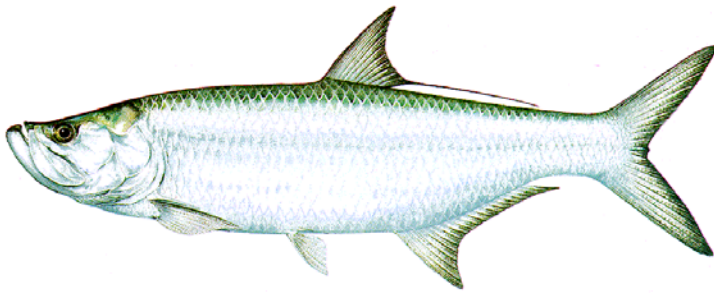


Tarpon, *Megalops atlanticus*



Tarpon are large, migratory fish that occur in coastal and inshore waters of the western Atlantic Ocean. They are found seasonally in all of Florida’s coastal waters and occur in peninsular Florida waters year-round. While generally inhabiting marine or brackish waters, tarpon are known to travel for considerable distances up freshwater rivers. Spawning seems to be restricted to offshore waters such as the east coast of Florida to Cape Hatteras, the Florida Straits, west central Florida, the southwestern Gulf of Mexico, and the outer continental shelf and slope of the eastern Gulf of Mexico, but the exact locations of spawning are unknown. Females grow more quickly than males and appear to reach older ages (Table 1, Crabtree *et al.* 1995). The maximum observed age for male tarpon was 43 years, whereas the oldest reported female was 55 years. Females become sexually mature at about 50 inches fork length (FL) and 10 years of age. Spawning occurs during April–August; peak spawning activity occurs during June and July in south Florida waters (Crabtree 1995; Crabtree *et al.* 1997).

Table 1. Von Bertalanffy growth parameters and length-weight relations for tarpon

| Inches FL = $L_{\infty}(1-e^{-K(\text{age}-t_0)})$ | K | L_{∞} (inches FL) | t_0 (years) | Source |
|--|-------|--------------------------|---------------|-------------------------------|
| Males, Florida gulf coast | 0.123 | 61.7 | -1.575 | Crabtree <i>et al.</i> (1995) |
| Females, Florida gulf coast | 0.103 | 71.6 | -1.410 | Crabtree <i>et al.</i> (1995) |

| Weight in lbs = $a(\text{inches FL})^b$ | a | b | Source |
|---|----------|--------|-------------------------------|
| Sexes combined, Florida gulf coast | 0.000416 | 2.9838 | Crabtree <i>et al.</i> (1995) |

Larvae and small juvenile (<5 inches standard length) tarpon are primarily plankton feeders, preying on copepods and ostracods, mosquito larvae, and detritus (Wade 1962, Odum 1971; Robins 1978). Once tarpon attain sizes of five inches or more they gradually switch from copepods to small fish such as killifish, mosquitofish, silversides, and mullet (Rickards 1968; Odum 1971). Adults feed both nocturnally and diurnally on a variety of fish species, such as mullet, marine catfishes, pinfish, sunfish, sardines, silversides, needlefish, and anchovies, and shrimp, and crabs (Babcock 1951; Wade 1962; Rickards 1968; Odum 1971). Predation of adults is limited to other large predators such as sharks. Young tarpon fall prey to ladyfish, spotted seatrout, dolphins, alligators, other tarpon, and piscivorous birds such as kingfishers, pelicans, and herons (Killam 1992).

Tarpon anglers are infrequently sampled by the Marine Recreational Fisheries Statistics Survey; therefore, estimates of recreational catch are imprecise. The 2005 total landings estimate was 0 fish in Florida (Fig. 1). Although of questionable reliability, tarpon anglers’ catch rates

appeared to show an increasing trend through the mid-1990s on both coasts, with a decreasing trend between 1998 and 2000 (Figs. 2 and 3). Since 2000 there has been a fairly steady catch rate reported on both coasts (Figs. 2 and 3).

Since 1989, tarpon have been managed using a permit system that requires anglers to purchase a \$50 tag for each tarpon that they intend to possess. If a tarpon is caught and immediately released, it has not come under possession and no tag is required. All anglers that use a tag must then provide the Fish and Wildlife Research Institute with information on the date and location of the tarpon capture, length or weight, how many other tarpon were captured, and how many anglers were fishing. A summary of the number of tarpon tags sold and reported harvest in the State of Florida is as follows (K. Guindon, FWRI, pers. comm.):

| FISCAL YEAR | PERMITS ISSUED | TAGS USED | |
|--------------------|-----------------------|-------------------------|-------------------------|
| 93-94 | 357 | 84 | |
| 94-95 | 344 | 41 | |
| 95-96 | 249 | 44 | |
| 96-97 | 240 | 59 | |
| 97-98 | 305 | 57 | |
| 98-99 | 273 | 24 | |
| 99-00 | 352 | 16 | |
| 00-01 | 421 | 49 | |
| 01-02 | 421 | 31 | |
| FISCAL YEAR | PERMITS ISSUED | REPORTED HARVEST | ADJUSTED HARVEST |
| 02-03 | 413 | 40 | 48 |
| 03-04 | 297 | 49 | 59 |
| 04-05 | 402 | 34 | 41 |
| 05-06* | 337* | 9* | |

Table 1: Florida reported tarpon permits issued, tarpon harvest and adjusted tarpon harvest by fiscal year (FY). Data on permits issued for years prior to FY 93-94 are no longer available from the Bureau of Licensing and Permitting. Data from before the 02-03 FY are only tags reported used which does not imply a killed tarpon as many tournaments in recent years require the use of possession tags (as mandated by state law) but release the fish alive after it is weighed. In May of 2005, FWRI created a new database to store all historical tarpon return card questionnaires and permit data in one file. Only data for FY 04-05 have been entered. Data for FY 02-03 and 03-04 are from the old FWRI database. Adjusted harvest is to account for the estimated 19.8% of non-reporting anglers. Results for FY 05-06 are still preliminary as all tarpon permits are still coming in.

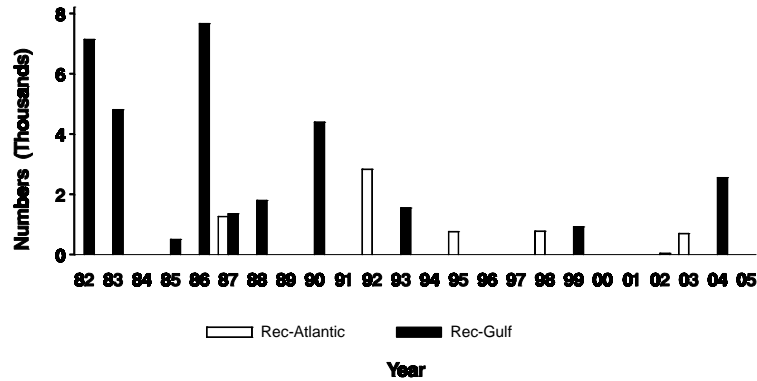


Figure 1. Total annual landings of tarpon on the Atlantic and gulf coasts of Florida, 1982–2005 (source -- MRFSS)

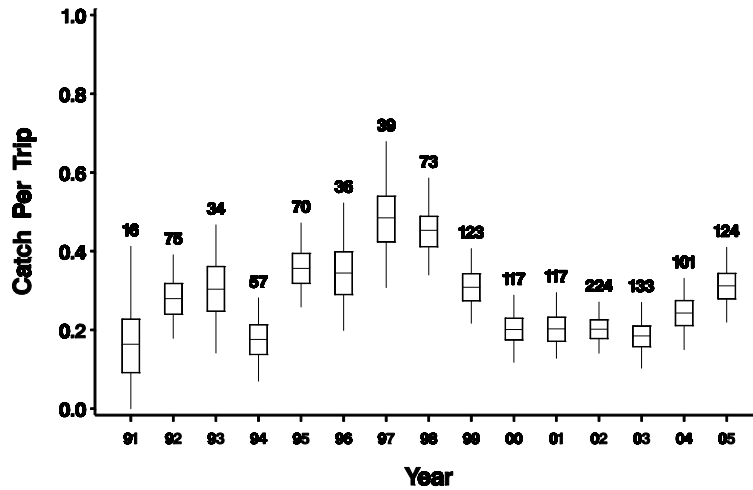


Figure 2. Annual standardized recreational total-catch rates (numbers) for tarpon on the Atlantic coast of Florida, 1991–2005

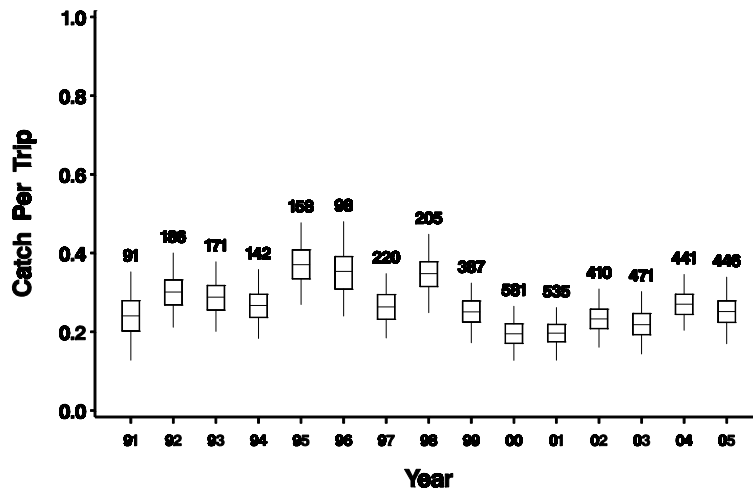


Figure 3. Annual standardized recreational total-catch rates (numbers) for tarpon on the gulf coast of Florida, 1991–2005