

SEDAR15A-DW-18

**BOTTOM LONGLINE FISHERY BYCATCH OF MUTTON SNAPPER FROM
OBSERVER DATA**

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Introduction

The shark bottom longline fishery is active in the Atlantic Ocean from about the Mid-Atlantic Bight to south Florida and throughout the Gulf of Mexico. Vessels in the fishery are typically fiberglass and average 15.25 m in length. Longline characteristics vary regionally with gear normally consisting of between 8 – 24 km of longline and 500-1500 hooks. Gear is set at sunset and allowed to soak overnight before hauling back in the morning. There are currently about 100 active vessels in this fishery out of about 250 vessels that possess directed shark fishing permits. These vessels make between 4000-9000 sets per year. The bottom longline gear targets large coastal sharks, but small coastal sharks, pelagic sharks, and dogfish species are also caught.

Observations of the Atlantic shark directed bottom longline fishery have been conducted since 1994 (Burgess and Morgan, 2003). From 1994 through 2001, observer coverage was conducted on a voluntary basis. Beginning with the 2002 fishing season, observer coverage of the Atlantic shark directed bottom longline fishery became mandatory under authority of 50 CFR 635.7. Observer coverage from 1994 through the 1st trimester season of 2005 was coordinated by the Commercial Shark Fishery Observer Program (CSFOP), Florida Museum of Natural History, University of Florida, Gainesville, FL (Burgess and Morgan, 2003). Observer coverage for this fishery is

required under the current federal management plan for highly migratory species (NMFS, 2003). Starting with the 2nd trimester season of 2005, responsibility for the fishery observer program was transferred to National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC), Panama City Laboratory.

This report describes the bycatch of mutton snapper (*Lutjanus analis*) from observed trips for use in SEDAR 15A working on aspects of commercial fishery discard and bycatch issues.

Methods

Observer Protocol

Vessels were randomly selected from a pool of vessels each trimester season based on the following criteria: (1) the vessel/owner must possess a current directed shark permit, (2) the permit holder (i.e. vessel/owner) must have reported fishing for sharks with bottom longline gear in the second season of 2004, (3) the permit holder must have reported greater than 25 percent of landings from sharks during that season and (4) the permit holder must not have been selected for observer coverage for the prior three consecutive shark seasons. Vessels were selected from three fishing regions: North Atlantic, South Atlantic, and Gulf of Mexico. The North Atlantic is defined as from Virginia to Maine, the South Atlantic is defined as the east coast of Florida to North Carolina and the Caribbean, and the Gulf of Mexico is defined as Texas to west coast of Florida including the Florida Keys (NMFS, 2005).

For consistency among longline observer programs throughout the Southeast Fisheries Science Center, we adopted the methods outlined for the Pelagic Longline Observer Program (Beerkircher et al., 2004). While onboard the vessel, the observer completes three data forms: Longline Gear Characteristic Log, Longline Haul Log, and

Individual Animal Log. The Longline Gear Characteristic Log is used to record, for example, the type and length of the mainline used, number and length of gangions, and make and model of hooks used. The Longline Haul Log is used to record the length, location, and time duration for each set and haulback, as well as environmental information and the type(s) of bait used. The Individual Animal Log records all species caught, condition of the catch (e.g. alive, dead, damaged, or unknown) when brought to the vessel, and the final disposition of the catch (e.g. kept, released, finned, etc.). When an animal is brought onboard the vessel, the observer records the species identification, sex (sharks only) and length information. Mortality was determined from visual estimates.

Results and Discussion

From July 2005 through December 2006, the shark bottom longline observer program covered a total of 89 trips (defined as from the time when a vessel leaves the port until the vessel returns to port and lands catch, including multiple hauls therein) on 37 vessels with a total of 211 hauls (defined as setting gear, soaking gear for some duration of time, and retrieving gear from water) observed (Table 1; Figure 1). Gear characteristics of trips varied by area (Gulf of Mexico or the U.S. Atlantic Ocean) and target species (grouper/snapper, grouper/shark mix, shark, or tilefish). There were no grouper/snapper-targeted trips observed in the U.S. Atlantic Ocean and no tilefish-targeted trips observed in the Gulf of Mexico. No trips were observed in the northern U.S. Atlantic Ocean, so subsequent references to the “U.S. Atlantic Ocean” refer to the coastal waters off the southern U.S. Atlantic states (Richards 1999).

There were 111 sets on 40 trips in the areas of 1) the Florida Middle Grounds to the Tortugas northwestern side (Gulf of Mexico) and 2) Fort Pierce, Florida to the Tortugas eastern side (South Atlantic). Twenty-two (22) mutton snapper were caught on four (4) of the 40 trips (10%) in six (6) sets in both the Gulf of Mexico and South Atlantic (Figure 2). The depth of sets in which mutton snapper were caught ranged from 47.5 to 70.5 m and averaged 60.5 m in depth. The size of mutton snapper ranged from 46 to 84 cm fork length (FL) and averaged 66.9 cm FL (Figure 3). Of the 22 mutton snapper caught, 20 (91%) were kept for landing and two (2) were discarded dead at sea (9%). The two mutton snapper that were discarded dead at sea were damaged on the hook (likely bitten by a shark) and therefore not measured. Mutton snapper were only caught in the month of July each year, between July 7th and July 28th.

Acknowledgements

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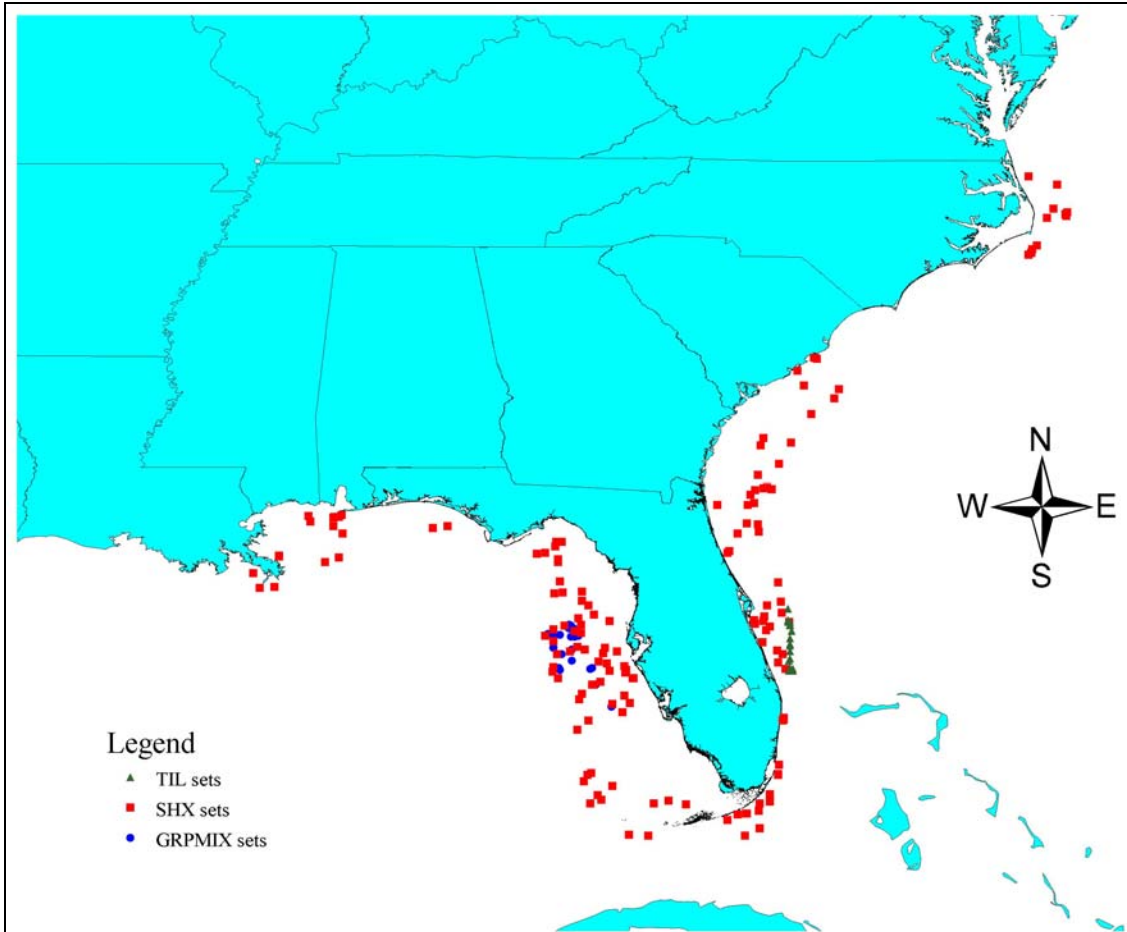


Figure 1. Distribution of sets for all observed hauls by target in the Gulf of Mexico and U.S. Atlantic Ocean from July 2005 through December 2006. Sets are separated by target species, including grouper/snapper and grouper/shark mix (GRPMIX), shark (SHX) and tilefish (TIL) targeted sets.

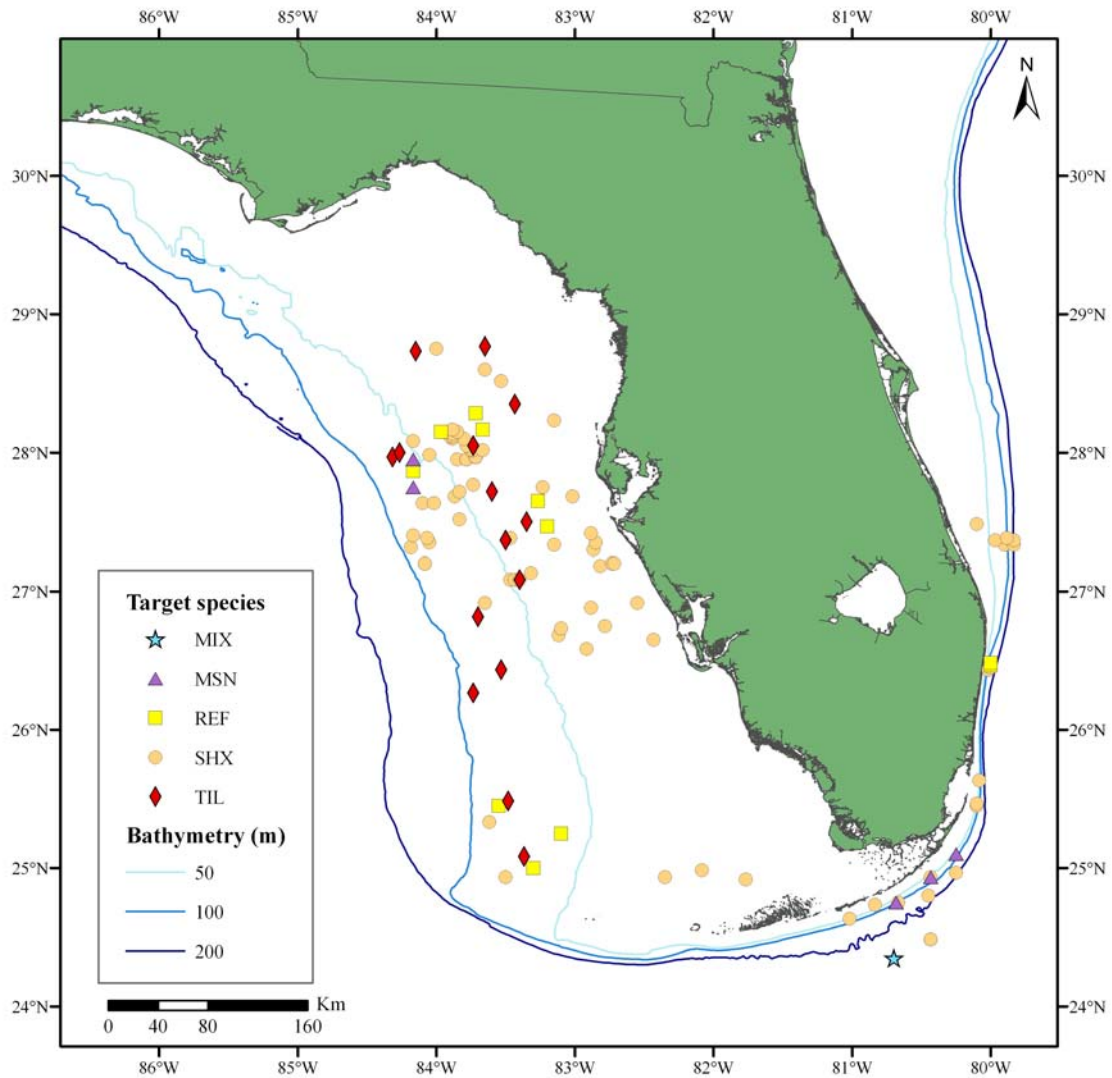


Figure 2. Distribution of observed bottom longline sets from 2005-2006 that fished in two areas: 1) the Florida Middle Grounds to the Tortugas northwestern side (Gulf of Mexico) and 2) Fort Pierce, Florida to the Tortugas eastern side (South Atlantic). Sets are separated by target species, including grouper/snapper (GRP), grouper/shark mix (MIX), shark (SHX) and tilefish (TIL) targeted sets. Sets that caught mutton snapper (MSN) are indicated separately.

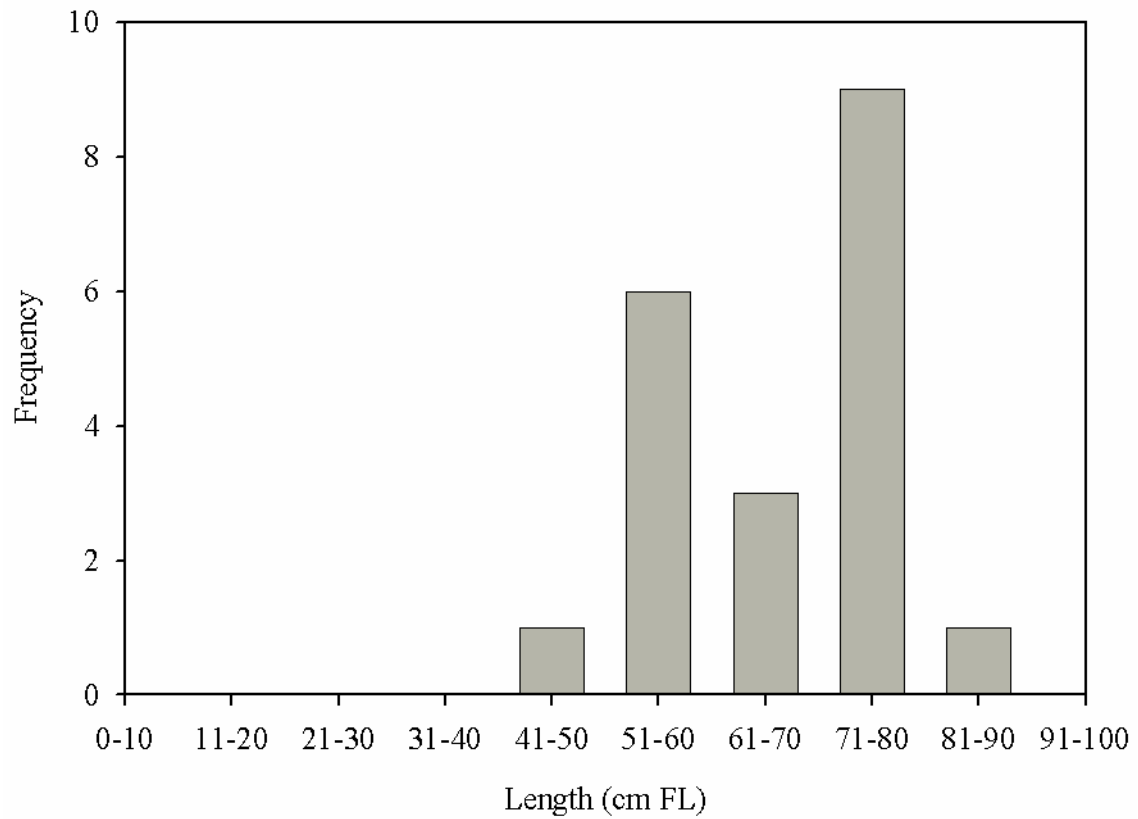


Figure 3. Length frequency of mutton snapper observed caught in the bottom longline fishery from 2005-2006 (n = 20). Two (2) mutton snapper were excluded from the histogram because the fish were partially eaten and therefore not measured by the observer.