

SEDAR 99 ToRs

1. Utilize the approved 2020 SEDAR 38 Update base model for Gulf of Mexico migratory group of king mackerel with data through 2024, where possible. Update the model to the current stock synthesis version and model configurations using current best practices.
2. Document any changes or corrections to the SEDAR 38 Update base model in detail and provide rationale for decisions on how to address these issues made to model and input datasets and provide updated input data tables.
 - Describe any annual differences in the magnitude of landings from the previous assessment greater than 10%, with assistance from the NOAA Office of Science and Technology.
 - Update life history data (e.g., growth, reproduction, natural mortality) if warranted. Evaluate any new data on discard mortality.
 - Explore any possible changes in age-structure, including time-varying growth. If stock structure has changed substantially, describe how this will be addressed.
 - Explore temporal variations in stock productivity using the full complement of available data, including sensitivity analyses to explore model start dates.
 - Revise the shrimp bycatch estimates based on the CIE-reviewed methodology, considering the updated shrimp effort estimation reviewed during previous SEDAR assessments (e.g. 87 and 98).
 - Revisit sex-specific data provision and whether said data improves model estimates when included.
 - Explore available landings of king mackerel from Mexico.
 - Consider work by the CMP technical team and the results of the Gulf CMP regional engagement sessions.



GoM-LME project

Note: Use of the term “Gulf of Mexico” in reference to this project does not represent an official position of the United States. Per Executive Order 14172 issued on January 20, 2025, the United States recognizes the “Gulf of America.”



**SAP
LME
PROJECT**

**GULF OF
MEXICO**



UN
environment
programme

- A \$12.9M U.S.-Mexico collaboration funded by the Global Environmental Facility (GEF) and implemented by the UN Environment Programme
- Component 1: Improve Water Quality
- **Component 2: Preventing Depletion and Restoring Living Marine Resources**
 - **Output 2.1: Implement joint stock assessment for King mackerel and Spanish mackerel**
- Component 3: Conserving and Restoring Coastal and Marine Ecosystems



IMIPAS
INSTITUTO MEXICANO
DE INVESTIGACIÓN EN PESCA
Y ACUACULTURA SUSTENTABLES



NATIONAL MARINE
SANCTUARIES



CONANP
COMISIÓN NACIONAL
DE ÁREAS NATURALES
PROTEGIDAS

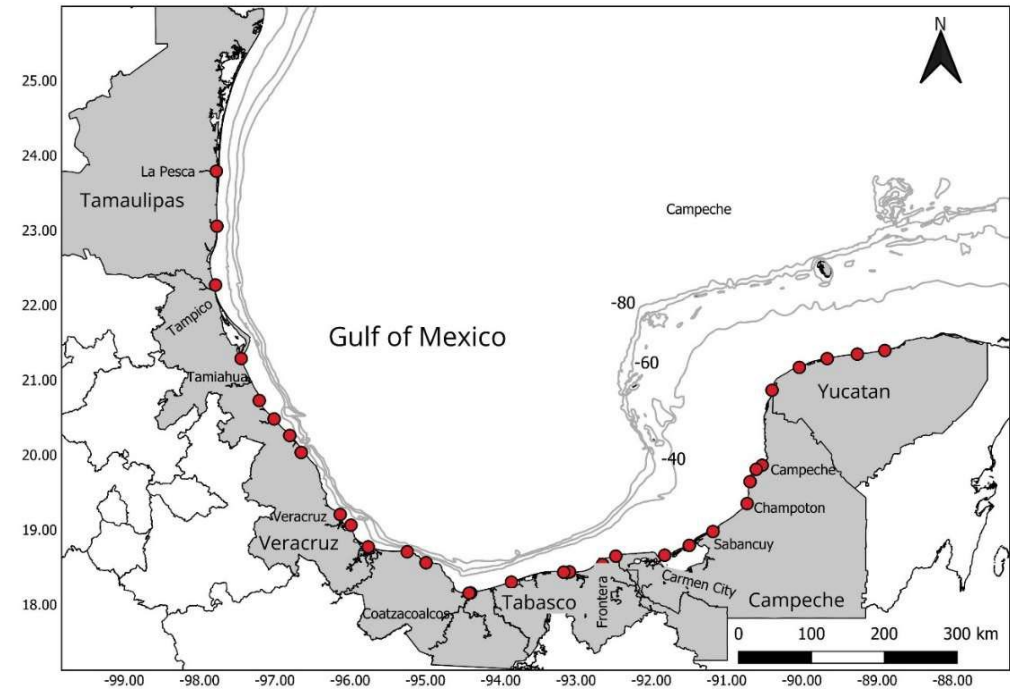


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Mexican Landings



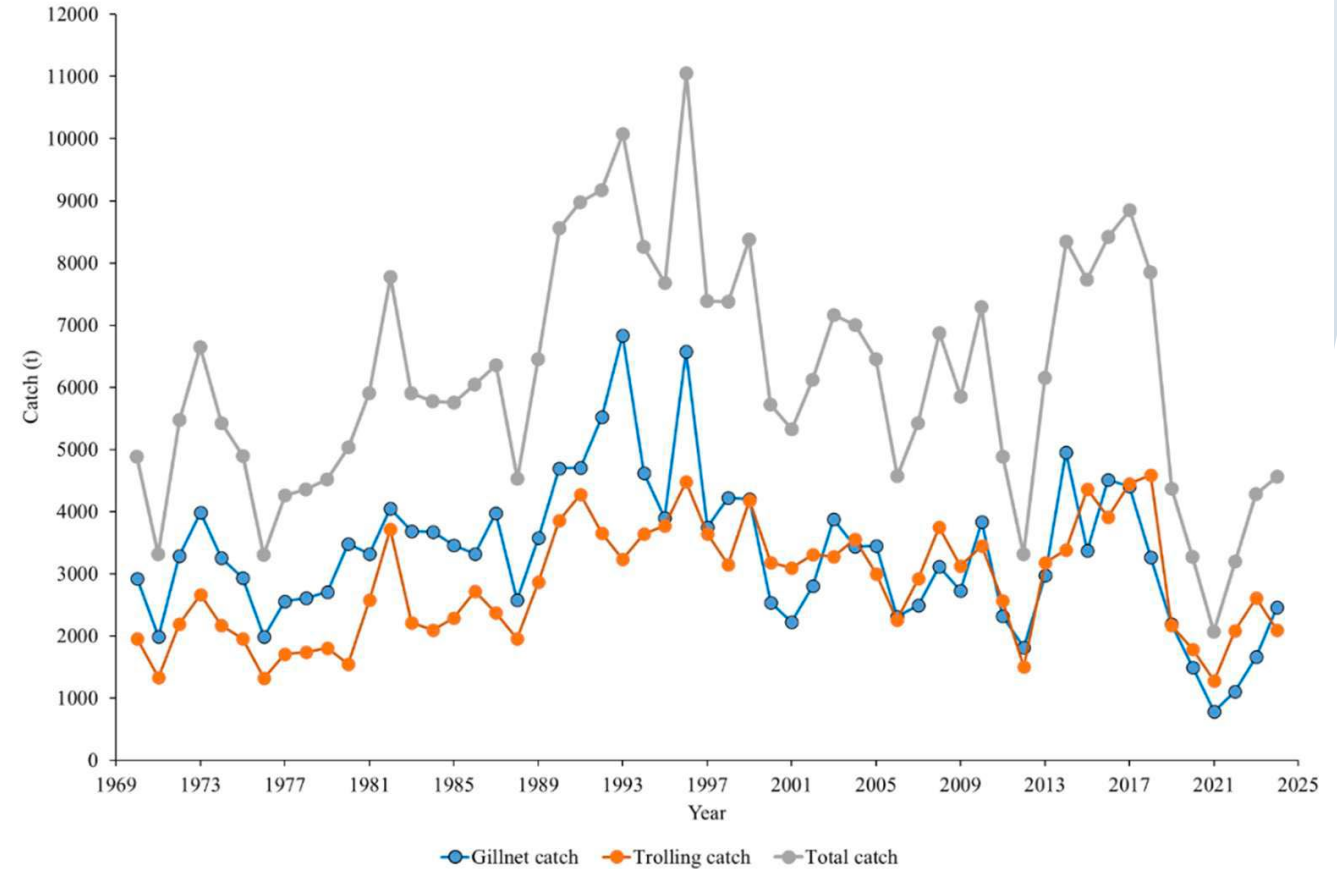
- Supplied by Mexican Institute for Sustainable Fisheries and Aquaculture Research (IMIPAS)
- 2 fleets: trolling and gillnet
- Artisanal commercial fleets
- Working papers on landings and length comps provided
- SEDAR99-WP-19 & SEDAR99-WP-20



- Explore available landings of king mackerel from Mexico.

Mexican Landings

- Landings available from 1970-2024 (FY)
- 1970-1979: “*Sustentabilidad y Pesca Responsable en México*” aka the Red Book
 - Gear split historical reconstruction
- 1980-2024: Statistical Yearbooks of Aquaculture and Fisheries published by the National Commission of Aquaculture and Fisheries



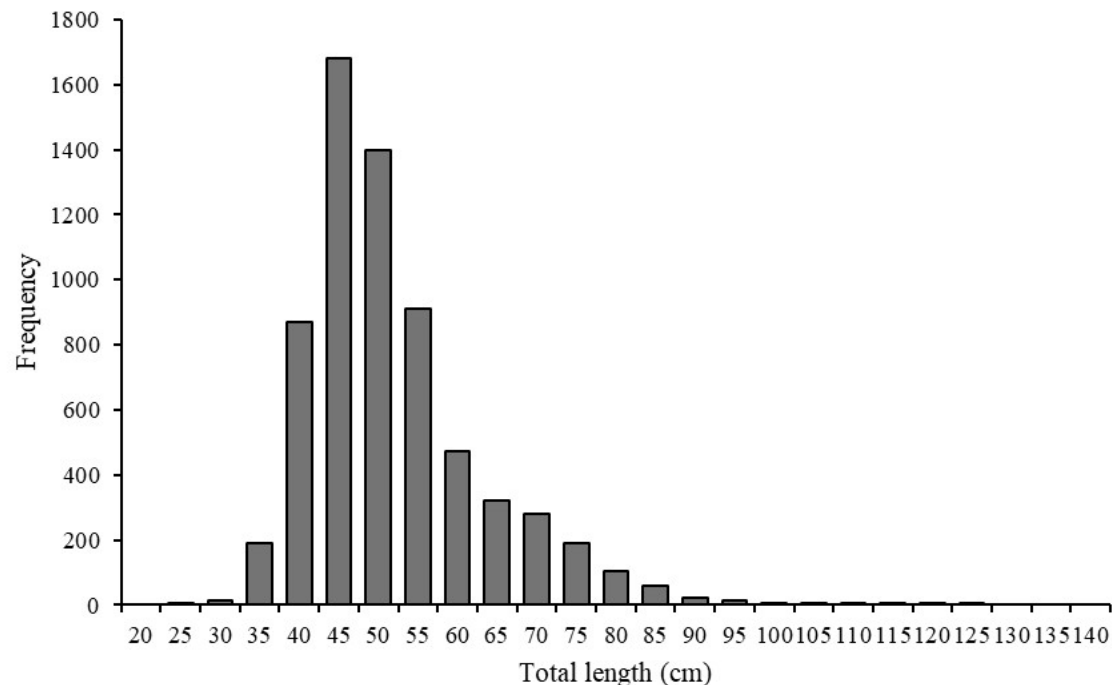
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Mexican Length Compositions

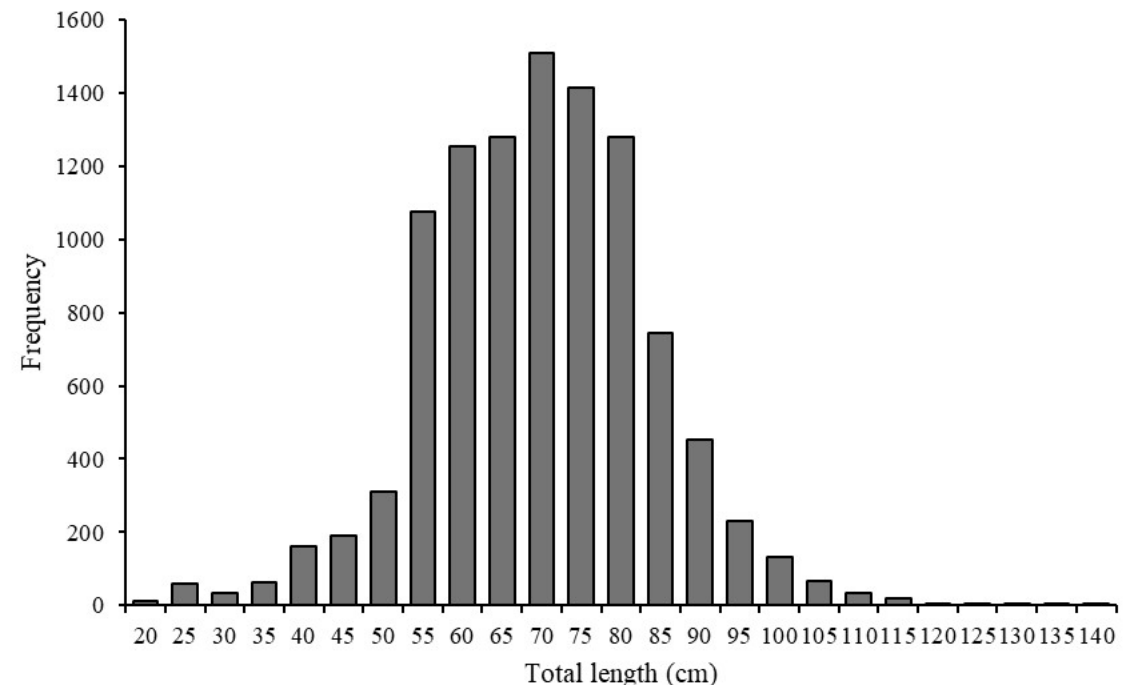


- IMIPAS Marine Finfish Monitoring Program: 16,860 individuals from 816 sampled fishing trips were included

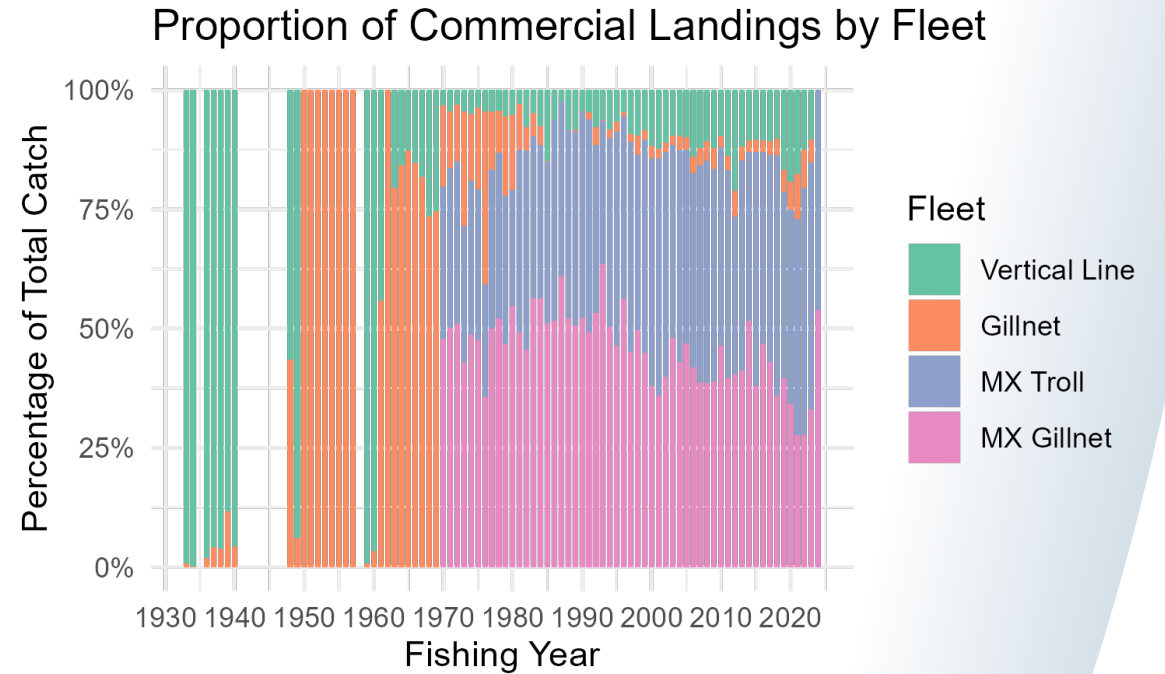
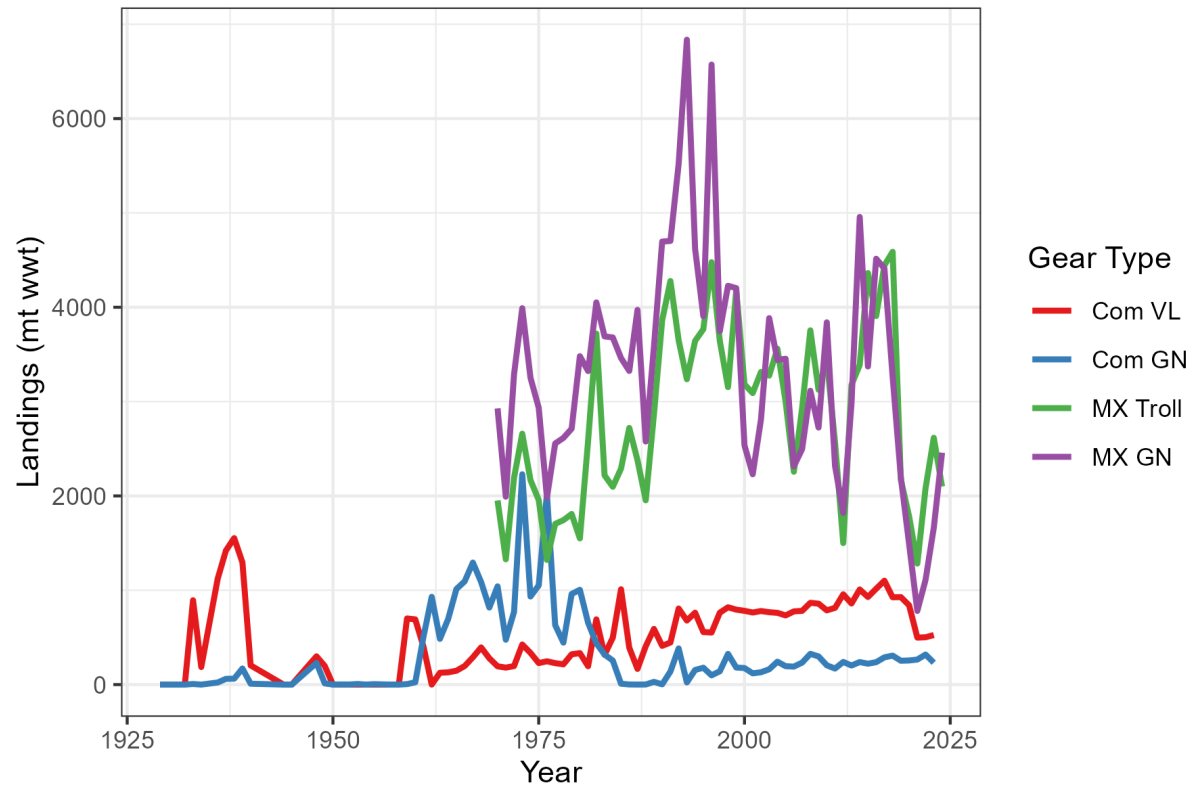
Gillnet: 6,517 fish from 318 trips



Trolling: 10,343 fish from 498 trips

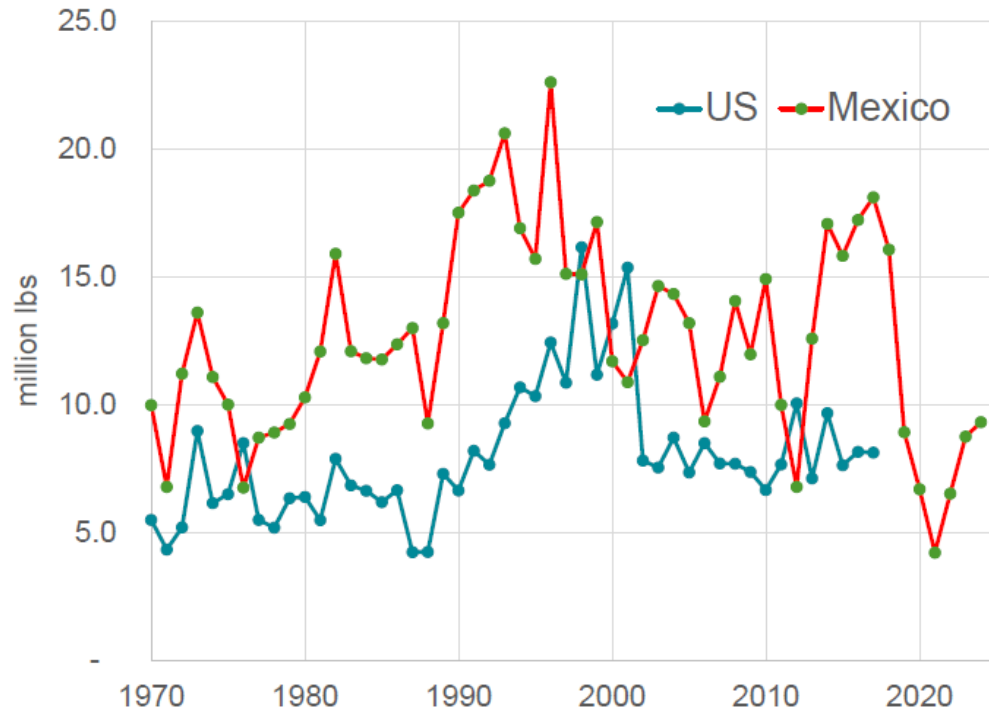


Commercial Landings

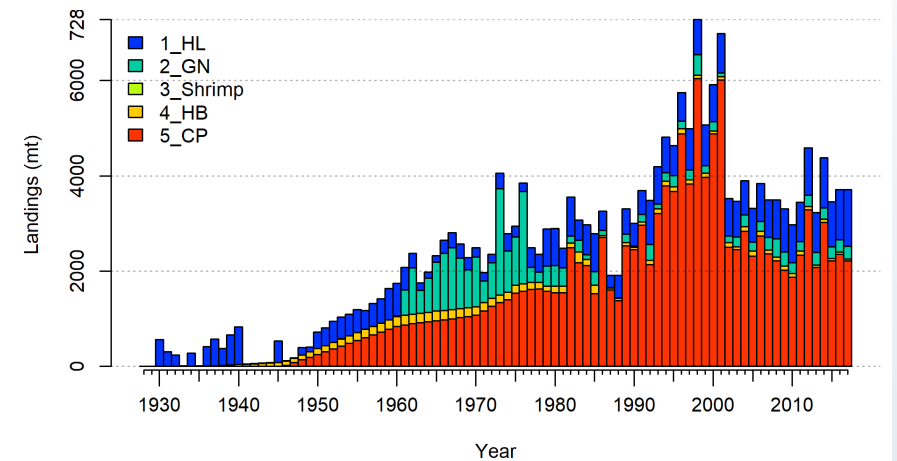
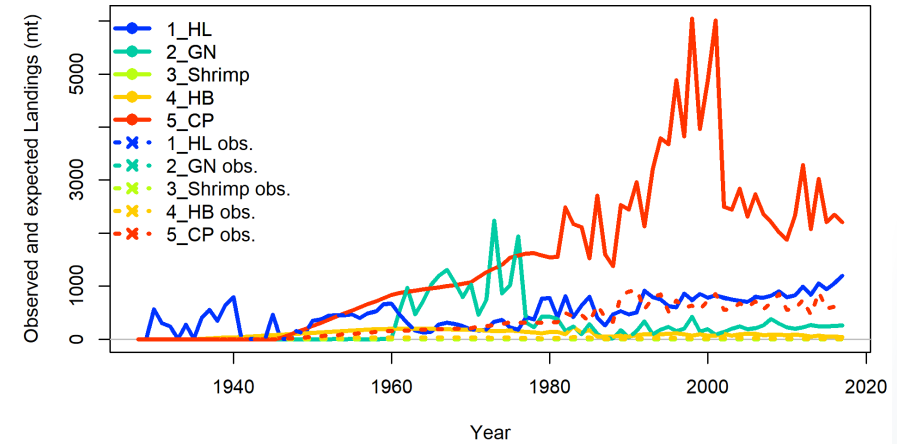


US and Mexico Gulf KMK Landings

SEDAR 38U Landings

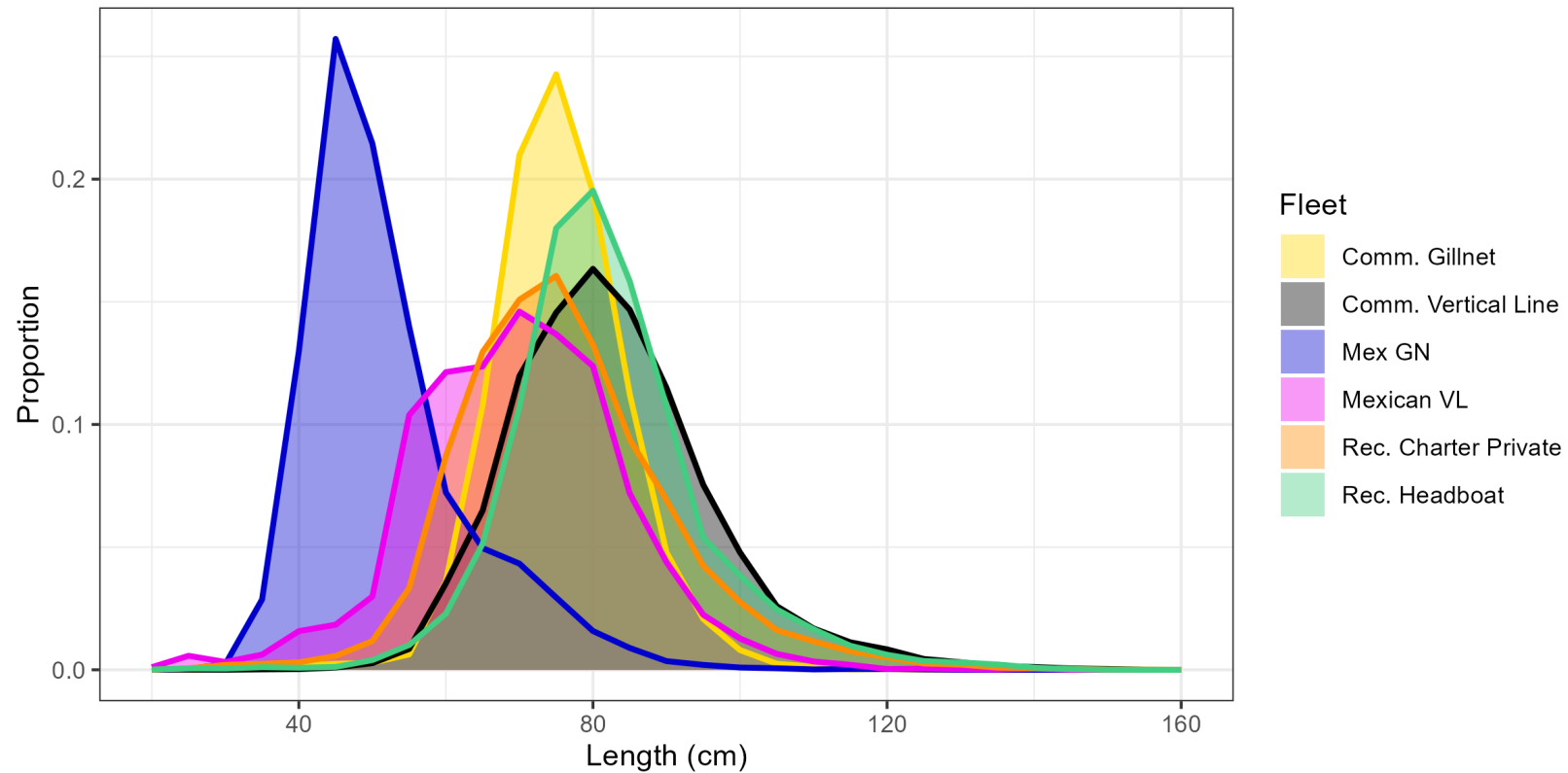


US landings are SEDAR38update values (through 2017, using MRIP-FES)



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Length Compositions



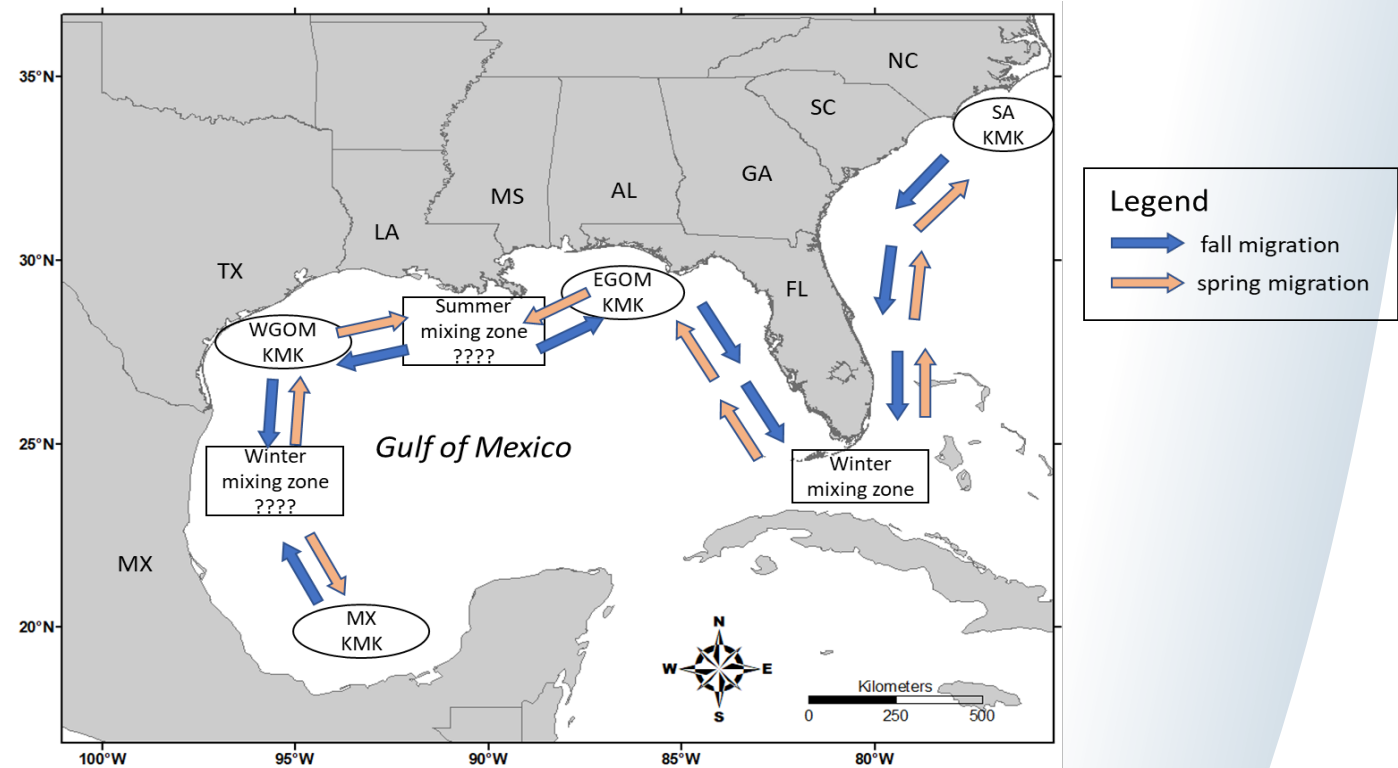
* Sexes combined



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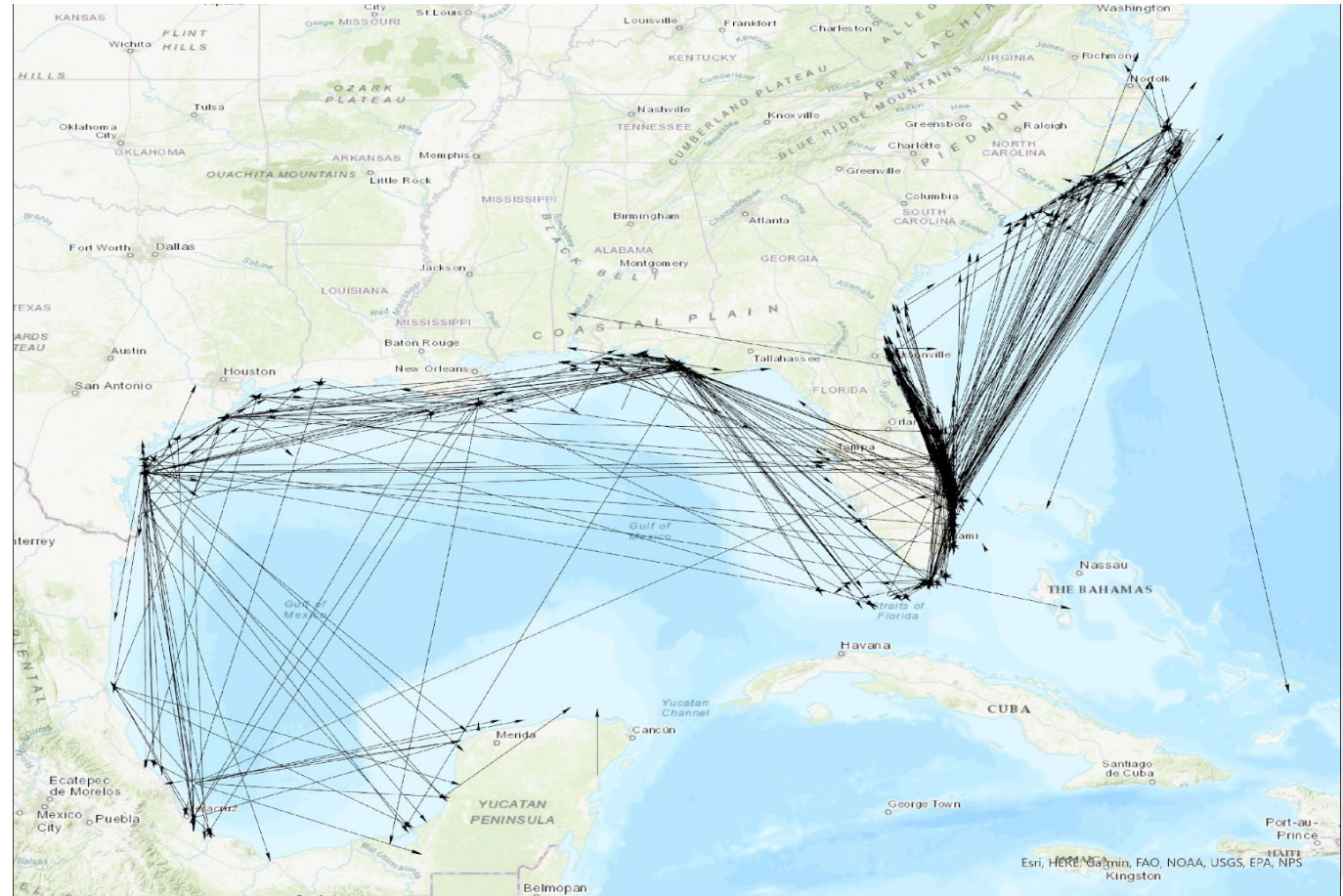
Genetic Information

- Mark-recapture (Fable et al. 1987), back-calculated spawning dates based on daily aging (Grimes et al. 1990), electrophoresis data (Johnson et al. 1994), and regional growth differences (DeVries and Grimes 1997): evidence to support the hypothesis of an EGOM stock and a WGOM stock within the GOM.
- However, the two-stock GOM hypothesis was refuted based on mitochondrial DNA results (Gold et al. 1997).



Tagging Data

- SEFSC Cooperative Tagging Center – King Mackerel Recapture Tracks (straight-line)
- Most of the tag-releases from 1980s and 1990s
- Details can be found in SEDAR 16 working paper: SEDAR16-DW-10



Plan for the King Mackerel assessment

- Gulf Council agreed to joint assessment with Mexico
 - Working with Mexican scientists to develop assessment model with all available data
 - Multiple virtual and two in-person meetings to develop the model (one Council staff and one Council Member invited to attend) through the end of 2026
 - SEDAR process will restart early in 2027
 - Final model will undergo a CIE review in mid-2027
- How to provide management advice from a model that includes so much data outside the EEZ for a joint stock?
 - Weight model results by landings from northern and southern Gulf to provide management advice?
 - Bilateral management (shift to ICCAT?)



Questions?



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