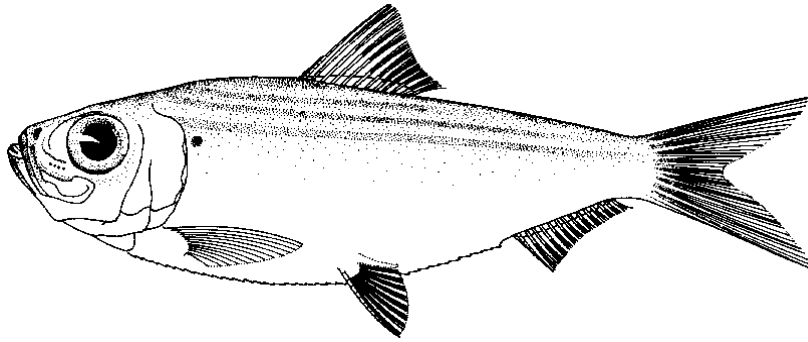


**Scaled sardines, *Harengula jaguana***



Scaled sardines are common in near-shore waters along both coasts of Florida. The species inhabits the warm temperate and tropical waters of the western Atlantic Ocean from New Jersey south through Brazil, including Bermuda, the Gulf of Mexico, and the West Indies. Scaled sardines are fast growing, short-lived fish that complete their life span in a little more than one year. Maximum size is about 15 cm fork length (FL).

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

Inches FL = $L_{\infty}(1-e^{-K(\text{age}-t_0)})$	K	$L_{\infty}$ (inches FL)	$t_0$ (years)	Source
Sexes Combined, Southeast Cuba	0.69	5.0	-0.25	Perez and Rubio (1986)
Weight in lbs = $a(\text{inches FL})^b$	a	b	Source	
Males, Southern Florida	0.000557	3.15	Bohnsack and Harper (1988)	
Females, Southern Florida	0.000483	3.25	Bohnsack and Harper (1988)	

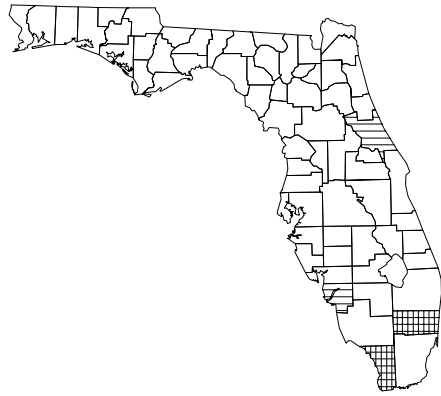
Adult scaled sardines feed on copepods, mysids, gammarids, ostracods, and small molluscs. (Low 1972). Odum and Heald (1972) reported 49% amphipods, 16% mysids, 15% unidentified, 8% chironomid larvae, 7% isopods, and 5% copepods. Key predators reported for scaled sardines are sea birds (*Anous stolidus* and *Sterna fuscata*) (Hensley and Hensley 1995) and hardhead catfish (Randall 1967), king and Spanish mackerels, little tunny, gag, bluefish, crevalle jack, yellowfin and bluefin tuna, and dolphin (Johnson and Vaught 1986).

Total statewide landings of scaled sardine in 1999 were 308,147 pounds. The landings were made mostly on the Gulf coast (61% of statewide total), and made by the commercial fishery (98% of statewide total). The highest commercial landings were made in the South Florida counties of Monroe and Broward (Fig. 1). No subregions considered for recreational landing distributions contained 1999 landings of more than 1,000 fish (Fig. 2).

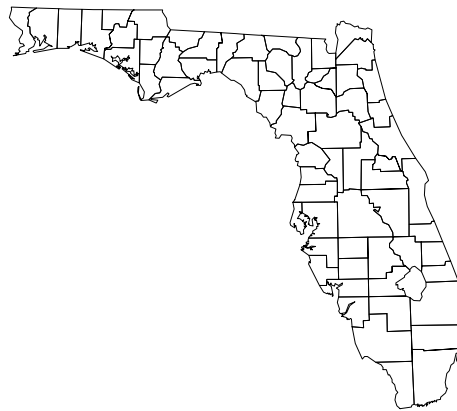
Total annual landings of scaled sardine on the Atlantic coast prior to 1999 were below 28,000 pounds; in contrast, 1999 landings of 119,588 pounds were the highest observed in the time frame. On the Gulf coast, total annual landings dropped from a peak of about 940,000 pounds in 1991 to about 320,000 pounds in 1993, increased to over 750,000 pounds in 1997, but have dropped declined in 1998-1999 (Fig. 3).

Indices of juvenile abundance have increased in 1998 and 1999 on the Atlantic coast and have remained relatively stable since 1996 on the Gulf coast (Fig. 4,5). No formal stock

assessment for scaled sardine is available at this time.



**Figure 1. Geographic distribution of commercial landings of scaled sardine during 1997.**



**Figure 2. Geographic distribution of recreational landings of scaled sardine during 1999.**

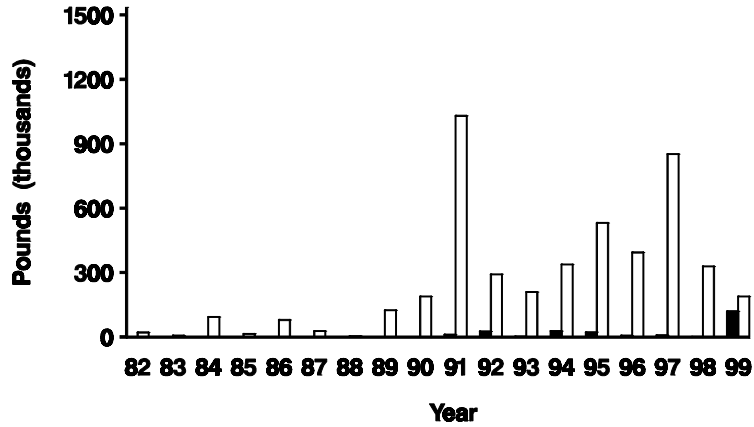


Figure 3. Total annual landings of scaled sardine on the Atlantic (black bars) and Gulf (white bars) coasts of Florida, 1982-1999.

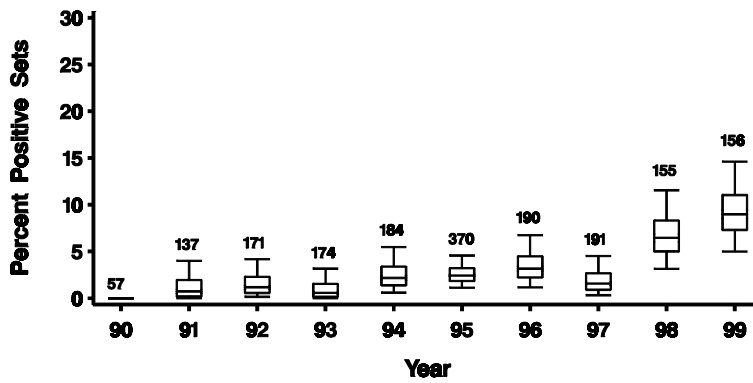


Figure 4. The proportion of Fishery Independent Monitoring sets on the Atlantic coast that captured young-of-the-year scaled sardine, 1989-1999.

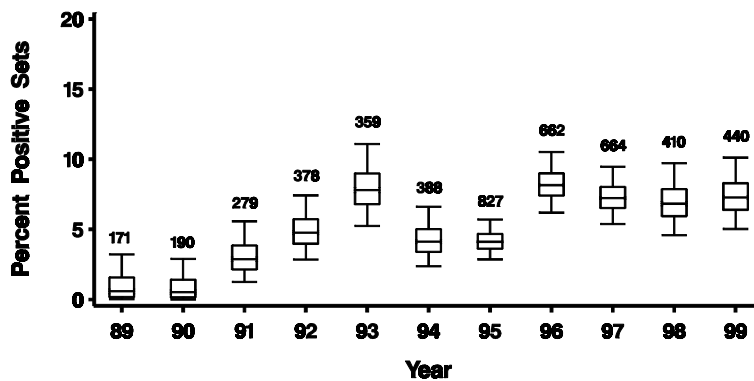


Figure 5. The proportion of Fishery Independent Monitoring sets on the Gulf coast that captured young-of-the-year scaled sardine, 1989-1999.