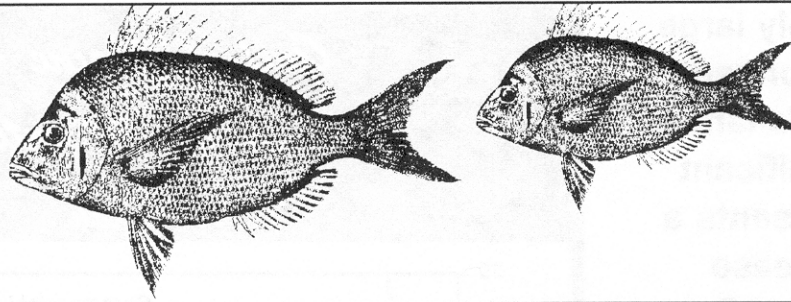


Scup

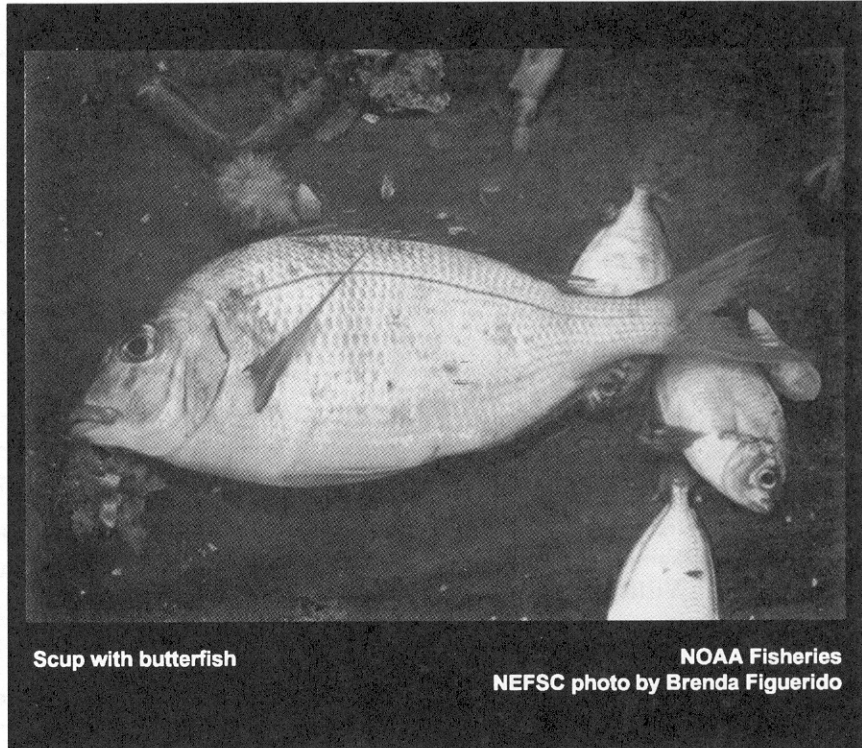


by W. Gabriel

Scup or porgy, *Stenotomus chrysops*, occur primarily in the Mid-Atlantic Bight from Cape Cod to Cape Hatteras. Seasonal migrations occur during spring and autumn. In summer, scup are common in inshore waters from Massachusetts to Virginia, while in winter, scup are found in offshore waters between Hudson Canyon and Cape Hatteras at depths ranging from 70 to 180 m (38 to 98 fathoms). Sexual maturity is essentially complete by age 3 at a total length of 21 cm (8.3 in.); spawning occurs during summer months. Although ages up to 20 years have been reported, recent catches have consisted of largely immature fish, ages 0-2 (<7 in.) Scup attain a maximum length of about 40 cm (16 in.). Tagging studies have indicated the possibility of two stocks, one in Southern New England waters and the other extending south from New Jersey. However, because the separation of stocks is not well-defined spatially, this separation is not used here.

The principal commercial fishing gear is the otter trawl. Recreational catches are significant. The fishery is now managed under Amendment 8 to the Summer Flounder Fishery Management Plan (now the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan). Management measures include moratorium permits, gear and minimum size restrictions, commercial quotas and recreational harvest limits, and a fishing mortality rate reduction strategy.

Total landings have declined from an annual average of 10,900 mt in 1977-1986 to only 3,500 mt in 1995-1996, with markedly reduced



Scup with butterfish

NOAA Fisheries
NEFSC photo by Brenda Figuerido

landings reported in both commercial and recreational fisheries. Commercial landings from all countries fluctuated between 18,000 and 27,000 mt annually between 1953 and 1963, but declined to about 4,000 mt during the early 1970s. Landings then steadily increased, reaching a peak of 9,800 mt in 1981 before falling to a record low level (2,500 mt) in 1996. Landings by distant-water fleets peaked at 5,900 mt in 1963, but declined to less than 100 mt per year after 1975.

Most of the increase in landings during the late 1970s was due to increased fixed-gear and otter trawl catches in the Southern New England-New Jersey area. The Virginia winter trawl fishery, which produced landings in excess of 5,000 mt in the early

1960s, has averaged less than 350 mt in the past 10 years.

Recreational catches have accounted for 20 - 50% of the annual total during the past ten years. The 1995 recreational catch (600 mt) was the lowest in the 1979-1996 time series and the 1996 catch (1,000 mt) was the second lowest.

Spawning stock biomass has declined since 1990 to a record low in 1995-1996, the lowest observed in a 1984-1996 exploratory age-structured analysis. NEFSC spring and autumn bottom trawl survey biomass index values for recent years are among the lowest on record and indicate substantial declines in abundance from 1970s levels. Recruitment at age 0 also declined to a record low level in

“...the five most recent years include the four lowest values of age 0 abundance in the time series.”

1996 in the age-structured analysis; the five most recent years include the four lowest values of age 0 abundance in the time series.

Fishing mortality rates have been very high during the past ten years, above 1.0 (58% exploitation rate) between 1984-1996. These rates are far in excess of the biological reference points and the overfishing definition level ($F_{max}=0.24$, 19% exploitation rate). The stock is overexploited and at a low biomass level. In the absence of strong year classes, continued high exploitation levels will lead to further declines in SSB.

For further information

Mayo, R. K. 1982. An assessment of the scup, *Stenotomus chrysops* (L.), population in the Southern New England and Mid-Atlantic regions. Woods Hole, MA: NOAA/NMFS/NEFC. *Lab. Ref. Doc.* 82-46.

Northeast Fisheries Center. 1989. Report of the 7th NEFC Stock Assessment Workshop. Woods Hole, MA: NOAA/NMFS/NEFC. *Lab. Ref. Doc.* 89-04.

NEFSC [Northeast Fisheries Science Center]. 1995. Report of the 19th Northeast Regional Stock Assessment Workshop (19th SAW) Stock Assessment Review Committee (SARC) consensus summary of assessments, Woods Hole, MA: NOAA/NMFS/NEFSC. *NEFSC Ref. Doc.* 95-08

NEFSC [Northeast Fisheries Science Center]. 1997. [Report of the] 25th Northeast Regional Stock Assessment Workshop (25th SAW), Woods Hole, MA: NOAA/NMFS/NEFSC. *NEFSC Ref. Doc.* 97-14.

Southern New England - Middle Atlantic Scup

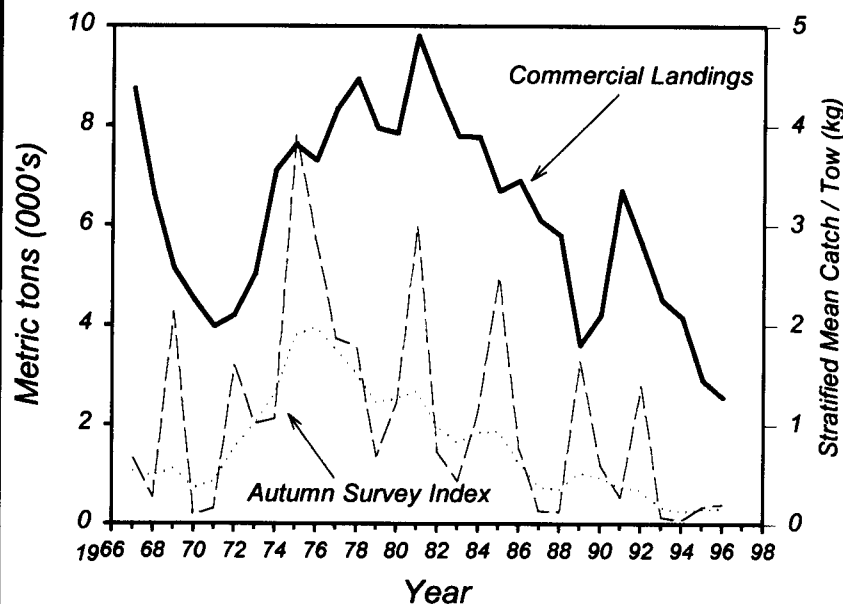


Table 14.1 Recreational catches and commercial landings (thousand metric tons)

Category	Year										
	1977-86 Average	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
U.S. recreational	2.7 ¹	2.8	1.9	2.5	1.9	3.7	2.0	1.4	1.2	0.6	1.0
Commercial											
United States	8.2	6.1	5.7	3.7	4.3	6.9	6.0	4.5	4.1	2.9	2.5
Canada	-	-	-	-	-	-	-	-	-	-	-
Other	<0.1	-	-	-	-	-	-	-	-	-	-
Total nominal catch	10.9	8.9	7.6	6.2	6.2	10.6	8.0	5.9	5.3	3.5	3.5

¹ 1979-1986

Summary Status

- Long-term potential catch = 10,000 to 15,000 mt
- SSB for long-term potential catch = Unknown
- Importance of recreational fishery = Major
- Management = Summer Flounder, Scup and Black Sea Bass FMP
- Status of exploitation = Overexploited
- Age at 50% maturity = 2 years (both sexes)
- Size at 50% maturity = 15.6 cm (6.1 in.), males
15.5 cm (6.1 in.), females
- Assessment level = Index
- Overfishing definition = F_{max}
- Fishing mortality rate corresponding to overfishing definition = $F_{max} = 0.24$

$M = 0.20$ $F_{0.1} = 0.14$ $F_{20\%} = 0.28$ $F_{1996} > 1.0$