NOAA FISHERIES

Gulf Shrimp Fishery:
Data issues related to analytical requirements

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But first…a bit of background

- "Gulf Shrimp System" (GSS)
  - In operation 1956-2019
  - Two collections:
    - Landings by Port, Dealer, Vessel, Unload Date, Species, Size Class, Price per Pound, and Pounds –replaced by trip tickets.
    - Post trip effort interviews targeting 5-10% of offshore trips. As port agent positions were lost, data became less representative, so program ended in 2019.
- Electronic Logbook (ELB)
  - 1999-2004 Test and refine process for collecting location information from shrimp vessels and estimate fishing effort
  - 2006 ELBs became mandatory for selected vessels-approx. 400 units deployed by LGL-SD memory cards exchanged manually-time and travel expense
- Cellular Electronic Logbook (cELB)
  - 2013 began testing and developing Framework action
  - 2014 implemented -selected 500 vessels were mailed hardware information

Gulf Shrimp Analytical Requirements

Current data collections needed for CPUE estimation:

<u>Effort data</u>

- Currently, tow-by-tow effort is derived from time-stamped GPS coordinates using 3G cellular electronic logbooks (cELBs)-3G will no longer be supported in 2021 and no funds available for 4G conversion

<u>Landings data</u>

- The landings data are collected through dealer reported state Trip Tickets

Gulf Shrimp Analytical Requirements

LGL algorithm

- Attempts to ‘match’ cELB trip to a dealer reported Trip Ticket using ‘trip’ start and end date
- Validates the vessel was in fact fishing and to pull in landings data for CPUE estimation
- Any data falling outside the algorithm’s established criteria (not matched), are not used in CPUE estimation or effort estimation.

Data issues related to matching

- NMFS relies on automated match routine to match shrimp effort to trip tickets
- Trip matching ranges from 50%-80% across years.
- Why?
  - Only have vessel id, trip start, and trip end date to use for matching in shrimp fishery.
  - Dealer may not enter same date as that derived from cELB-different trip start date, different trip end/landing date, different vessel id.
  - Tried to resolve this by using date ranges from 3 days before cELB trip start to 10 after cELB trip end. Creates the possibility of incorrectly matching trips.

Data issues related to matching

- Why the differences?
  - State trip ticket assigning state reg # instead of USCG number used by NMFS as vessel ID
  - Vessel stops fishing for prolonged period and cELB algorithm treats as two trips, but only one trip ticket.
  - Vessel sells to two dealers after a single cELB trip.
  - Vessels has two trips on same day-creating problem matching up to each trip ticket.
  - Dealer reports transaction date, not landing date.
  - Dealer just simply enters the wrong dates.

Data issues related to matching

- Are there possible solutions to improve current matching?
  - Add USCG number to trip tickets
  - Develop vessel/permit registry at GSMFC which will tie USCG # to state registration number or federal permit to state fishing license
  - Add a trip ID generated by cELB which could be added to trip ticket
  - Electronic dealer reports could be matched in real time and unmatched trips resolved by dealer and vessel-currently working on this process in other fisheries
  - Other solutions possible?

Questions?