

Southeast Region Headboat Survey Program Description

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Program Description:

The Southeast Headboat Survey (SRHS) is administered by the NMFS component of the Beaufort NC NOAA Laboratory. The survey has operated along the east coast of the U.S. since 1972 and began operations in the Gulf of Mexico in 1986. Dates of area coverage are: North Carolina and South Carolina-1972; NEFL 1976; SEFL and the Florida Keys-1978; SWFL to South Padre Island TX-1986. The survey is the longest continuous time series of recreational fisheries data on the east coast from federal waters.

The SRHS is divided into discrete geographic areas assigned to individual port agents. The individual areas comprising samplers' responsibilities are:

- Cape Hatteras-Cape Lookout NC (further divided into inshore and offshore territories)
- Cape Fear NC (further divided into inshore and offshore territories)
- South Carolina (further divided into inshore and offshore territories)
- Georgia – Central East Florida (GA-Sebastian FL)
- South Florida (Ft. Pierce-Miami FL)
- Florida Keys & Dry Tortugas, FL (Key Largo-Key West FL)
- SW Florida (Naples – Crystal River FL)
- NW Florida & Alabama (Carabelle FL – Dauphin AL)
- Louisiana
- Mississippi
- NE-Central TX (Freeport – Pt. Aransas TX)
- South Texas (Pt. Isabel/Brownsville TX)

There are two components to the survey. The first is the dockside intercept sampling program. This component is used to obtain biological samples (termed bioprofile data) from the landings in order to estimate average sizes of species landed in the headboat fishery. Additionally, samplers collect biological samples (otoliths, gonads, stomachs, etc) for life history studies. The SRHS has been the primary source of materials for age-growth studies used as input into the stock assessment process in the southeast U.S. for many years. For many species the SRHS has been the only source of age-growth materials with which to conduct life history studies.

The second component of the SRHS is the self-reported logbook, or daily catch record. The survey has asked vessel personnel to fill out reports of catch and effort for each trip they run. In

earlier years of the survey the logbooks were voluntary and fishermen were paid for their participation. The logbooks are now mandatory and linked to charter vessel/headboat permit renewal. Reporting rates in the SRHS logbook program were very high through most of the 1990s, but fell to unacceptable levels by 2007, mostly in the south Florida and Florida Keys areas. In 2008 a concerted effort was made to notify headboat owners via certified mail of their obligation to report and of the consequences of permit non-renewal or revocation if they did not fulfill this obligation. These efforts have improved reporting compliance significantly in the past 2 years to a satisfactory level.

The Headboat Survey provides many products to fishery managers through its data collection programs. Annual landings estimates, by area and month are provided for all species encountered in the survey. These fishery dependent estimates are used by stock assessment scientists in the SEDAR process. Otoliths and gonads collected by SRHS port agents are used in life history studies that contribute information about size at age to stock assessment models, as well as to peer-reviewed scientific journal publications. The logbook data is used to derive a long-term fishery dependent index of abundance used by stock assessment scientists in assessing the health of the populations.

Survey Design:

Dockside Intercept

The dockside intercept component of the SRHS can best be described as a systematic opportunistic design. Each port agent responsible for a particular area is asked to sample their vessels in a systematic rotation. There is much variation in individual vessel schedules and it is rare to be able to sample vessels in the exact rotation and then start over. Consequently, the port agent has the latitude to sample where needed in order to sample all vessels approximately the same amount of times each month.

At the dockside intercept, the port samplers are instructed to look for and select anglers with unusual, uncommon or rare fishes on their stringers or in their catches (coolers, etc). The rationale for this is that if the stringers with uncommon fishes are selected, by default sufficient numbers of the more common species will be obtained. Port agents are instructed to measure and weigh all fishes on selected stringers. However, once they have measured 10 fish of a given species, they are not required to measure any more of that species from future stringers during that sample. This allows them to spend more time measuring the less common species and prevents us from getting more measurements from common species than is needed.

Upon attaining an angler's fish for sampling the port agent will measure and weigh individual fish using an electronic fish measuring board connected to an electronic balance. All measurements are recorded into computer memory for later download and editing. While sampling, the port agent often performs valuable education and outreach functions by answering bystanders' questions about what he/she is doing. Another job the port agent has is to obtain otoliths, spines or gonads from selected species in the sample for future life history studies.

After finishing the data collection and cleaning up and loading the sampling equipment into their vehicle, the port agent will then approach vessel personnel to collect any logbooks they may have filled out since their last visit. The port agent will look over the logbook forms for obvious

errors and ask the vessel personnel about any inconsistencies in the data (angler numbers missing, obvious species identification mistakes, etc.). The port agent resupplies the vessel personnel with additional blank logbook forms if they need them.

Logbooks

The logbook portion of the SRHS was intended to be a census. Logbook forms collect information about numbers and total weight of individual species caught, total number of passengers, total number of anglers, location fished (identified to a 10 mile by 10 mile grid), trip duration (half, $\frac{3}{4}$, full or multiday trip), and species and numbers of released fish with their disposition (dead or alive). Because of non-reporting, the survey is not a census and logbook estimates of numbers of fish caught and total effort must be adjusted using internal worksheets (headboat activity reports) kept by port agents. These sheets contain the information the port agents have observed or gathered about a vessel's activity for a given month. It is assumed that every trip taken by a particular vessel is captured in the headboat activity reports. Based on this information, a correction factor is calculated for each month for each vessel to adjust for non-reporting. These correction factors are applied to the total number of fish reported landed from logbook forms, by species-vessel-month combinations, to generate total estimated number of fish landed. These numbers are then multiplied by mean weights of fish calculated from the bioprofile database, by species-area-month combinations, to generate a total weight of fish landed for each species-vessel-month combination. Landings from vessels in the same area are summed to generate total landings by area.

Currently the SRHS is conducting a pilot project to test the feasibility of electronic reporting for logbooks. The Southeast Region Headboat Survey has implemented the electronic logbook reporting pilot study in the South Atlantic. The software was installed on 8 vessels coast wide; 2 from NC, 2 in SC, 1 in GA and 3 in FL. This project is slated to continue until November 2010. Initial feedback from captains has been favorable regarding the application and ease of use of the electronic logbooks. Electronic reporting would streamline data collection and facilitate the ever increasing need for timely data analysis and results.