

## NATIONAL MARINE FISHERIES SERVICE (NMFS) REPORT ON HIGHLY MIGRATORY SPECIES (HMS) ACTIVITIES

### *Unobservable Vessels in the Drift Gillnet (DGN) Fishery*

In 2018, NMFS inspected four of the seven unobservable DGN vessels from last season. Two are now considered observable, while two will continue to be considered unobservable due to observer safety concerns. The others have not been inspected because they are currently active in other fisheries, or because they have not indicated that they will fish DGN gear this season. NMFS will inspect these vessels once they make clear their intent to begin DGN fishing.

Additionally, the Eastern Pacific Professional Specialty Group (EP PSG) is in the final phase of integrating observer data, logbooks, landings, and vessel monitoring system (VMS) data from the DGN fishery. The PSG is integrating data at both the trip level and the set level, to allow for the highest level of detail possible when analyzing DGN fishery performance. This integrated data is being used to assess potential observer bias (i.e., differences in fishing behavior between observed and unobserved sets). NMFS Protected Resources Division will incorporate the results of this work into the new Biological Opinion for the DGN fishery.

The process of integrating the observer, logbook, landing, and VMS data sets has given the EP PSG a much broader understanding of the gaps and limitations of each data set. The PSG has developed a statistical model to predict non-observed sets and/or sets without logbook records, using the available VMS data. Linking the predicted unobserved fishing sets to landings produces more comprehensive estimates of catch-per-unit-effort (CPUE) by species.

A preliminary analysis to assess potential observer bias should be ready for internal review by the end of October 2018. Milestones completed thus far as part of this project include:

- Establishing a method to create a robust and integrated DGN data set using PL/SQL and ArcGIS Pro
- Validating the independent data sets and understanding the gaps and limitations of the integrated data set
- Developing and testing a statistical model to predict fishing sets from the VMS data for non-observed and/or non-logbook recorded sets
- Using results from the statistical model to estimate total DGN sets by vessel and trip
- Estimating total DGN trips by vessel from the integrated data
- Developing a GIS tool to map and assess fishing activities by vessel and trip
- Estimating CPUE by species, vessel, and trip, by dividing landings by the number of estimated sets (both observed and predicted)

Future steps include completing the final phase of DGN data integration, producing maps of observed and predicted unobserved sets, and performing spatial analysis to assess differences in fishing activities between observed and predicted unobserved sets.

***Pfleger Institute of Environment Research (PIER) Request for Exempted Fishing Permits (EFP) Extensions***

NMFS has received a request from PIER to extend the standard DSBG EFPs for three vessels beyond 2018. The EFPs for these three vessels are set to expire on December 31, 2018. NMFS intends to reissue the standard DSBG EFPs for these vessels for 2019, pending further comment, or recommendations from the Council.