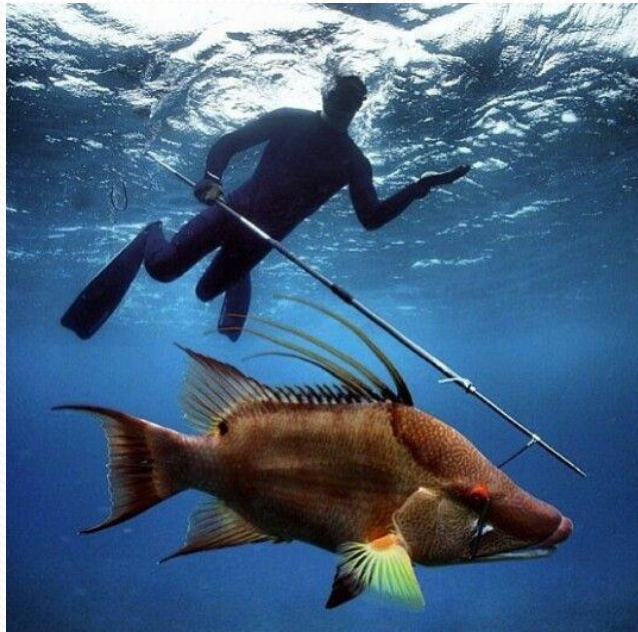




Spearfishing in the South Atlantic Snapper Grouper Fishery



Source Unknown

April 2019

Background

In March 2018 the Council heard concerns over the impact of spearfishing on snapper grouper populations, particularly in North Carolina.

Fishermen suggested that the Council consider requiring an endorsement for spearfishing and/or look into ways to identify its use in the fishery.

Concerns were voiced over increasing user conflict between commercial divers hook-and-line fishermen in some areas of North Carolina.



Definitions

Spearfishing -- fishing for, attempting to fish for, catching or attempting to catch fish in tidal waters by any person with a spear or a powerhead.

Spear -- a sharp, pointed, or barbed instrument on a shaft. Spears can be operated manually or shot from a gun or sling.

Powerhead -- any device with an explosive charge, usually attached to a speargun, spear, pole, or stick, that fires a projectile upon contact.



History of Management

Amendment 4 (1991): Prohibited the use of powerheads and bangsticks in all SMZs off South Carolina and required landing with head and fins intact.

Amendment 7 (1994): Prohibited the use of explosive charges, including powerheads, to harvest snapper grouper species in the EEZ off South Carolina.

Amendment 23 (2012): Limited harvest and possession of snapper grouper species (with the use of all non-prohibited fishing gear) in SMZs off South Carolina to the recreational bag limit.



Potential Biological/Ecological Effects

- Rapid decreases in abundance and mean size of target species.
- Depletion of large individuals in a population affecting reproductive output and possibly leading to recruitment overfishing.
- In protogynous species, alteration of sex ratios and limitation of sperm availability via disproportionate removal of larger, male individuals.
- Lower bycatch of non-target species relative to other fishing gear (i.e., hook-and-line).
- Shifts in catch composition from large carnivorous species to smaller omnivores and herbivores.



Data

- Time periods: 2007-2017 for commercial; 1981-2017 for recreational.
- Commercial: ACCSP (units are pounds whole weight unless otherwise specified), and NC biological sampling for some species (units are numbers of fish).
- Recreational: MRIP including revised estimates from new FES (units are numbers of fish). No headboat data are included.



SPEARFISHING IN THE COMMERCIAL FISHERY

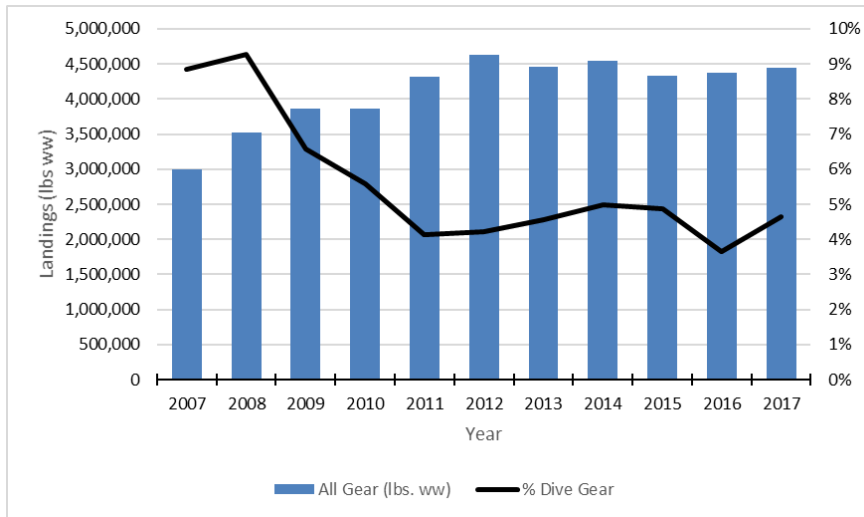


SA Commercial Landings

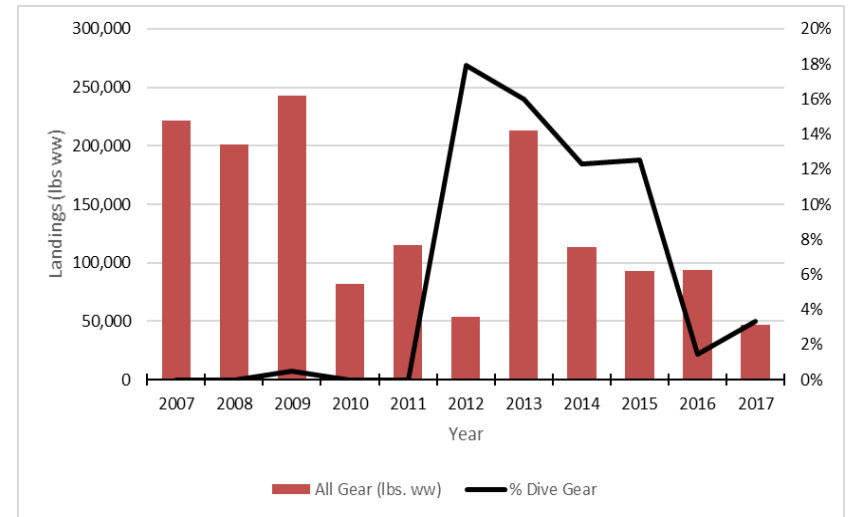
- Mean landings of snapper grouper species with all gear types 2007-2017 = 7.5 million pounds
- Mean landings of snapper grouper species with spearfishing gear = ~280,000 pounds or 4%



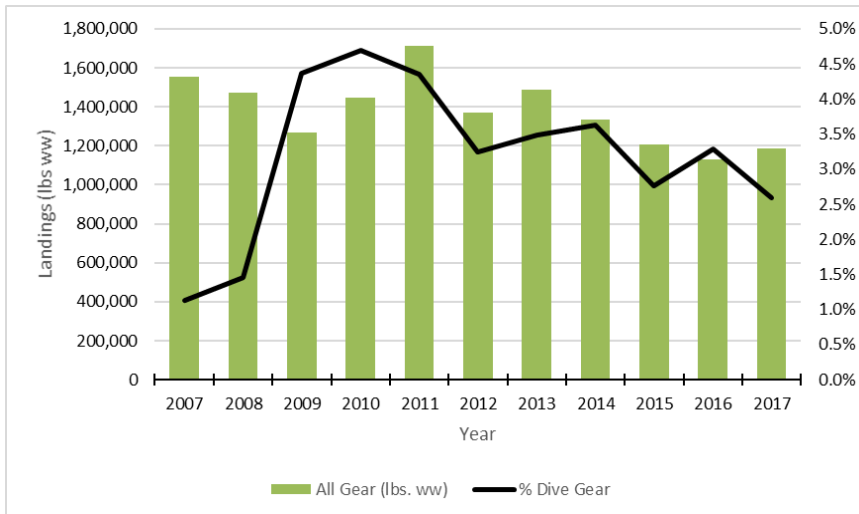
Florida



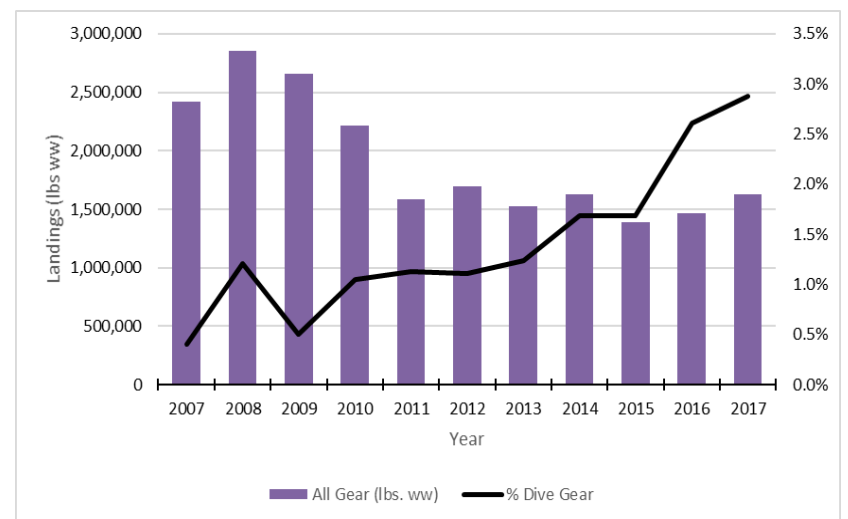
Georgia



South Carolina



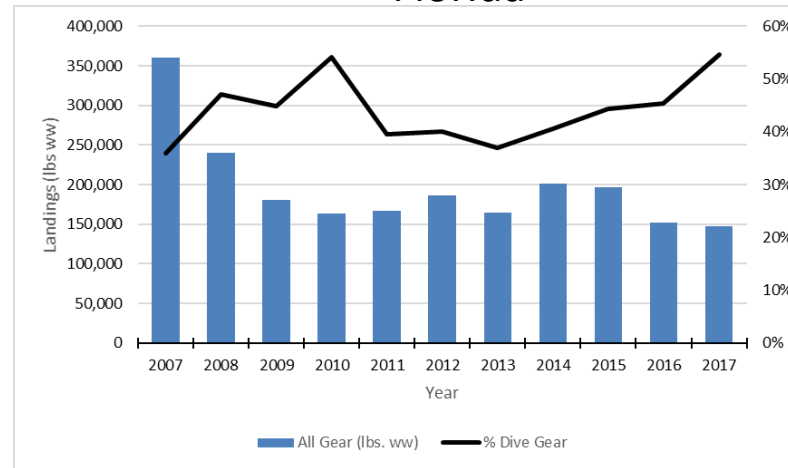
North Carolina



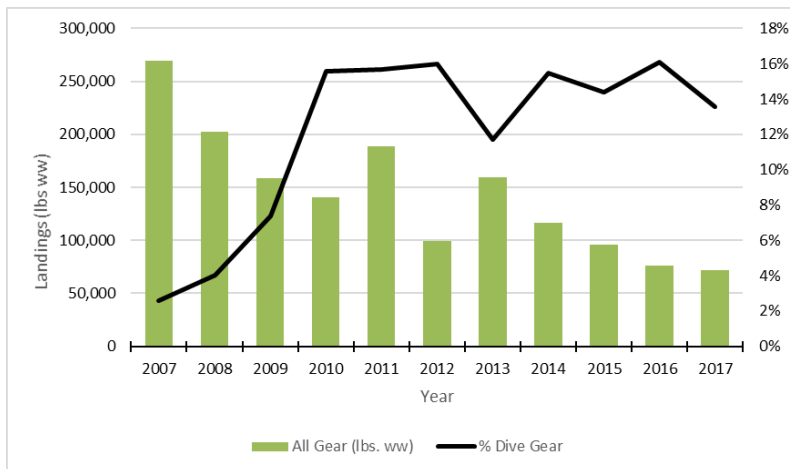
Note different scales!

Gag & Black Grouper

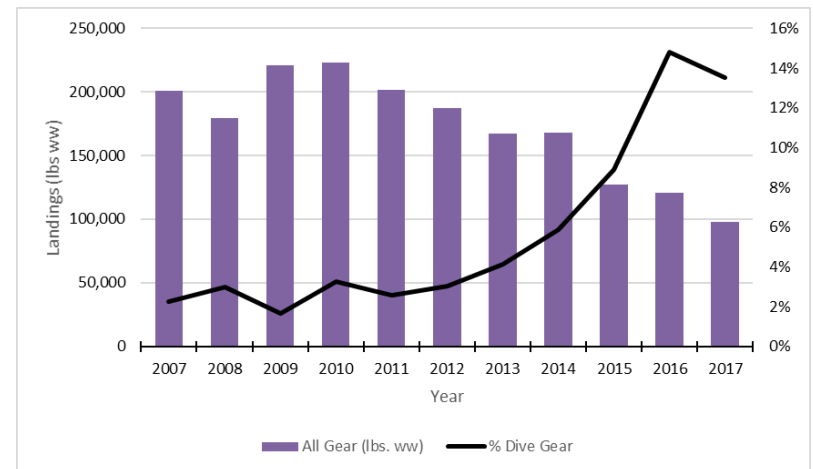
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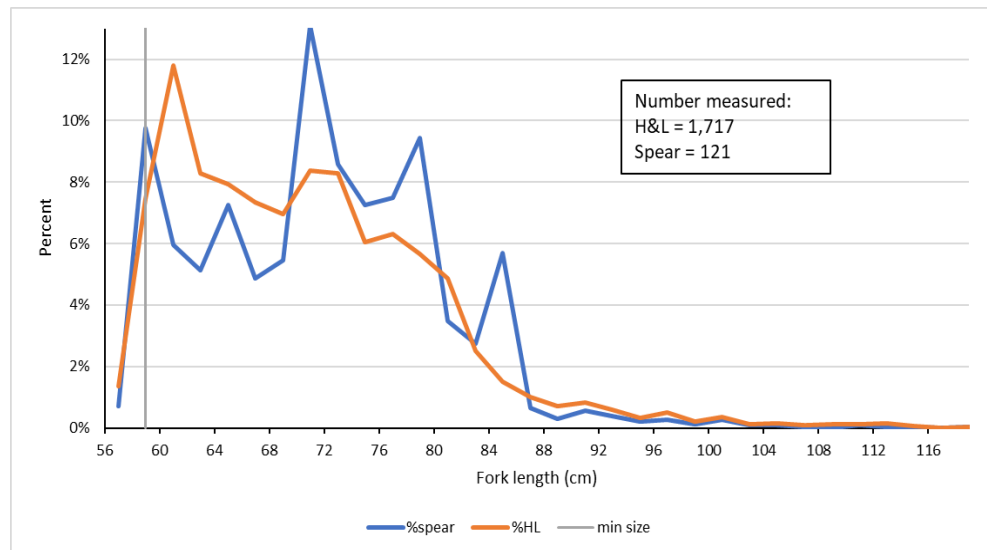
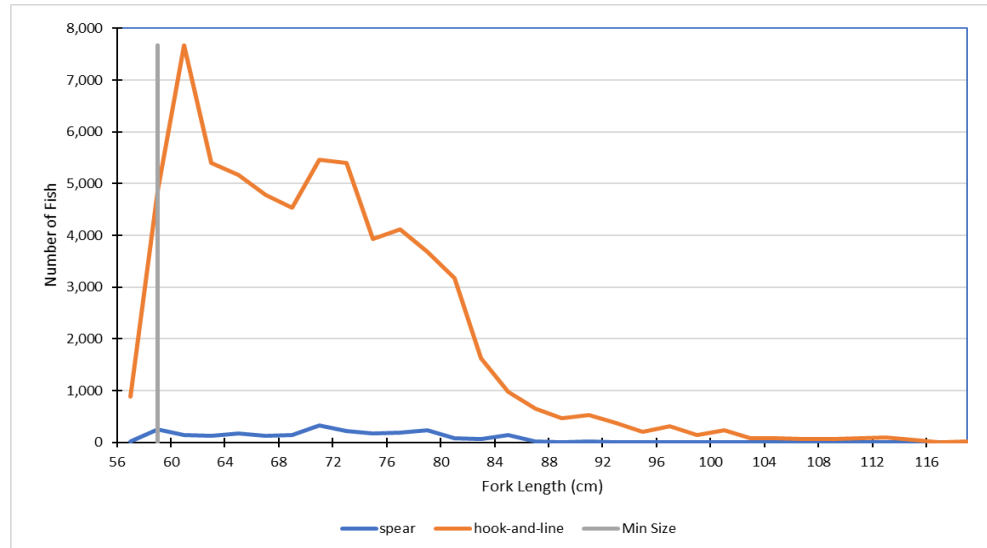
South Carolina



North Carolina

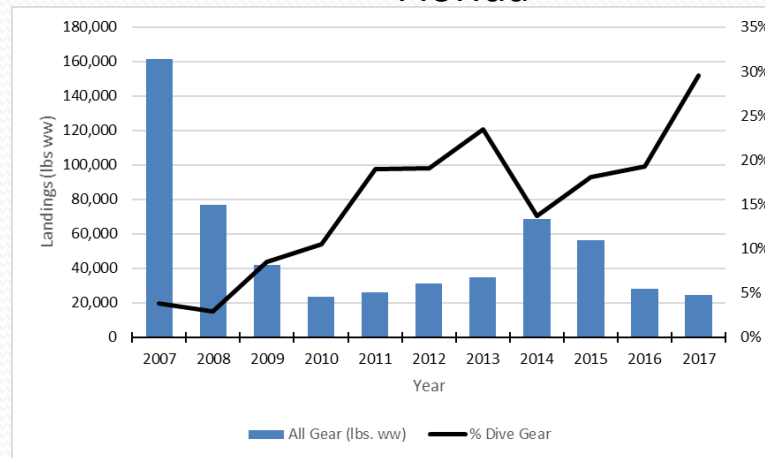


Gag – North Carolina

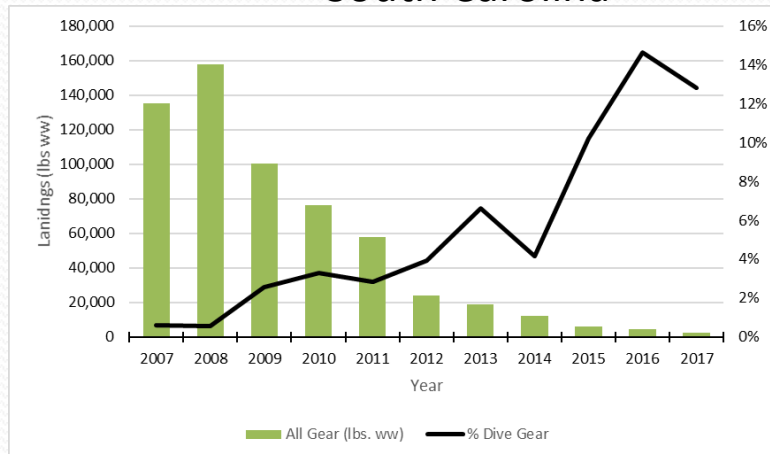


Red Grouper

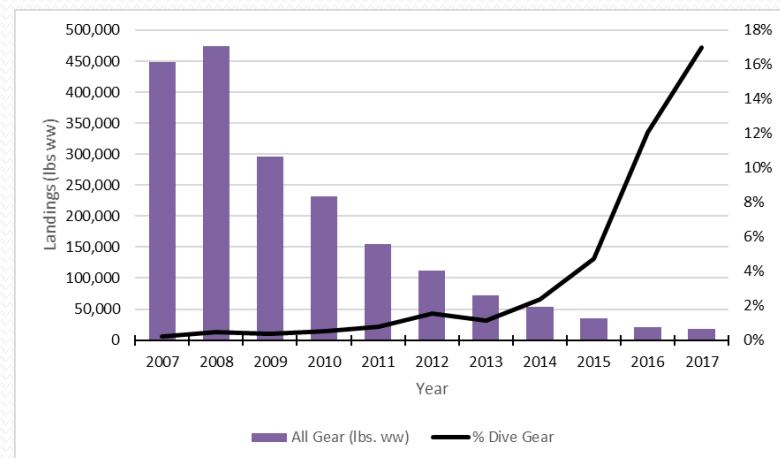
Florida



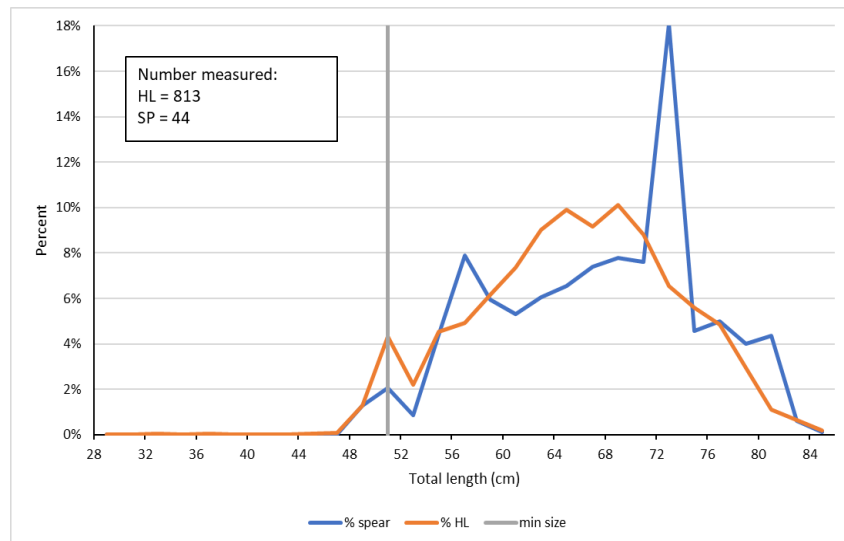
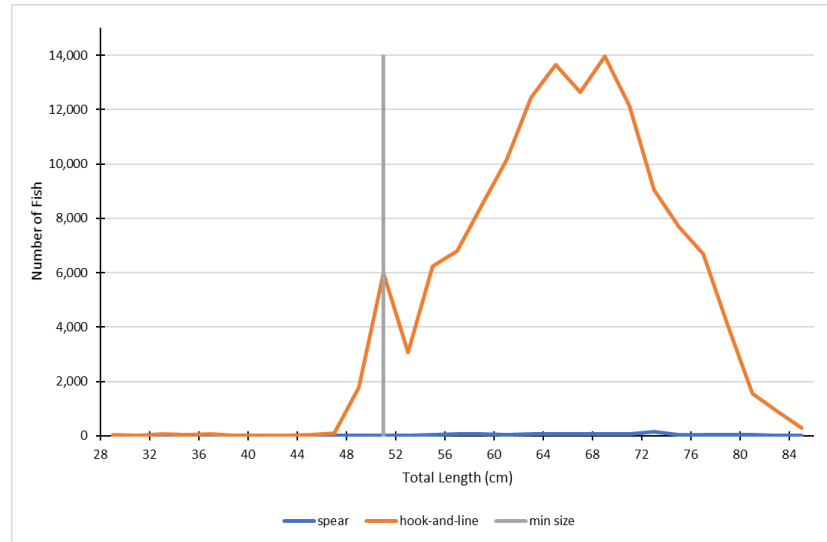
South Carolina



North Carolina

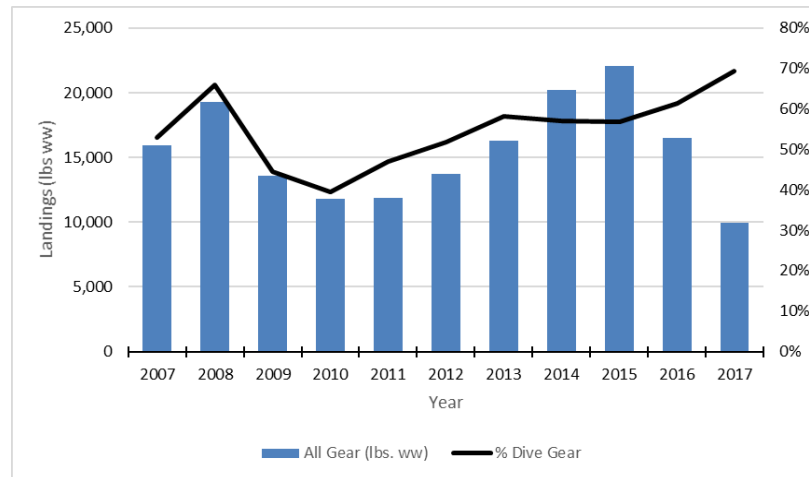


Red Grouper - North Carolina

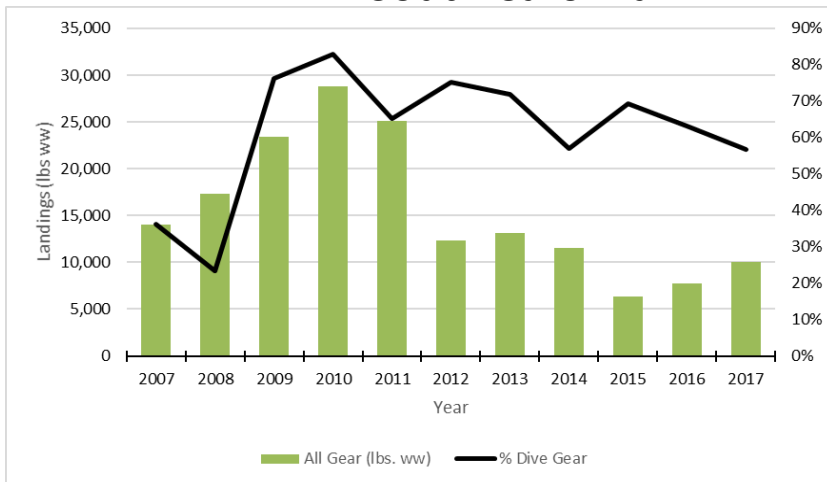


Hogfish

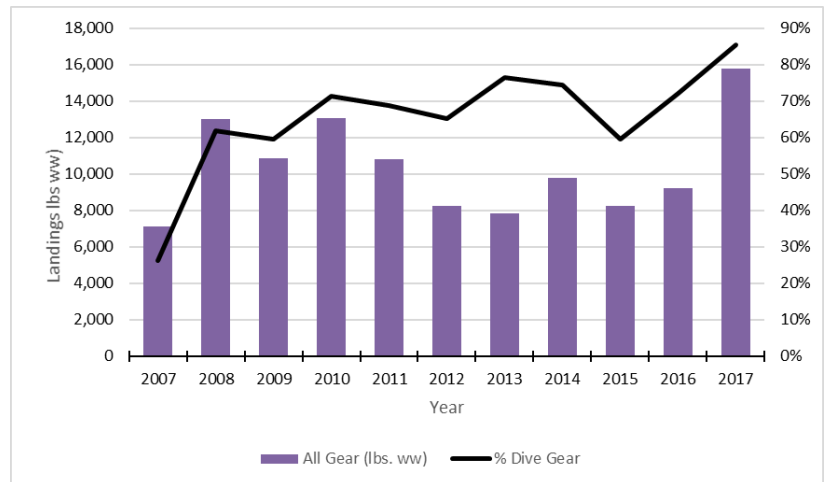
Florida



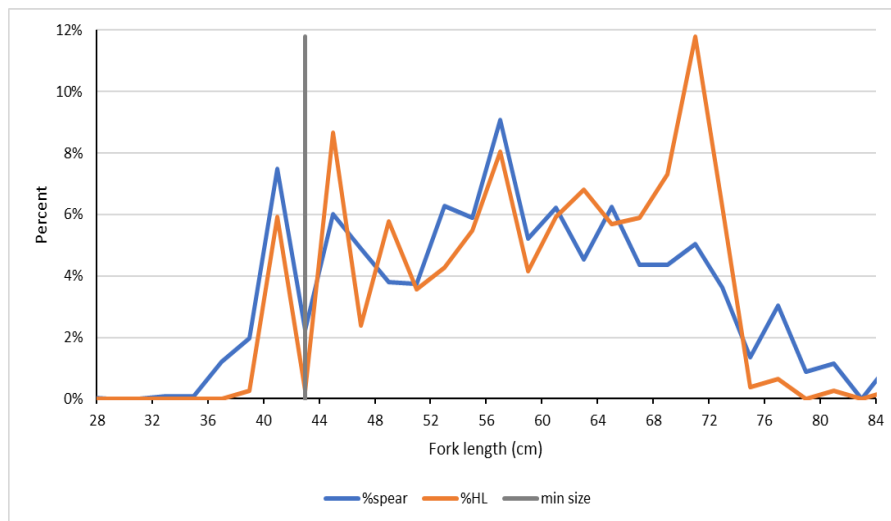
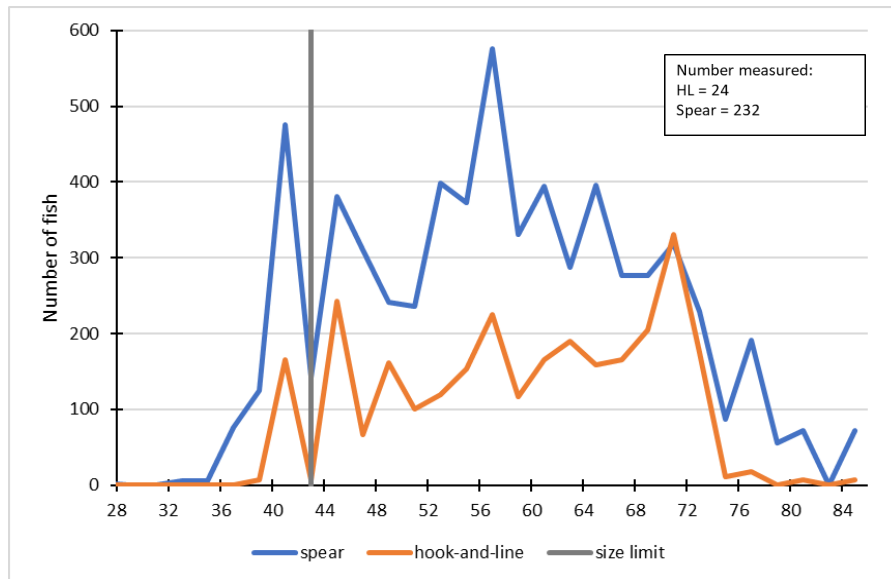
South Carolina



North Carolina



Hogfish



SPEARFISHING IN THE RECREATIONAL FISHERY



SA Recreational Landings

- Recreational spearfishing occurs predominantly in Florida. Landings for Georgia, South Carolina, and North Carolina have been combined.
- From 1981 through 2017: landings in Florida with spearfishing gear = 611,495 fish. Landings in remaining SA states = 6,000 fish.
- *Information presented here is based on the revised recreational landings estimates resulting from most recent modifications to the MRIP effort survey.*



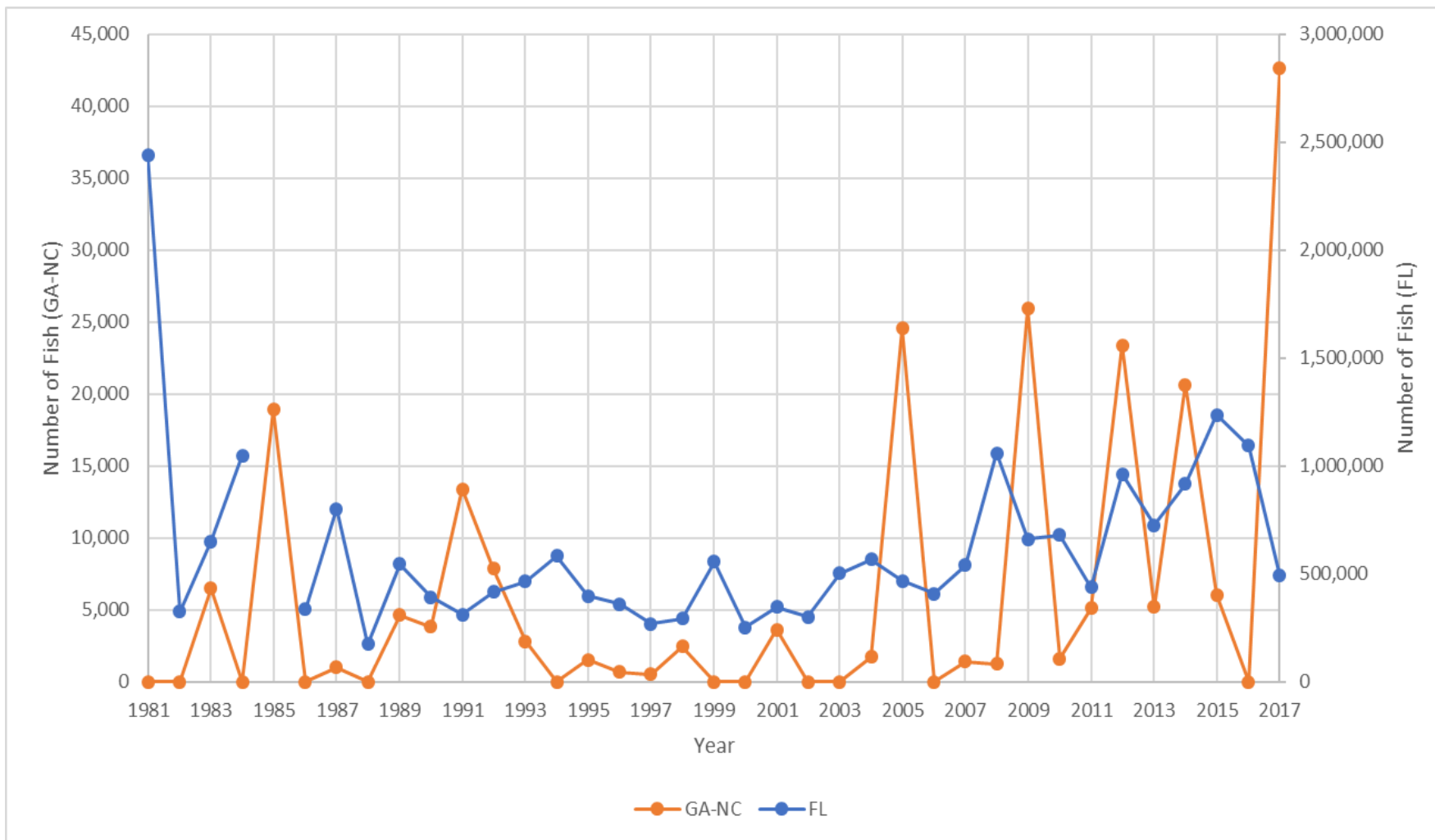
Florida

| Species | Total lbs | Avg lbs |
|-------------------|-----------|---------|
| HOGFISH | 6,794,698 | 849,337 |
| GREATER AMBERJACK | 3,788,655 | 473,582 |
| GRAY SNAPPER | 2,554,004 | 319,251 |
| GAG | 2,531,733 | 316,467 |
| RED GROUPER | 2,311,819 | 288,977 |
| BLACK GROUPER | 1,099,072 | 137,384 |
| MUTTON SNAPPER | 864,381 | 108,048 |
| GRAY TRIGGERFISH | 612,214 | 76,527 |
| COBIA | 603,746 | 75,468 |
| RED SNAPPER | 415,295 | 51,912 |

GA-NC

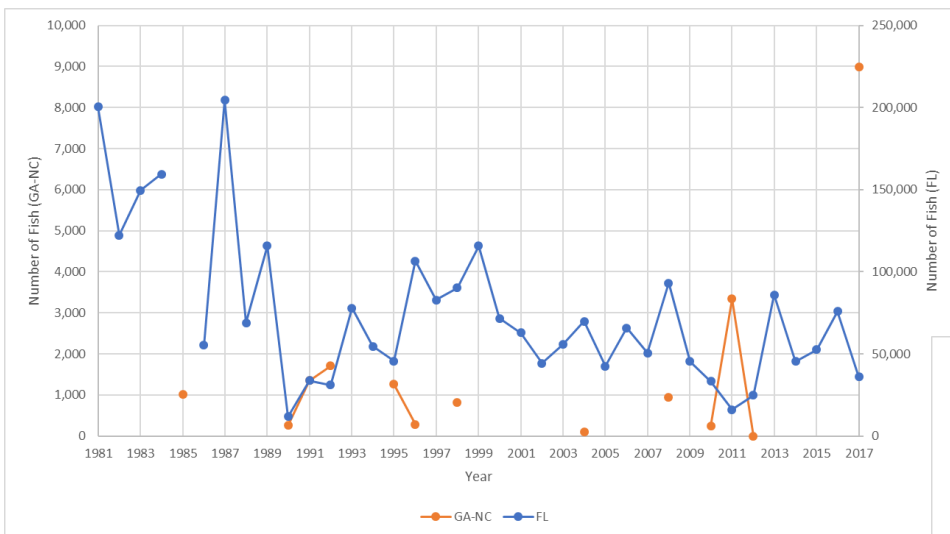
| Species | Total lbs | Avg lbs |
|--------------------|-----------|---------|
| ATLANTIC SPADEFISH | 216,092 | 27,012 |
| GAG | 128,189 | 16,024 |
| HOGFISH | 45,064 | 5,633 |
| GRAY TRIGGERFISH | 39,702 | 4,963 |
| COBIA | 27,154 | 3,394 |
| GREATER AMBERJACK | 21,308 | 2,663 |
| BLACK SEA BASS | 12,427 | 1,553 |
| GRAY SNAPPER | 10,044 | 1,255 |
| SPANISH MACKEREL | 5,262 | 658 |
| DOLPHIN | 3,909 | 489 |



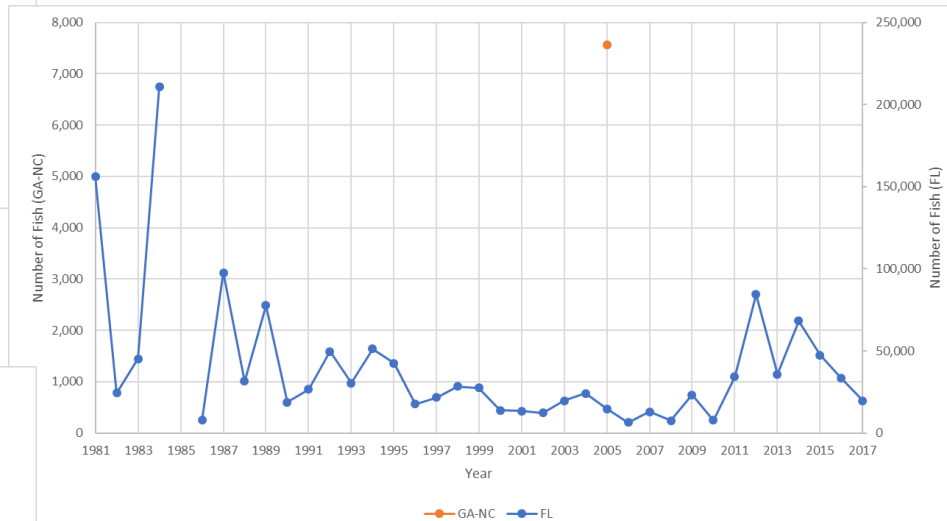


Note different scales!

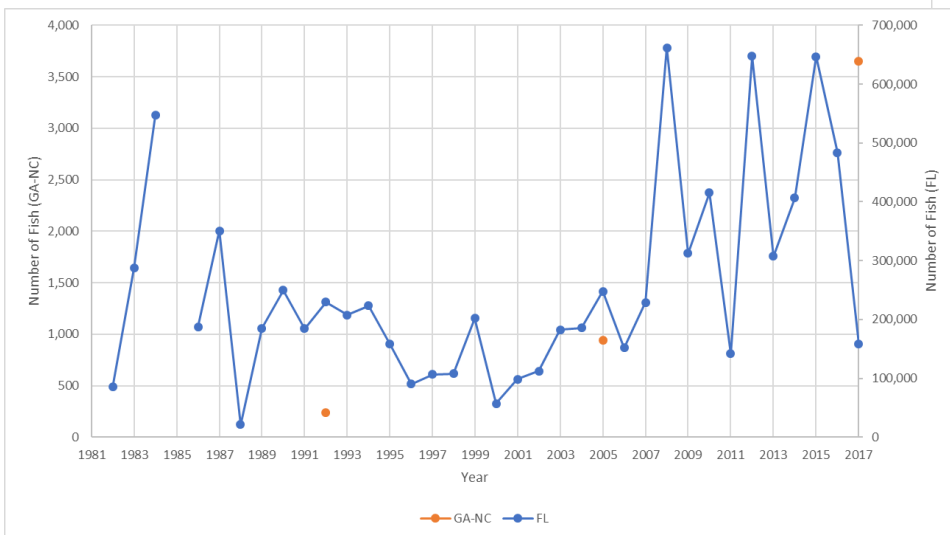
Gag & Black Grouper



Red Grouper



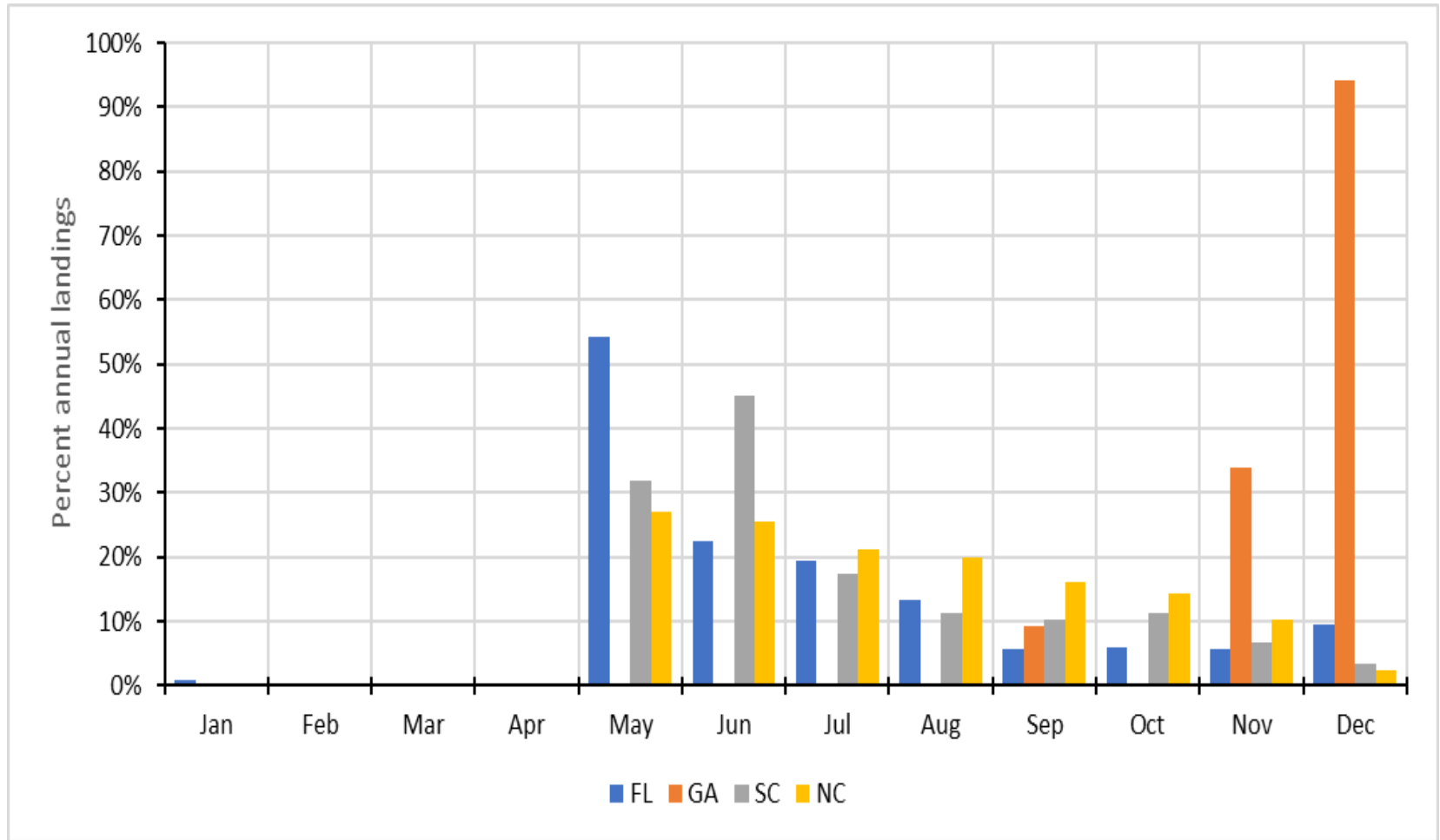
Hogfish



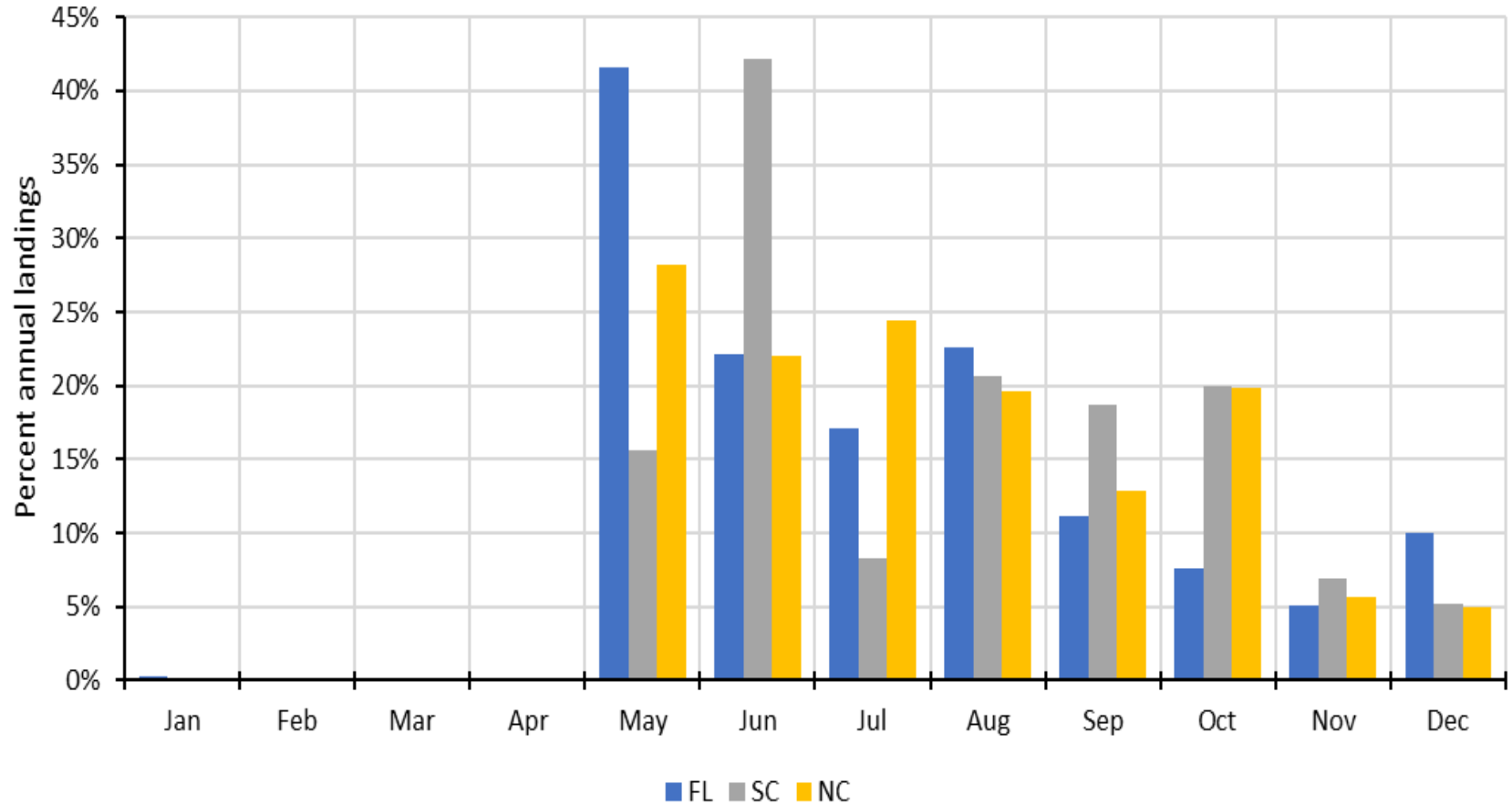
SEASONALITY OF COMMERCIAL LANDINGS



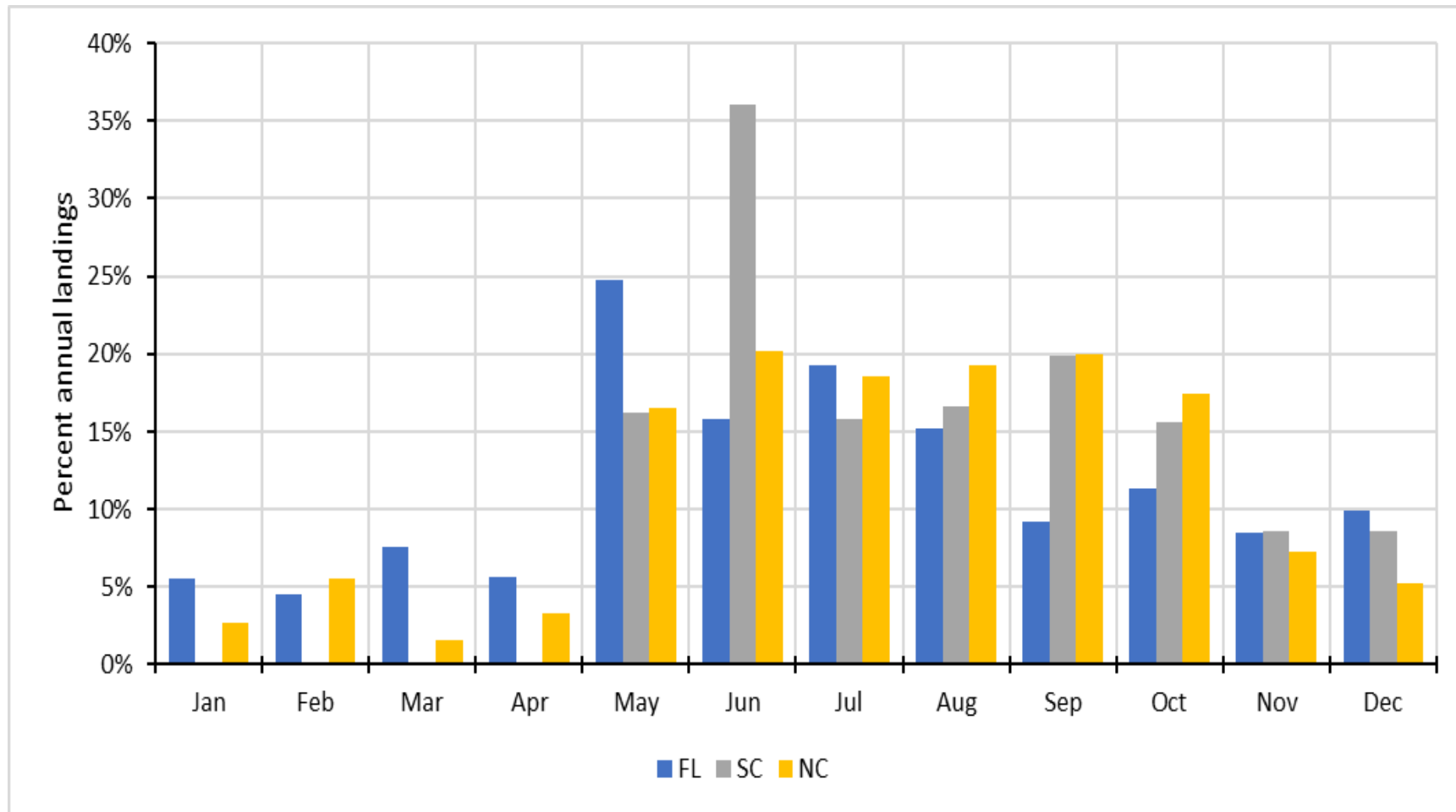
Gag & Black Grouper



Red Grouper



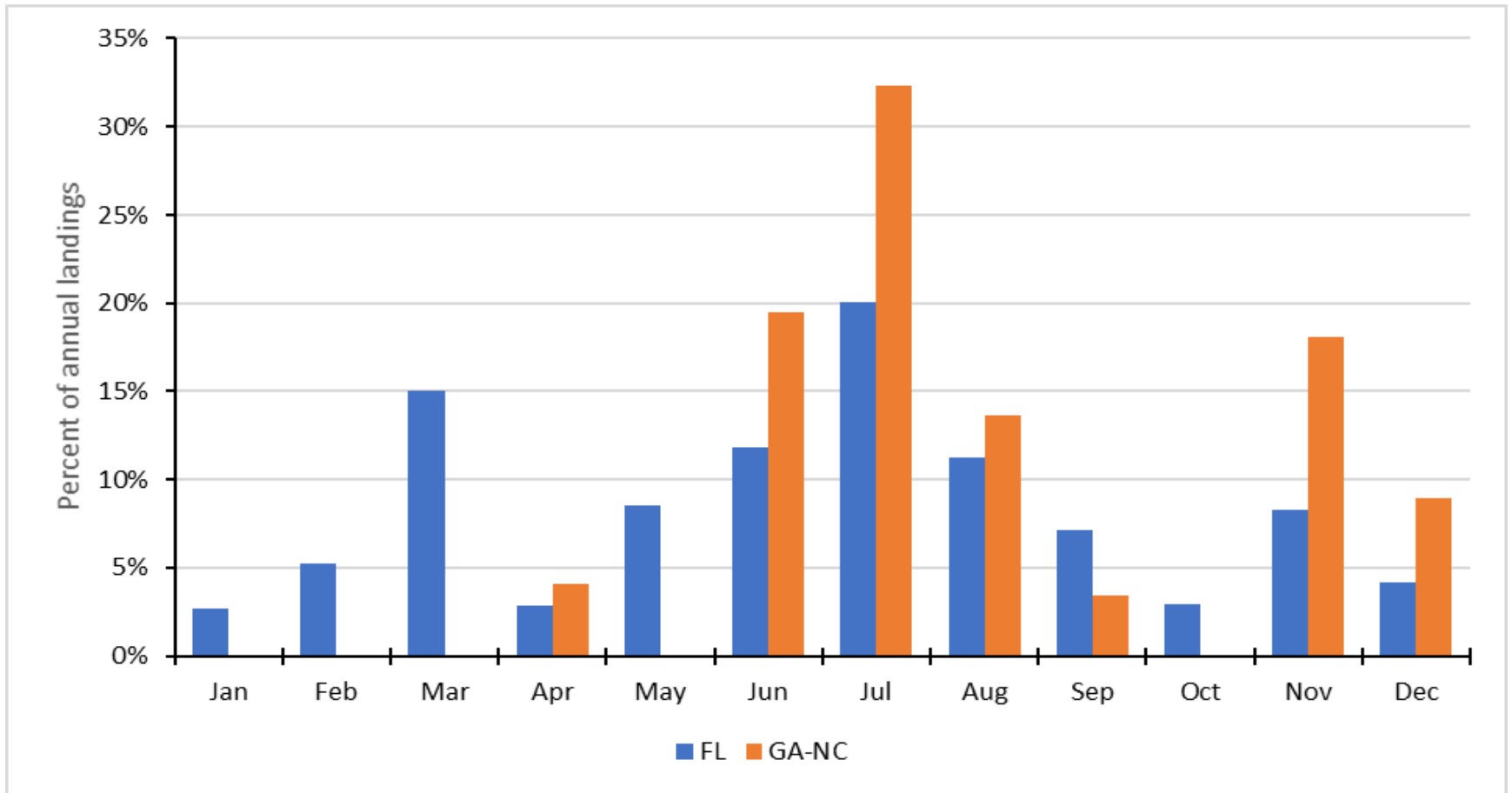
Hogfish



SEASONALITY OF RECREATIONAL LANDINGS



All SG species



Possible management approaches

| Management measure | Pros | Cons |
|--|--|---|
| Season | <ul style="list-style-type: none"> • Predictability • Focus fishing pressure away from spawning | <ul style="list-style-type: none"> • Different seasons for Florida and the Carolinas due to fishery seasonality. • May result in effort shifts. |
| Gear endorsement with reporting | <ul style="list-style-type: none"> • Allows identification of user group • Allows for better data and more focused management | <ul style="list-style-type: none"> • Added burden on fishermen and regulatory complexity |
| Gear endorsement without reporting | <ul style="list-style-type: none"> • Allows identification of user group | <ul style="list-style-type: none"> • Added regulatory complexity |
| Slot limit | <ul style="list-style-type: none"> • Spearfishing well suited for this type of limit. • Ensures large, mature individuals are not disproportionately removed | <ul style="list-style-type: none"> • Not been used in snapper grouper fishery • Introduces complexity to regulations |
| Modify existing reporting requirements (commercial and for-hire) to improve monitoring of spearfishing | <ul style="list-style-type: none"> • Minimal administrative burden to accomplish • Higher resolution of trip-level data | <ul style="list-style-type: none"> • Added burden on fishermen |



National Standard 5

Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

This national standard encourages efficient fisheries so the optimum yield can be harvested at the lowest economic cost.

