

The Status of Summer Flounder in Maryland During 2000

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Range of Managed Stock

Summer Flounder are managed as one stock extending from North Carolina to Maine. Since 1980, 70% of the commercial landings have come from the Exclusive Economic Zone (EEZ: greater than 3 miles from shore). Large variability in landings have occurred within and among the states and over time. Summer Flounder exist in Maryland in all waters where the salinity is above 10 parts per thousand. This includes the Maryland Coastal Bays, near shore Atlantic Ocean, and the Chesapeake Bay up to the Bay Bridge.

Status of the Stock

The coastal stocks underwent a collapse in 1989 and 1990, but since then strict regulation has allowed a slow recovery in spawning stock biomass, age structure, and overall stock abundance. The council Plan Amendment 12 total biomass target (B MSY) required to produce maximum sustainable yield for the stock is B MSY =106,400 mt, and the threshold for a recovered fishery is one-half B MSY =53,200 mt. The peak biomass from 1982 to 1998 was 48,500 mt. 1983, and the low was 16,000 mt in 1989. The 1998 estimate of biomass was 38,600 mt. The 1999 biomass was estimated at 41,400 mt, or 23% below the threshold target.

Spawning stock biomass has increased (age 0 and older) since 1989 (5,247 mt) to 17,400 mt. in 1996, to 25,000 mt in 1998. There is an 80% chance that the 1998 spawning stock biomass was between 22,500 mt. and 28,500 mt. which is a medium level of historical abundance. The age structure of the SSB has expanded recently. In 1995 only 12% of the SSB was ages 2 and older. In 1998, 70% of the SSB was ages 2 and older. Under equilibrium conditions at FMAX, at least 88% of the spawning stock biomass would be expected to be age 2 and older.

The fishing mortality rate on summer flounder is high, peaking at 2.1 (82% exploitation) in 1992, and was estimated to be 1.5 (72% exploitation) in 1995. The estimated mortality for 1995 was above the target mortality rate [FTGT = 0.53 (38% exploitation)]. The fishing mortality rate for 1996 was estimated to be 1.0 (58% exploitation), still above the management target rate of FTGT 0.41 in 1996. The fishing mortality rate in 1998 was estimated at 0.52. There is an 80% chance the 1998 F was between 0.46 and 0.58. Projections made at the 2000 SARC estimated that by January 1, 2001 F would be 0.26, if quotas were not exceeded in 2000. The overfishing definition is (FMAX = 0.24). While the fishing mortality rate is declining, it is still above the overfishing definition.

Status of the Fishery

A coastwide quota has been in effect since 1993. Atlantic coast commercial landings have ranged from 9.2 million pounds to 37.7 million pounds from 1972-1999. The commercial quota was 11.1 million pounds for 1998 and 1999, with minor adjustments for overages and litigation, and was the same for the year 2000. The commercial quota

for 2001 adjusted for overages is 10,058,733 pounds.

Maryland commercial landings have ranged from 136,000 lbs. to 1,712,000 from 1972-2000 (Figure 1). The total commercial landings for Maryland have been close to the assigned quota of 226,570 pounds a year, for 1997-2000, with minor adjustments for overages.

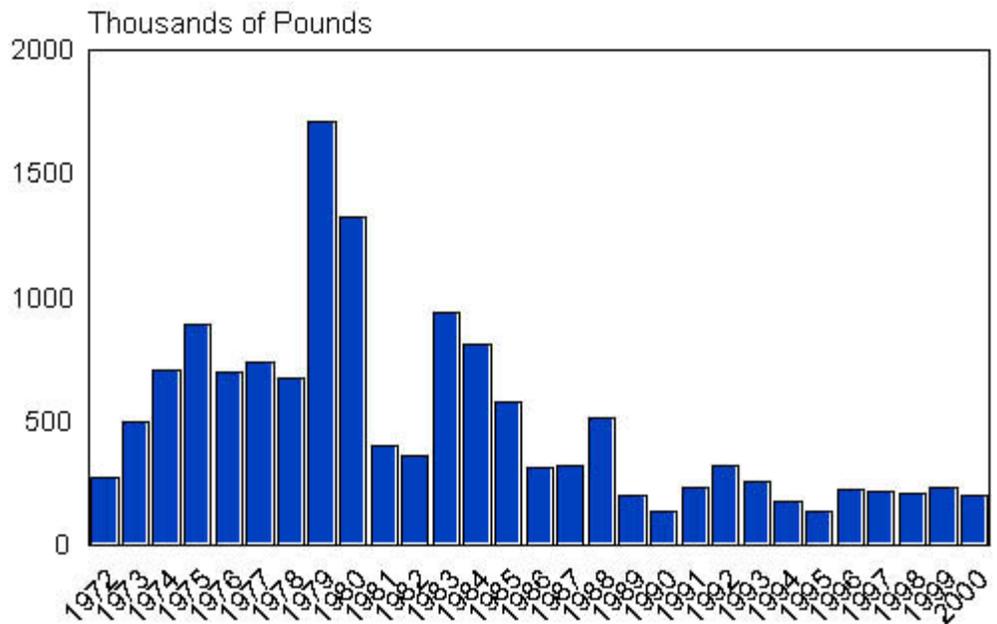


Figure 1. Summer Flounder commercial landings for Maryland, 1972-2000.

(Source: Mid-Atlantic Fisheries Management Council)

The summer flounder commercial fishery in Maryland is principally a trawl fishery in the Atlantic with boats operating out of Ocean City, Maryland. Landings from the Atlantic have been around 190,000 pounds for the past three years. There have been 20,000 to 30,000 pounds of pound net and hook and line landings reported in the Chesapeake Bay the past three years. Chesapeake Bay landings have been capped by a quota for the past two years with an early July closure in both years. The fishery was traditionally year-round in the Atlantic, and in the summer to late summer in the Chesapeake Bay. In recent years the timing has been dictated more by quota openings and closures than by fish availability.

The recreational harvest for Maryland has ranged from 87,000 to 958,049 pounds from 1982- 1999. The recreational landings for Maryland were 87,000 pounds in 1997, and 295,178 pounds in 1998. The 1999 Maryland landings was 226,912 fish with a mean weight of 1.96 pounds for a total landings of 445,274 pounds. The 2000 Maryland landings was 247,688 fish with a combined weight of 461,925 pounds (Figure 2).

The Maryland recreational fishery for summer flounder is divided between the coastal bays and the Chesapeake Bay. Approximately one-quarter

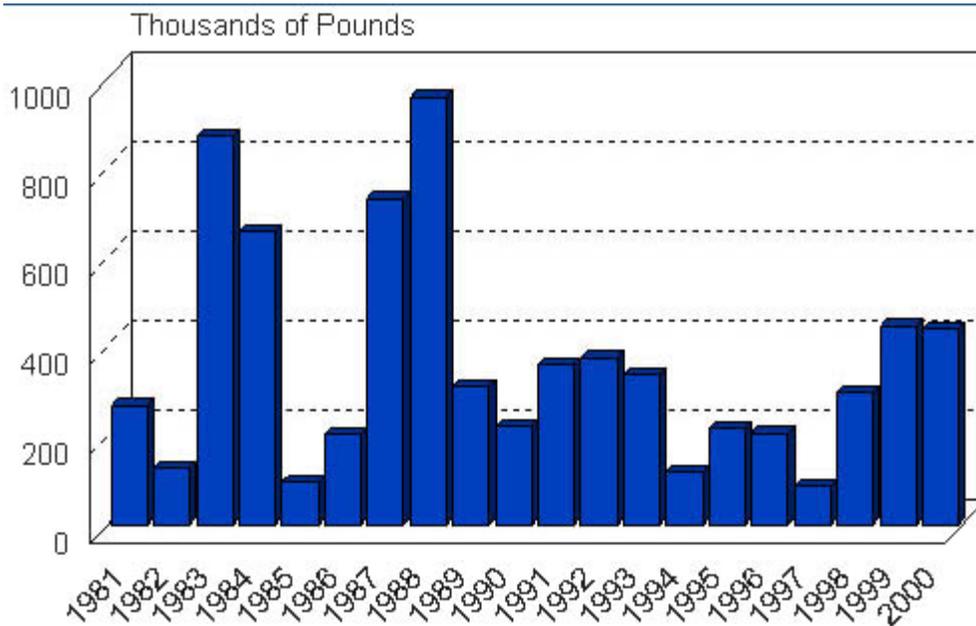


Figure 2. Recreational Summer Flounder landings for Maryland, 1981-2000 in millions of pounds.

(Source: Mid-Atlantic Fisheries Management Council)

of the recreational harvest in Maryland from 1994-1998 was from the Chesapeake Bay and the

remaining two-thirds was from the coast. The coastal fishery operates from April through October, with a peak in activity during mid-summer. The coastal recreational fishery is pursued by a combination of boaters, pier fishermen and party boats. On an average day during peak fishing season, there will be 200-1000 boaters, 100 shore-bound anglers, and 3-4 party boats fishing for summer flounder on the coastal bays.

The recreational fishery for summer flounder in the Maryland portion of the Chesapeake Bay occurs in late summer from the Bay Bridge south, with the greatest amount of effort closer to the Virginia line and the mouth of the Potomac River. Summer flounder are occasionally but rarely targeted by anglers in the bay, and are more often caught along with a mixed bag by bottom fishermen on private and party boats. Reports required from Charter boat captain's indicated that in 1999, there were 3166 summer flounder kept and 1653 summer flounder released by charterboats in the Chesapeake Bay.

Current status of Management/Research

Summer flounder are managed by the Mid Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASMFC). The management board passed Amendment 12 to the Summer Flounder FMP in 1998, and has defacto implemented a constant harvest strategy for the past three years. The coastwide quota for summer flounder in 2001 is 17.91 million pounds. Quota will be divided 60/40 commercial/recreational as in previous years. The adjusted Maryland commercial quota in 1998 was 210,947 lbs., the 1999 quota was 202,354 lbs., and the 2000 quota was 226,568 lbs. The 2000 quota was reduced in the middle of the year to around 194,564 pounds by NMFS in response to a lawsuit by several environmental organizations and overages from the previous year. The commercial landings from Maryland catch records in 2000 was 200,864 pounds. The 2001 quota for Maryland adjusted for overages has been published as 184,514 pounds as of April 14, 2001.

The commercial harvest has been controlled by quotas and landings have been very close to the quota since 1993. The recreational harvest were close to, or below, the quota from 1993 to 1995, but have exceeded the quota by ever increasing amounts since 1997. In 1998 the recreational landings were 169% (12.5 million pounds) of the 7.4 million pounds quota established. In 2000 the recreational landings were approximately double the recreational quota. The recreational harvest has steadily increased, while the commercial harvest

remains capped. Instead of a 60/40 commercial /recreational split in harvest, the past three years have seen the recreational harvest larger than the commercial harvest. In 2001 the management measures were drastically changed to substantially reduce the recreational harvest.

Recreational management measures for Maryland in 2001, included regulations which were required to achieve a 48% reduction in landings from the 1998-2000 level. The 2001 recreational season in Maryland includes a 17 inch size limit with an 8 fish creel and a season from Jan 1 to Dec 31 with a mid-season closure from July 25th-August 6th. The fishery did not actually open until April 25, 2001 as it took this long to get the regulations established. Each state used conservation equivalency tables for season and creel limits and a Weibul distribution for seasonal closures to achieve the required reductions.

In order to land summer flounder in Maryland, coastal commercial fishermen are required to have a summer flounder permit from NMFS, and fishermen and fish dealers are required to report daily landings. Maryland also has a limited entry system for commercial flounder fishermen. Chesapeake Bay summer flounder fishermen do not need the federal or state permit. Landings are summarized by NMFS weekly and this information is provided to the states.

Maryland is in compliance with MAFMC and ASMFC plans. Key regulations are: 14 inch minimum commercial size, and a trawl net size 5½ inches minimum stretch mesh for the entire net. The recreational season and creel limits have been approved by the ASMFC as meeting the required reductions.

Monitoring Programs

Maryland conducts a trawl survey in the coastal bays which consists of 20 sites sampled monthly from April through October. The trawl index in 2000 ranked 11th out of 29 years (Figure 3). This continues a recovery in recruitment which began in 1990, and our index matches nicely with the recruitment experienced along the coast.

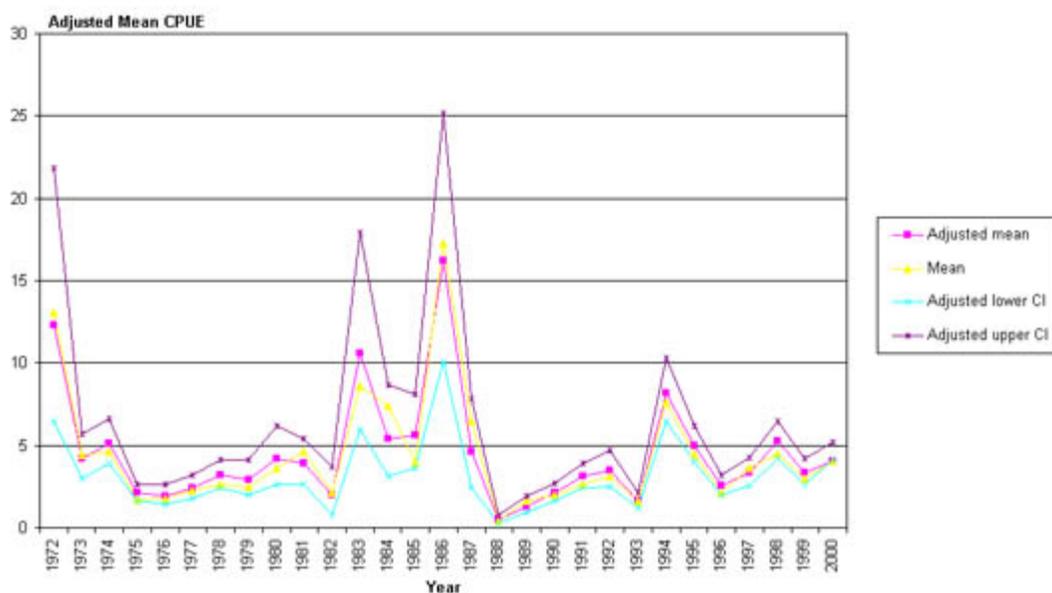


Figure 3. CPUE of Summer Flounder from Maryland Coastal Bays trawl survey, 1972-2000 (n=10784).

Summer flounder were sampled on commercial trawlers fishing for summer flounder off the coast of Ocean City, Maryland. The mean size of summer flounder caught by offshore trawlers decreased from 417 mm. in 1998 to 406 mm. in 1999, and was 400.4 mm. in 2000. The mean size from 1993 to 1997 increased each year from 322 to 370 mm. The recent decreases in mean size probably represent stock stabilization rather than a decrease.

There were 645 trips recorded by Maryland Saltwater Sportfishing Association (MSSA) anglers in their logbooks for 1999. The total number of keeper flounder was 806, and the total number of released undersized flounder was 3631. The ratio of legal to sublegal flounder in the MSSA logbook survey was 1:1.9 in 1996, 1:3.6 in 1997, 1:3.7 in 1998, 1:4.3 in 1999, and 1:5.5 in 2000. Data was also collected by the "Bay Bee", a head boat operating in the coastal bays behind Ocean City, Maryland in 2000. There were 729 trips recorded

with 15,071 passengers participating. Those anglers caught 3506 legal flounder and 24,673 undersize flounder. The ratio of legal to sublegal flounder in on the "Bay Bee" was 1:7.04. This ratio is comparable to that of the MSSA anglers logs. Similar monitoring both in the coastal bays, on commercial trawlers and of recreational anglers is planned for 2001.

A juvenile summer flounder survey is done by the Coastal Bays Finfish Investigation each year. It is done in Maryland coastal bays each month by sampling 20 sites with a 16 foot trawl for 6 minutes. Preliminary sampling in 2001 has recorded the highest abundance of juvenile summer flounder in the last 10 years or more. A few of the trawls this year have caught over 50 summer flounder in 6 minutes, while a good number most years is 6 to 10 fish. This is very encouraging for the future of this fishery.

Also recreational anglers have been catching some of the largest summer flounder seen in a few years this year. These fish in the 4 to 6 pound range are mostly from a strong 1994-1995 year class. The good news is that there are a couple of decent year classes following that exceptional one, so we should have good summer flounder fishing for at least a while longer.