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*Working towards healthy, self-sustaining populations for all Atlantic coast fish species
or successful restoration well in progress by the year 2015*



Proceedings of the Summer Flounder Bycatch
and Regulatory Discards Workshop

July 2003

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and Regulatory Discards Workshop

FINAL REPORT

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Preface

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Executive Summary

To seek consensus on individual recommendations developed during the course of the workshop was not an objective of the workshop. Eight discussion topics were identified and many potential solutions within those topics also were identified. During the course of breakout group discussions, several themes were discussed concurrently by multiple breakout groups. As a result of substantive discussion on the eight identified topics, time was not adequate to fully develop all recommendations.

It was the intent of the workshop participants that the ideas presented in this document should be considered by the Summer Flounder, Scup, and Black Sea Bass Management Board for further development and consideration.

To varying degrees in any fishery, bycatch and regulatory discards are an inevitable result of fishing and fishery regulations. Bycatch is defined simply as unintended or non-targeted catch of a particular species or size. It is understood that the nature of fisheries will always include some, at least minimal, levels of bycatch that cannot be avoided. Discards are bycatch fish that are returned to the sea. Causes of discards can be grouped into three broad categories:

- *Economic discards* are those animals caught as bycatch and returned to the water for economic reasons, such as low quality or the absence of a market. The occurrence of economic discards is typically market-driven.
- *Regulatory discards* are defined by the Magnuson-Stevens Act as “...fish harvested in a fishery which fishermen are required by regulation to discard whenever caught, or are required by regulation to retain but not sell...” (SEC. 3. 104-297 (33)). These discards are a

direct result of fishery management agencies imposing fishing regulations such as size limits, possession limits, or closed seasons.

- *Discretionary discards* are those animals returned to the water for reasons other than regulations or economics. Most commonly, this is exemplified in recreational “catch and release” fisheries where anglers return fish for personal reasons, such as the practice of a conservation ethic, the perception of conservation benefits, or a lack of interest in taking the fish home for consumption.

From a management perspective, the greatest concern with discards is the high rate of mortality sometimes associated with discarded fish. The goal of fishery management is to provide optimal benefits to user groups and society while maintaining a sustainable resource level; however, discard mortality represents removals from the fish stock with no resultant benefits to industry or the public. Reducing discard mortality will increase substantially the quality of commercial and recreational fisheries, facilitate better management of exploited stocks, and assist fishery management agencies in attaining the objectives of fishery management.

As described by NOAA in a recent national publication on bycatch:

“The potential for summer flounder discards in both the commercial and recreational fisheries represents a controversial issue in both the assessment and the management of this recovering stock.” (NOAA 1998)

In November 2001, the Atlantic States Marine Fisheries Commission (Commission) and the National Marine Fisheries Service (NMFS) sponsored a workshop to address regulatory discards and utilization of summer flounder bycatch in directed summer flounder fisheries and other fisheries with significant summer flounder catch. The Commission selected summer flounder as a case study to evaluate how well a detailed plan for reducing regulatory discards could be identified, developed,

and integrated into a fishery management plan. This workshop functioned to identify and initiate plans for reducing regulatory discards. Proceedings from the workshop are summarized here and will be forwarded to the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board for consideration and possible further development and implementation.

The workshop was held on November 29 and 30, 2001, in Baltimore, Maryland and included commercial and recreational fishermen, industry organization representatives, fishery managers, biologists, social scientists, and staff of the Commission and Mid-Atlantic Fishery Management Council (see Appendix A). A third-party contractor and Commission staff facilitated the workshop.

The workshop format consisted of the following components:

1. Participants were presented with a basic background on the status of the summer flounder stock, characterization of the fisheries that discard summer flounder as regulatory bycatch, and summaries from two prior workshops related to discards.
2. As a group, participants were directed to identify up to eight discussion topics where a plan for reducing summer flounder regulatory discards or utilizing bycatch could be reasonably developed and implemented.¹
3. Participants divided into breakout sessions to address each of the eight discussion topics and draft recommendations and plans for implementation.
4. Participants reconvened in a summary session where recommendations of the breakout groups were presented and common recommendations were identified for group discussion and consensus.

This report provides a basic background on the status of the summer flounder stock and a characterization of the fisheries that discard summer flounder as regulatory bycatch.

Eight discussion topics are presented, each including a definition, recommendations, and discussion. The reader should note that additional potential solutions are identified in these discussions but are not included in the recommendations, either because the breakout group did not reach consensus or did not have sufficient time to develop them.

¹ Participants were limited to only eight topics due to limitations on workshop time and space.

Description of the Fisheries

Summer flounder are caught in both commercial and recreational fisheries, primarily between Massachusetts and North Carolina. As a demersal species, summer flounder occupy the same habitats as a number of other commercially important species such as scup, black sea bass, sea scallops, squid, and other flounder species. To a varying degree, summer flounder are susceptible to catch by demersal fishing gear throughout their range. Mid-Atlantic Region demersal species are harvested by a variety of methods, including but not limited to groundfish otter trawling, dredging, sink gill netting, pound netting, fish pots, and recreational hook-and-line. Of these methods, the commercial trawl and recreational hook-and-line fisheries are the primary fisheries for summer flounder (NEFSC 2000). The extent to which these and other fisheries discard summer flounder is discussed in the following sections.

Additional details on the summer flounder industry by port may be found in McCay and Cieri, 2000 (see References).

Commercial Trawl Fishery

The Mid-Atlantic commercial trawl fishery is a mixed-species trawl fishery that relies principally on the harvest of summer flounder, scup, and black sea bass, with significant quantities of *Loligo* squid, winter flounder, witch flounder, yellowtail flounder, monkfish, tautog, and other species, in either directed fisheries or as incidental catch or bycatch (Shepherd and Terceiro 1994; Gabriel 1996; DeAlteris and Skrobe 1998; MAFMC 1992). Commercial fishermen modify their trawling methods to direct effort at one or more of these species. These modifications include time-of-year to fish, fishing location, depth, tow speed, net size, and mesh size. Decisions on targeted species are driven chiefly by profit potential and fishery regulations.

Two major commercial trawl fisheries target summer flounder, one inshore during the summer and the other offshore during the winter. The inshore summer trawl fishery operates within the 100-foot contour and the fleet generally is comprised of small to medium-sized vessels that make daily trips from May to October. The offshore winter trawl fishery generally consists of larger vessels that operate in waters 90 to 300 feet deep and progressing to 600 foot depths when summer flounder migrate offshore.

Approximately 48% of the 2001 quota was allocated to North Carolina (25%) and Virginia (23%), though much of the Virginia landings were from North Carolina vessels. The winter trawl fishery off the coast of North Carolina has three components. The bottom trawl fishery begins inshore around November and primarily targets summer flounder. An offshore, deep-water otter trawl fishery operates from January to April. A fly net fishery (high rise trawl fishing 10-12 ft off bottom) operates from September through April (MAFMC 1992).

Regulatory discards in the directed fisheries, particularly off the coast of North Carolina, are generally not thought to be problematic, as fishermen are successful adjusting their fishing methods to target summer flounder. Further, mesh regulations are coordinated with minimum length limits to reduce regulatory discards due to undersized fish. Analysis of 1997 NMFS weighout data showed that summer flounder comprised 22% of the landings by weight and 43% by value in otter trawl trips landing at least 100 pounds of summer flounder. Sea sample and Vessel Trip Report (VTR) data from 1997 indicated that 1% of the summer flounder caught were discarded in trips landing at least 100 pounds of summer flounder (all gears combined) (MAFMC 1998).

Bycatch and regulatory discards of summer flounder occur in mixed-species trawls, in trawls directed at other species including squid, scup, and black sea bass, and other directed fisheries that typically use smaller mesh nets. Generally, assemblages of marketable species are greater in the

Southern New England area, though the potential for high bycatch of summer flounder may be offset by the use of larger (>6 inch) mesh sizes used to target New England groundfish. Limited coverage of the trawl fishery in the sea sample data complicate an analysis to estimate discard rates for particular gear differences within the trawl fishery (Mark Terceiro, NMFS NEFSC, personal communication). Gear and area-specific analysis of trawl fishery discards is therefore limited.

Depending on the species targeted and the location being fished, the trawl fishery operates essentially year-round. The potential for catching summer flounder exists as long as location fished and methods used are capable of catching summer flounder. Since the implementation of the annual commercial landings quota in 1993, commercial landings have become concentrated during the first calendar quarter, with nearly 50% of the landings taken during the first quarter in 1999 (NEFSC 2000). An estimated 47% of summer flounder discards in the trawl fishery in 2000 occurred in the winter quarter (Jan – Mar), 26% occurred in the 3rd quarter (Jul – Sep), while 14% occurred in both the 2nd (Apr – Jun) and 4th (Oct – Dec) quarters (Mark Terceiro, personal communication).

Along with sea scallop dredging, the trawl fishery accounts for the largest percentage of summer flounder discards in commercial fisheries (NEFSC 2000). In 1999, an estimated 1,935 mt of summer flounder were discarded in commercial fisheries, the highest estimate in the 1989-1999 time series. Of this amount, an estimated 76% occurred in the trawl fishery (1,476 mt). An estimated 1,548 mt (80% of 1,935 mt) was attributed to discard mortality (NEFSC 2000).

In 2000, estimated discards dropped to 907 mt (with an estimated 80% or 726 mt attributed to discard mortality), including 740 mt (82%) in the trawl fishery (M. Terceiro, personal communication). Sea sample data indicate that the discard ratio in observed trawls averaged 11.6% between 1992 and 2000. The number of commercial fishing trips sampled in 1999 (56 trawl trips)

was the lowest since 1994. The number of sampled commercial fishing trips more than doubled from 1999 to 2000, with 115 trips in the trawl fishery and 23 trips in the scallop fishery (Mark Terceiro, NMFS NEFSC, personal communication).

Since 1980, an average of 70% of the commercial landings of summer flounder has come from the Exclusive Economic Zone (EEZ) (NEFSC 2000). Over 80% of the Northeast Region's commercial landings are generally within the Southern New England/New York Bight/ Delmarva region and the Norfolk Canyon statistical areas (NEFSC 2000) (see Figure 1 and Table 1). Discards occur in all of these areas to varying degrees. Low sample sizes make it difficult to distinguish whether spatio-temporal differences were attributable to the uncertainty of the data, actual changes in discard quantities, or both.

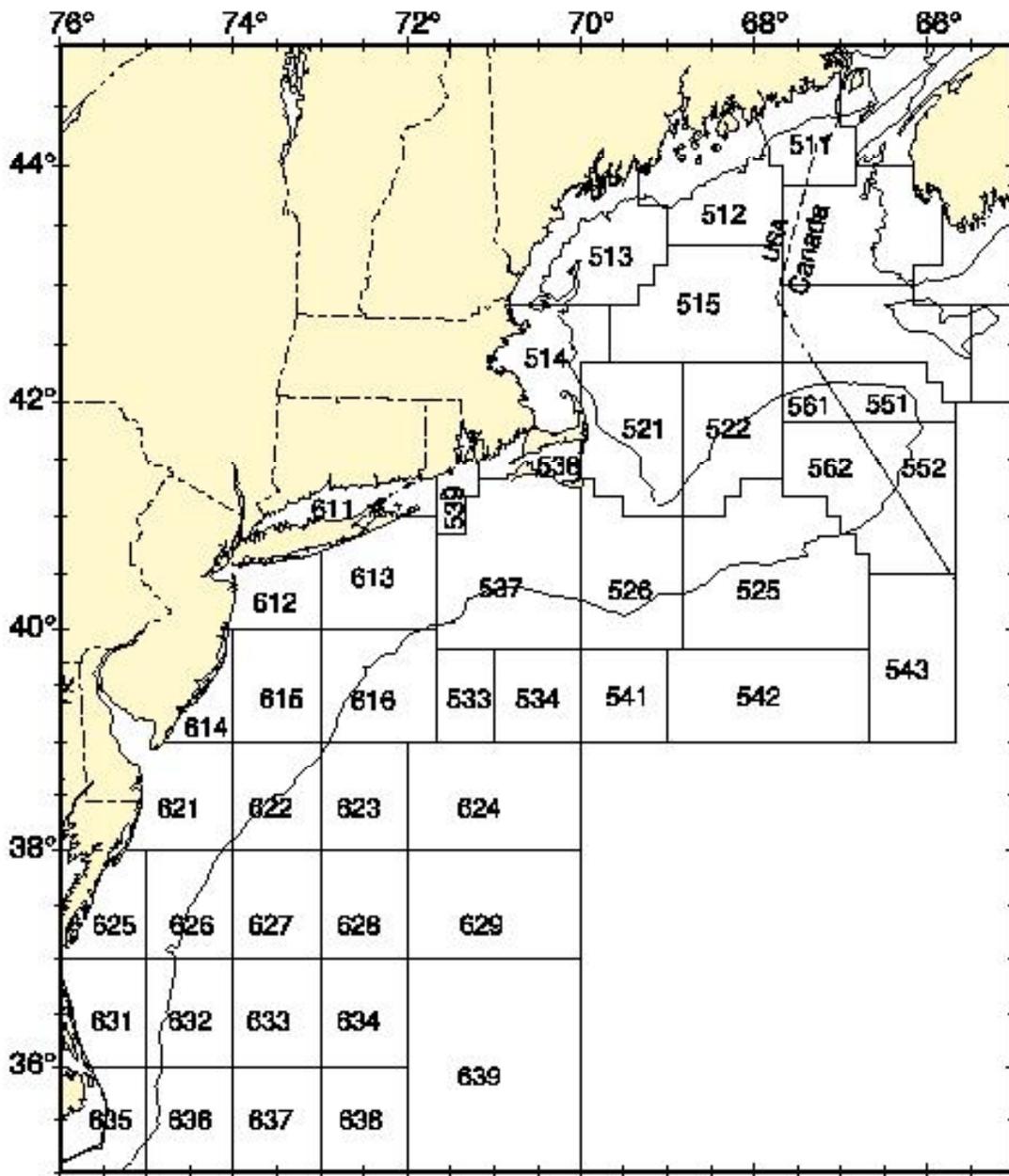


Figure 1. Statistical areas used for catch monitoring in offshore fisheries in the Northeast United States. (Terry Smith, NMFS NEFSC, personal communication.)

Table 1. Primary statistical areas of reported Summer flounder landings (NEFSC 2000).

Area Name	Area Numbers
Southern New England	526, 537, 538, 539
New York Bight	611, 612, 613, 616
Delmarva	621, 622, 626
Norfolk Canyon	631, 632

Commercial Sea Scallop Fishery

Sea scallop dredge fisheries rank second to trawl fisheries in total landings of summer flounder (MAFMC 1992). In the United States, sea scallops are located on Georges Bank, in the Mid-Atlantic, and in the Gulf of Maine. In 2001, the areas of Hudson Canyon and Virginia Beach were re-opened to scallop dredging (NEFMC Framework Adjustment 14).

Sea sample coverage of the sea scallop fishery is incidental, with 13 trips sampled in 1999 and 25 trips in 2000. An estimated 459 mt (24% of the total discards) of summer flounder were discarded in the sea scallop dredge fishery in 1999, compared with 167 mt in 2000 (18% of the total discards). By contrast, preliminary estimated landings of sea scallops in the Mid-Atlantic Bight in 1999 were 4,653 mt. (NEFSC 2001). Sea sample data indicate that the summer flounder discard ratio in observed scallop tows averaged 80% between 1992 and 2000 (range from 61% in 1993 to 94% in 2000). A lack of spatially-consistent sampling makes it difficult to draw comparisons across regions, though the data indicate that discards are occurring primarily in the New York Bight and Delmarva regions, with some discards also occurring in Norfolk Canyon, and Southern New England. In 1999 and 2000, discards were concentrated in the New York Bight and the Delmarva regions, though seasonal distributions were different. Discards in the New York Bight were concentrated in the second quarter in 1999 and in the fourth quarter in 2000. Discards in the Delmarva region were concentrated in the first and second quarters in 1999 and in the first and fourth quarters in 2000.

Other Commercial Fisheries

Aside from bottom trawl and scallop dredge fisheries, pound nets have been the only other commercial gear with significant summer flounder landings. Smaller quantities of summer flounder

are also caught in haul seines, floating traps, handlining, purse seines, fish pots and traps, midwater/pair trawls, and gill nets (MAFMC 1992; McCay and Cieri 2000). Bycatch and regulatory discards of summer flounder are likely occurring in these fisheries but are not considered to be significant. They were not accounted for in the most recent summer flounder stock assessment (NEFSC 2000).

Recreational Fishery

The recreational fishery accounts for 45 to 70% of the total annual landings of summer flounder. Forty percent of the annual total allowable landings (TAL) is allocated to the recreational fisheries; however, annual overages are frequent. Summer flounder are primarily caught by hook-and-line in bays and inshore waters from April/May to October/November, though most states regulate the open season. In 1999, the majority (74%) of the recreational landings occurred from New York to Virginia, followed by Connecticut to Maine (20%), and North Carolina (6%).

Though the Magnuson-Stevens Act does not include the recreational fishery in the definition of bycatch, a significant portion of summer flounder caught are subsequently released. Data from the NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) estimate live discard rates to have varied from about 18% (1985) to about 81% (1999) of total catch, but have shown an increasing trend (NEFSC 2000). The 1999 stock assessment assumes a 10% release mortality (NEFSC 2000; see Lucy and Holton, 1998, for related research).

Summer flounder discard mortality in the recreational fishery was estimated at 688 mt in 1999, accounting for 41% by number and 18% by weight of the total recreational fishery landings (3,804 mt) and 26% of the combined recreational and commercial fisheries discards of summer flounder (2,623 mt) (NEFSC 2000). Estimated recreational fishery discard-at-age of summer

flounder was mostly age-1 with some age-0 fish from 1982 to 1996. From 1997 to 1999, discard-at-age shifted to ages 1 and 2, with some age-3 fish and few age-0 fish (NEFSC 2000).

Why are regulatory discards occurring?

Commercial Fishery

Sea sampling data indicate that during 1989 to 1995, minimum size regulation was recorded as the reason for discarding summer flounder in over 90% of the observed tows. In 1999, minimum size regulation was noted as the reason for discarding in 61% of the observed tows, with quota or trip limits given as the discard reason for 26% of the observed tows, and high-grading for price in 11% of the observed tows (NEFSC 2000). In 1997, estimates indicated that compliance with the minimum size was the predominant reason for discarding in the trawl fishery during the first two quarters, while discarding due to quota/trip limits became much more important during the third and fourth quarters (quota/trip limits (58.4%), minimum fish size (35.6%), and high grading for price (5.6%) (MAFMC 1998)).

The coastwide mesh regulations for the directed summer flounder fishery were put in place specifically to reduce the bycatch of undersize summer flounder in the directed trawl fishery (a minimum codend mesh threshold of 5.5-inch diamond (6-inch square) and a 5.5-inch body mesh threshold). It would appear that the decline in the percentage of discards attributable to the minimum size regulation from over 90% (1989-1995) to 61% (1999), reflects the mesh size increases initiated in 1998 (MAFMC 1998). Nevertheless, data suggests that the minimum size regulation continues to be a substantial cause of discards.

Mesh sizes in the Mid-Atlantic trawl fishery vary depending on the targeted species. Conflicting mesh size regulations for other directed Mid-Atlantic otter trawl fisheries may

contribute to the non-directed bycatch of summer flounder. However, mesh sizes smaller than 5.5-inch diamond (or 6-inch square) does not contribute to increased regulatory discards of undersized summer flounder in all cases. DeAlteris and Skrobe (1998) found discard rates of summer flounder in the Rhode Island small mesh fishery to be comparable to that in the large mesh fishery. In addition, vessels fishing for summer flounder in the EEZ may acquire a federal permit to fish with smaller mesh sizes. This exception is limited to the area east of the 72°30.0' west longitude line, south to the intersection with the EEZ boundary, and is limited from November 1 through April 30. A flynet fishery for sciaenids and bluefish primarily operates in this area/season and summer flounder comprises a small percentage of the fishery catch (MAFMC 1992).

Trip limits contribute to summer flounder discards in the commercial fisheries. Depending on both the lengths of time trip limits are in effect and on targeting by the fleet, discarding of fish may be significant (NOAA 1998). Dependent on season, location, and gear, fishermen are capable of catching and/or exceeding the trip limit with a single tow, set of tows, or single trip. This is often exacerbated by low trip limits. Trip limits are invoked and adjusted frequently to delay reaching the quota, thereby prolonging the fishing season. In conjunction with the fleet's ability to exceed trip limits, discards increase as fishermen practice high grading to maximize profits while staying within the trip limit (DeAlteris and Skrobe 1998). In New York for example, the trip limit of 60 pounds effectively reduces the summer flounder fishery to a bycatch fishery for larger vessels, in the sense that directing effort to summer flounder is cost-prohibitive. Smaller vessels will continue to target summer flounder and may capitalize on the trip limit through the practice of high grading.

Aside from trip limits, quota management and subsequent season closures contribute to regulatory discards. In the Mid-Atlantic mixed-species trawl fishery, the directed summer flounder fishery is closed while seasons for other trawl species remain open. These trawl fisheries directed at

other species inevitably catch summer flounder. Many states have attempted to alleviate this issue by instituting quota set-asides specifically for summer flounder bycatch in fisheries not directed at summer flounder. This approach centers on resource allocation issues and has been met with controversy.

Recreational Fishery

Discards occur in the recreational fishery for regulatory (length and bag limits, seasonal closures) and discretionary (unwanted sizes and catch-and-release) reasons. For example, surveys of New York party boats from 1988-1992 showed that nearly all (>95%) fish released alive were below the 14-inch minimum size limit (NEFSC 2000). Discretionary discards of unwanted sizes is coupled with a bag limit to cause high-grading, whereby fishermen will catch and hold a smaller fish only to release it when a larger fish is caught. The coastwide minimum length limit and bag limit is adjusted annually by the Commission, though states generally adopt more stringent regulations. For example, Delaware has a 17.5-inch minimum length limit, a 4 fish bag limit, and a year-round season, while New Jersey has a 16-inch minimum length limit, an 8 fish bag limit, and an open season from May 12 to September 11. Further analysis of MRFSS data may help determine whether adjusting the combination of length, bag, and season limits would reduce summer flounder regulatory discards in the recreational fisheries.

Toward Solutions...

Substantive efforts have been made at the regional, national, and international level to reduce bycatch and discards in fisheries – including fisheries for summer flounder. This section will summarize some bycatch reduction efforts in summer flounder management plans and provide a review of recommendations suggested through other workshops or publications.

Management

Currently, the Mid-Atlantic Fishery Management Council and the Commission have measures in place to decrease discards of sub-legal fish in the commercial fishery as well as reduce regulatory discards that occur as the result of landing limits in the states. Amendments 2 and 3 to the Fishery Management Plan for Summer Flounder established minimum mesh sizes and thresholds in order to reduce bycatch of undersized summer flounder. To further reduce discards, the minimum mesh size regulation was changed in 1998 to apply to the body, extensions, and codend of the net.

In 1998, the Commission recommended that 15% of each state's quota should be set aside to mitigate discards after closure of the directed summer flounder commercial fishery. To be eligible to land this 15%, the state must adopt trip limits sufficiently restrictive to allow bycatch landings for the entire year without exceeding the state quota. Additionally, either the state or the fishermen must participate in collection of additional discard data (Beal 2000). The quota set-aside is not mandated but has been implemented in many states, though not all at the 15% level.

Managers have sought alternatives to trip limits that would provide equivalent conservation benefits while reducing regulatory discards. Alternatives considered include expanded closed areas, larger mesh sizes, and closed seasons (NOAA 1998).

Data

Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (MAFMC 1998) notes the need to improve discards data:

“The discard data for summer flounder, scup, and black sea bass are limited and/or contradictory...The nature of the data make it difficult to develop any definitive or reliable conclusions about discards for these fisheries especially during

the periods or in areas where sea sampling has not occurred. As such, it is difficult for the Council and Commission to modify or add management measures to further minimize discards if the data are not available to define the nature and scope of the discard problem or the data indicate that a discard problem does not exist.”

The lack of discard data for summer flounder, scup and black sea bass has hampered the ability of the Council and Commission to respond to potential discard problems in the commercial fisheries [MAFMC 1998 pg. 155]. The Council recognizes the need for improved estimates of discards for all fisheries managed under this FMP, which will require increased at-sea sampling over a broader temporal and geographical scope than is currently available. The Council's Comprehensive Management Committee has begun to address this issue and has appointed a member to participate on the Atlantic Coastal Cooperative Statistics Program's (ACCSP)² Discard Prioritization Committee. The Discard Prioritization Committee will initiate development of annual fishery priorities and target sampling levels for collection of discard/releases information from recreational, for-hire, and commercial fisheries. The Committee will develop a plan to implement sampling through existing or new data collection programs. The data collected through the ACCSP qualitative release, discard, and protected species interactions monitoring program will be used to prioritize and modify the quantitative release, discard, and protected species interactions data collection programs.

Progress has been made towards improving sea sampling data collection. In 2001 the ACCSP Discard Prioritization Committee identified several priority fisheries including otter trawl fisheries for squid, butterfish, scup, summer flounder, and other groundfish. The ACCSP has set a sampling coverage target of 5% for the priority fisheries, including those listed above, and a 2%

coverage target for non-priority fisheries (the 5% target, or a sampling level sufficient to achieve a 20-30% PSE (percent standard error) of discard estimates was recommended). In 2001 the ACCSP approved a Massachusetts study for biological characterization of the commercial and recreational scup fisheries, including sea sampling and port sampling. The ACCSP approved funding for a 2002 Rhode Island study to expand their shore-based biological sampling program for fisheries including summer flounder, tautog, scup, winter flounder, black sea bass, squid, Atlantic herring, and striped bass. In addition, the ACCSP will fund a study in the Northeast Region for sea sampling of the New England groundfish fisheries in 2002 (Joe Moran, ACCSP Program Manager, personal communication). Continued efforts by ACCSP partners to initiate and increase at-sea observer programs will improve the data with which to quantify summer flounder discards.

Gear Research

Ongoing gear modification research in the Mid-Atlantic and Southern New England regions may have implications for reducing summer flounder bycatch. The Manomet Center for Conservation Sciences, the Massachusetts Division of Marine Fisheries, and the Mid-Atlantic Fishery Management Council are testing modified small-mesh trawl nets that target squid and whiting, but are designed to reduce bycatch of scup. Preliminary tests showed a 66% reduction of scup discards (Glass 2001). The Massachusetts Division of Marine Fisheries is working with fishermen to test modified trawl nets designed to reduce cod discards while harvesting targeted flatfish. Preliminary tests showed a reduction of undersized yellowtail flounder (Stevens 2001).

² The ACCSP is a state/federal marine fisheries data collection and data management program, comprised of 23 agencies that have purview over Atlantic coastal marine resources.

Regulatory Discard Solutions for Summer Flounder

The following eight discussion topics were identified by workshop participants as relevant and significant issues involving summer flounder fisheries, where a realistic plan for reducing summer flounder regulatory discards could and should be developed. Each of the eight topics was identified by the participants as a group and further discussed and developed in breakout groups. There was one breakout group per topic and participants were free to participate in any breakout group. Four breakout groups ran concurrently for four topics, followed by four new breakout groups for the remaining four topics. Concurrent topics were chosen so as to reduce overlap between more popular topics. *The following topics are not listed in any priority order.*

1. Reduce Regulatory Discards in the Recreational Fishery

Defined

Regulatory discards of summer flounder occur in the recreational fishery because of size and bag limits and regulated seasons. Quantifying regulatory discards is difficult, though estimates indicate an increasing trend along with fishing effort and summer flounder catch. Mortality rates of discarded summer flounder vary, though the most recent stock assessment assumes a 10% mortality rate on regulatory discards.

Recommendations

- The Summer Flounder, Scup, and Black Sea Bass Management Board should improve the process for setting, evaluating, and adjusting recreational harvest target levels.
- The Summer Flounder, Scup, and Black Sea Bass Technical Committee should examine the following management measures: (1) various slot length limits, including possession of 1

trophy-sized fish; (2) total length limits, where anglers could keep any number of fish so long as the total length of all fish does not exceed a pre-determined limit; (3) bag limits only, without length limits.

- A portion of the current MAFMC research quota set-aside should be allocated to the research and development of fishing gear that reduces discard mortality, including circle hooks.
- The Technical Committee should evaluate discard mortality using different gears.
- Coastal states should implement marine recreational fishing licenses. Recreational licenses would provide the universe of participants for use by the telephone portion of the existing Marine Recreational Fisheries Statistics Survey (MRFSS).
- States should limit the number of summer flounder for-hire trips per day. For-hire vessels often make multiple trips per day, enabling them to maintain levels of fishing effort that would otherwise be curtailed by bag limits.
- States should increase the use of mandatory logbooks to record catch, effort, and discard data from the for-hire fisheries.
- States should increase their outreach and education efforts so more anglers understand and practice fishing techniques and use gear that reduce the bycatch of non-targeted species or sizes and those that increase the survival of released fish.

Discussion

Quantifying regulatory discards is a necessary first step towards reducing them, which is difficult to do in recreational fisheries. There is a need to improve estimates of recreational catch and effort, which is difficult since recreational reporting is not mandatory as it is in commercial fisheries. While this does not directly reduce bycatch and regulatory discards of summer flounder, improved data collection is a necessary first step in quantifying the extent of the discards. The

MRFSS summer flounder bycatch estimates can be improved by increasing the number of on-site interviews during seasons and at locations known for high summer flounder catch.

Recreational catch/effort estimates may also be improved by establishing a recreational saltwater license in each coastal state. Doing so would enable the telephone survey to draw its sample from a known fishing universe rather than the general population. Institution of recreational licenses has been tried in some states (ex. New York and Rhode Island) but the programs were unsuccessful and unpopular because the license is viewed as yet another tax. Participants discussed the possibility of gratis (free) licenses to residents and nominal fees for nonresidents. Pressure from multiple states may be necessary for states to impose and implement fishing licenses. Some workshop participants questioned whether implementing fishing licenses would improve the collection of bycatch data and suggested that states consider distributing an annual questionnaire to supplement bycatch data collected from the MRFSS on-site intercept surveys. The annual U.S. Fish & Wildlife Service survey on waterfowl was cited as a model to follow.

Maintaining an open season on summer flounder would negate bycatch of out-of-season fish and fishing (release) mortality could be offset by raising minimum size limits. However, raising minimum size limits increases bycatch of undersized fish. At least one participant suggested a minimum hook size so as to reduce the bycatch of undersized fish.

Currently, the ASMFC sets coastwide minimum size and bag limits for summer flounder. However, most states adopt more restrictive regulations, including season limits. This results in regulations that are inconsistent across neighboring state waters. Continually changing regulations is frustrating and confusing to anglers. Even if anglers want to abide by regulations it is sometimes difficult due to constant changes. Consistent regulations are favored by the public and are likely to improve public perception and compliance.

Broad-based and continuing outreach is essential to involving the public in fishery management issues. Improving the public's perception of fisheries management may help to reduce regulatory discards.

2. Reallocate from Commercial Directed Fisheries Towards Bycatch Fisheries and Multispecies Management

Defined

Summer flounder harvest in commercial fisheries includes (1) fisheries where effort is directed at summer flounder, (2) fisheries where effort is directed at other species such as sea scallops, and (3) fisheries where effort is directed at groups of species.

Recommendations

- The ASMFC should continue state-by-state quota allocation for the directed summer flounder fishery.
- The Commission should initiate an amendment process to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan.
- A coastwide bycatch reserve should be developed to allow for the harvest of summer flounder in bycatch fisheries. Harvest of this bycatch should be regulated by possession limits set as a percentage of the directed harvest.
- The coastwide bycatch reserve should be deducted from total allowable landings (TAL) prior to determining the state directed fishery allocation.
- The Commission should poll each state to obtain estimates of the level of regulatory discards occurring during the closed seasons, or the bycatch calculation from the stock assessment

should be utilized. The bycatch allocation should be applied to all fisheries, not just those requiring a summer flounder permit.

- Extensive monitoring of summer flounder bycatch harvest will be necessary (see Topic 5, Data Collection and Monitoring, p. 33).

Discussion

Currently the coastwide annual summer flounder quota is allocated among the states based upon historical landings. Abundance of summer flounder is increasing, though not in proportion to the historical landings percentages. Consequently, fisheries in some states tend to catch summer flounder as bycatch more than others. North Carolina and Virginia receive a large allocation of the TAL based upon their historical landings. Landings of summer flounder by those states are largely from directed fisheries. In contrast, northern Mid-Atlantic states have more mixed-species trawl fisheries. While TAL allocations remain the same, these Mid-Atlantic states receive a lower percentage of the TAL (compared to North Carolina) yet appear to be experiencing increasing levels of bycatch as the summer flounder population size increases. There is a need to reallocate the TAL to better account for summer flounder bycatch in the mixed bag fisheries in the northern Mid-Atlantic states.

This recommendation is intended to reduce wasteful discards. Bycatch allocation could be implemented so that it is fair and equitable to all states. The coastwide bycatch quota could be allocated by state and be subtracted from each state's portion of the TAL, which would allow for the full utilization of summer flounder that are currently discarded. An additional benefit is market stabilization, by prolonging the availability of summer flounder to the market. However, there are several costs associated with the recommendation. Without limits on entry into the fishery, this recommendation is likely to attract new entrants that target the bycatch limits. It should be noted

that states with a significant directed fishery, such as North Carolina, would not benefit from a reduced quota for the directed fishery.

Several unresolved issues must be addressed if the Management Board elects to develop this solution further. First, estimates of sublegal-sized discards must be improved. In question is whether bycatch of sublegal-sized summer flounder should be considered in the bycatch allocation. Second, should the bycatch quotas increase as the stock size increases? Does the bycatch allocation only apply while reaching maximum sustainable yield (MSY) or is it intended to be in addition to MSY? Third, the set-aside percentage must be determined. Ten percent was mentioned but the breakout group believed that additional research would be necessary to arrive at a prescribed percentage. Fourth, would an overall bycatch quota require abolishing state bycatch quotas? Currently a 15% bycatch set-aside for each state is recommended in the FMP, but states are not required to implement the set-aside to be in compliance. Finally, the bycatch allotment per trip must be a low enough percentage of the total trip landings to alleviate the possibility of creating a fishery directed at the bycatch quota.

3. Minimize Derby Fishing while Increasing Utilization of Existing Bycatch

Defined

Opening and closing fisheries leads to “derby fishing”, which is defined as a rush to harvest the fish before the quota is filled and the fishery is shut down. A derby fishery can cause high levels of bycatch of undersized or non-target species and can have undesirable effects on fish markets.

Recommendations

- Establish individual fishing quotas (IFQs) to further minimize derby fishing. Fishery management agencies should further assess the efficacy of IFQs.
- Fishery management agencies should improve observer coverage on commercial fishing vessels in order to better quantify levels of bycatch and discards.
- Existing recreational fishery surveys should continue to improve estimates of harvest and discards in the recreational summer flounder fishery.
- Fishery management agencies should reconsider and evaluate appropriate allocation of quota resources between states and between the commercial and recreational fisheries.
- Implementation of the above recommendations must be accomplished by the regional fishery management councils, the Commission, and by each of the states. The cooperation of commercial and recreational fishing constituencies is essential.

Discussion

A variety of ASMFC and state regulations are in place to eliminate the derby fishery in the directed summer flounder fishery. These include IFQs in some states, trip limits and other time limits, limited entry into the directed fishery, permits, closed seasons, staggered season openings and closings, mesh size regulations, penalties and enforcement including cash and permit sanctions, and increasing quotas. Because of this, the breakout group focused on other problems that still exist in fisheries that catch summer flounder. Many of the following items were discussed in more detail by other breakout groups.

Size limits in the commercial and recreational fisheries are a direct cause of regulatory discards of undersized fish. In the recreational fishery, regulatory discard mortality can be reduced by decreasing the minimum size and educating anglers about gears and fish handling techniques. In

the commercial fishery, regulating minimum sizes should be accomplished through minimum mesh sizes in conjunction with regulations other than minimum length limits.

Overcapacity continues to be an indirect cause of regulatory discards. Capacity in the commercial fishery can be reduced by implementing limited entry, buy-outs, or other license limitation programs such as a “use it or lose it” program or a revocation program for repeated violations. In the recreational fishery, regulatory discards may be reduced through stricter bag, season, and size limits, gear limitations, or recreational licensing. Limited entry into the recreational fishery is not considered to be an option.

Restrictive trip limits cause regulatory discards in commercial fisheries where bycatch of summer flounder typically occurs, in small directed commercial fisheries, and the recreational fishery where fishermen practice high-grading. Regulatory discards can be reduced in the commercial fisheries through IFQs, date-certain trip limit programs, and increased quotas. Date-certain trip limit programs can include seasonal limits and limit carry-overs, whereby harvest that exceeds the limit in one period is deducted from the next period’s limit.

Closed seasons cause regulatory discards of summer flounder, particularly in fisheries that target other species while the summer flounder season is closed. In these cases, regulatory discards can be reduced by implementing or improving the following: (1) IFQs, (2) improved coordination and communication between states as to when seasons will be closed, (3) when necessary, more short closures in lieu of one long closure, or (4) regional as opposed to state-by-state quotas.

Mixed fisheries and other directed fisheries using gears that catch summer flounder tend to have more regulatory discards than fisheries directed at summer flounder. Regulatory discards in these fisheries can be reduced by increasing the allocation of the summer flounder quota for the mixed fisheries and increasing the bycatch allocation in other directed fisheries.

For the Mid-Atlantic mixed species trawl fishery, individual quotas were considered as a means to minimize derby fishing. Individual fishing quotas would enable fishermen to choose when to fish and eliminating the race to catch one's share of the quota. Further, enabling fishermen to be more selective in their fishing methods would reduce bycatch of summer flounder in both directed and non-directed fisheries and fisheries directed at other species. Some argued that IFQs may reduce regulatory discards but may increase economic discards by promoting high-grading for better market price. Others argued that this would be unlikely since fishermen will know the price prior to leaving port. Individual transferable quotas were not supported.

4. Implement Harvest Incentives for Utilizing Gear Known to Reduce Discards

Defined

Fishermen and scientists collaborate to modify fishing gears to reduce bycatch of unwanted species or sizes. This has been effective in a variety of fisheries, most notably with the addition of turtle excluder devices (TEDs) in shrimp fisheries. In some cases however, modified gear is less efficient at catching the targeted species or sizes and unless mandated, creates an economic disincentive for fishermen to use such gear. Implementing harvest incentives may have the potential to move harvesters toward modified gears.

Recommendations

- Economic incentives should be established for fishermen that utilize fishing gear known to reduce bycatch.
- Fishery management agencies should work cooperatively with the fishing industry to further identify and develop economic incentive options.

- The Commission’s Summer Flounder, Scup, and Black Sea Bass Management Board should work with the Advisory Panel to further develop these recommendations. A similar program already in place in New England should be considered during the development process.

Discussion

(Only one workshop attendee participated in this discussion topic).

Economic incentives could consist of “set-asides” that would be provided above and beyond the normal quota to those using these gears. Perhaps seasons could be extended as a reward or areas could be set aside for those individuals to harvest from.

A reward system based on use of large mesh gears could already be market-driven as long as larger summer flounder are worth more per pound than smaller ones. If the difference in market price were large enough among sizes, fishermen would have an economic incentive to use larger mesh gears to target preferred sizes. The same would need to be true in fisheries that target other species but still catch summer flounder. The use of larger mesh gears would reduce the bycatch and regulatory discards of undersized summer flounder.

5. Involve the Commercial Industry and Recreational Sector in Data Collection and Monitoring Through Study Fleets and Industry-Based Surveys

Defined

Existing data for estimating bycatch and regulatory discards is insufficient and current observer programs to collect these data are cost-prohibitive. Industry-assisted data collection efforts could be a viable supplement to existing data collection programs. This solution was seen as a way to improve cooperation as well as to help fishermen understand where the data come from. Several

states and NMFS have programs to involve the industry in data collection. Maryland recreational anglers currently provide data to fisheries managers, which works very well. Study fleets involve the collection of fishery-dependent data, including catch and effort data, whereby fishermen volunteer to provide more specific data than are required by law. Industry-based surveys involve the collection of fishery-independent data, including indices of population abundance, whereby fishermen use their vessels and gear to conduct surveys according to scientific sampling protocols.

Recommendations

- Fishery management agencies should implement industry-assisted sampling programs, including study fleets and cooperative surveys.
- The Management Board is requested to further develop data collection programs specific to summer flounder, that focus on increased coverage of areas, gears, and seasons currently undersampled.
- Mechanisms for utilizing cooperative data in stock assessments should be carefully considered and fully documented.
- The Commission or the ACCSP should consider developing a coastwide recreational study fleet program.

Discussion

Current data are insufficient to estimate the magnitude of discards and to characterize discards by season, area, and gear type in sufficient detail from both commercial and recreational fisheries. Non-federally permitted vessels are not required to complete logbooks, although many states are beginning to implement ACCSP-quality trip ticket programs that will eventually solve this problem. For-hire vessels are not required to complete logbooks in all areas. Logbook data are

collected at the trip-level, whereas tow-level data are sometimes necessary. Finally, there is insufficient biological sampling of the recreational fishery.

The first step towards implementation is to compile existing data and identify and prioritize the data not being collected. Second is to determine how the industry can be used to fill these gaps, either through the use of a study fleet, cooperative survey, or volunteer angler logbook or tagging program. Potential funding sources for these types of programs should be identified. Funding could be obtained (1) through a regional or national fund such as the NC Fishery Resource Grant program, (2) from Wallop-Breaux or Atlantic Coastal Fisheries Cooperative Management Act sources, or (3) through a self-imposed industry tax on landings such as the “Nickels for Know-How” program in North Carolina. Pilot studies, coordinated by the ASMFC or Councils and implemented through the states should be considered, to test and implement data collection programs. Once implemented, quality control programs should include methods for data verification and validation. Participants must adhere to the prescribed sampling or reporting criteria. Finally, a sufficient education and outreach program is necessary for the continued cooperation of the industry and public.

These data could be more easily collected with the assistance of commercial and recreational fishermen. There are several benefits with involving industry. Additional collection efforts will help to fill data gaps or provide additional detail of current coverages. Industry would be more likely to trust the quality of the data if they were involved in collecting it. The increased quantity of quality data would help to improve stock assessments and management decisions. Finally, participants could receive harvest or economic incentives for participation. A potential cost of involving industry in data collection is that the data are self-reported and could be biased. This cost could be mitigated through proper quality control/quality assurance and monitoring programs.

Recreational study fleets were also discussed. Such a program is currently in place in Maryland. Other groups including the Coastal Conservation Association, the Recreational Fishing Alliance, and the American Littoral Society may also have programs that could be adopted for other areas or fisheries. New program implementation must include outreach to make anglers aware of the benefits of the program and the types of data collected and how they are collected. New program funding might be obtained through the Federal Aid in Sportfish Restoration Act.

6. Establish a National Gear Research Program, Including Experimental Gear Research and Fishermen Education.

Defined

This discussion topic focused on research and development of fishing gear that reduces bycatch, including experimental gear research as well as a gear technology education program for fishermen. Currently, most gear research is done *ad hoc* when a problem arises

Recommendations

- The National Marine Fisheries Service should establish a national gear research program, with national commitment, coordination, and resources appropriately directed to all regions and science centers on a continuing basis. Implementation and coordination must include expertise and participation from coastal states, the regional fishery management councils, academic institutions, the National Sea Grant College Program (Sea Grant), and both the commercial and recreational fishing industries.

Discussion

Improved gear technology, such as bycatch reduction devices (BRDs) and raised footrope technology, has been shown to reduce bycatch mortality in other fisheries. Similar gear research in cooperation with the fishing industry and states can likewise reduce bycatch mortality of summer flounder in the directed fishery and in fisheries for other species. Sea Grant has funded numerous gear research studies in coordination with state extension programs. These groups must be involved in a national program. Such a program should be a long-term, continuing program and must address both commercial and recreational fisheries. Program funding could be comprised of proceeds from research bycatch set-asides, though a long-term stable funding source will be necessary. Congressional funding, either through appropriations to the NMFS' budget or through a new Act, should be obtained.

Prior to the breakout group session, several workshop participants suggested developing a program to educate fishermen on various issues related to (1) federal and state fisheries management, (2) responsible and ethical fishing, (3) and gear technology. This could be developed into a certification program and could be required in order to obtain commercial fishing permits.

A program should be established that continually strives to improve gear and fishing techniques and should include recreational gear as well as commercial gear. Some workshop participants proposed developing a certification program requiring commercial fishermen to attend workshops on gear use and gear development.

7. Amend Fishery Management Plans to Focus on Reducing Overcapitalization, While Protecting Diversity in the Fishery

Defined

Overcapitalization is defined as excess capital, particularly vessels, in the fishery and was recognized as a major cause of excess fishing effort. Excess fishing effort results in reduced harvest per capita, as harvest is distributed across more vessels than are necessary to efficiently harvest the quota. Low trip limits are imposed in an effort to prolong the fishing season while meeting the quota. These low trip limits are a major cause of regulatory discards.

Recommendations

The mechanisms and approaches for reducing overcapitalization were not fully developed at the workshop. Amendments to fishery management plans to specifically reduce overcapitalization should not be considered at this time.

Discussion

Participants were made aware that this topic was identified as the top priority recommendation from the Commission's Cooperative State/Federal Workshop on Regulatory Discards (ASMFC 2001). Participants agreed *a priori* to limit this topic to developing management mechanisms to change the composition of the fishery, exclusive of determining who can and cannot fish. Several participants believed that anything beyond the definition (preceding page) may require congressional legislation to amend the Magnuson-Stevens Act and would be beyond the scope of recommendations developed at this workshop for the Summer Flounder Management Board. In contrast, the Management Board has the authority to implement some regulations to limit entry,

minimize derby fishing, or reduce latent effort. Several existing fishery management plans do have some provisions to limit or reduce overcapitalization.

The breakout group identified the recreational fishery and the Mid-Atlantic commercial trawl fishery as the primary fisheries affected by overcapitalization, including state waters from Massachusetts to North Carolina. A general comment from the group was that approaches to reduce overcapitalization would take generations before reductions in regulatory discards are realized.

The breakout group discussed several license reduction programs, including buy-out programs and programs targeting latent permits or permit violators, as a means of reducing overcapitalization. Voluntary and involuntary buy-out programs were discussed. The group believed that they were not in a position to decide who should and should not be in the fishery and the group consensus was that involuntary buyout programs should not be considered as a solution. There was considerable discussion of voluntary buyout programs. The benefit to a voluntary buy-out program is that it provides fishermen with an economic incentive to leave the fishery. However, existing voluntary buyout programs have failed to have significant effect on resources because they have mostly reduced latent effort. Further, manipulation of buyout programs has occurred, where people who leave the fishery return under another name (usually through a family member) or vessel. Another consideration is that NMFS issues fishing permits to vessels, whereas some states issue permits to individuals. If a buyout program were to be developed, it may be difficult to reconcile vessel versus individual permit discrepancies. Finally, fishermen selling their federal vessel permits may shift their fishing effort to state waters and fish with an individual state permit, which does little to reduce fishing mortality. Individual state buyout programs were not discussed, however, the group recognized that building regional or coastwide consensus on a permit reduction

program would be difficult due to the number of states involved and the likelihood that some would require legislative action.

Other license reduction programs discussed included programs that targeted latent permits or permit violators. The group considered a “Use It or Lose It” policy for latent permits that would require permit holders to harvest at an annual minimum level or otherwise surrender their permit. The group also considered a “Three Strikes and You’re Out” policy for fishermen convicted of harvest or other permit violations.

The breakout group discussed individual quotas as an alternative approach to reducing overcapitalization. Both ITQs and IFQs were discussed but no consensus was reached on ITQs. There was concern that ITQs would conflict with efforts to move towards multispecies management and that ITQs would create a privileged group of fishermen and alienate others.

The breakout group considered solutions for reducing discards in the recreational fishery. The group considered recommending coastwide recreational fishing licenses as an approach to creating an economic disincentive to fish and thus reduce the number of participants in the recreational fishery (the Recreational breakout group later argued against this theory). The breakout group considered recommending coastwide recreational fishery bag and size limits. Because the coastwide size and abundance distribution of summer flounder is not consistent, standard bag and size limits would exclude fishermen in some regions from keeping summer flounder and may act as a disincentive to target summer flounder altogether, thereby reducing bycatch. The group recognized that this approach was taken prior to 1999 and that it will likely be unfair to fishermen in some regions or states.

8. Consider the Impacts of Economic Market Forces on Summer Flounder Discards

Defined

Economic market forces are changes in supply, demand, and prices that affect and are affected by decisions of producers (fishermen, processors) and consumers. For summer flounder, these factors are product size, quality, and price. Product supply is influenced by openings and closings of the fishing season. Irregular fishing seasons lead to instabilities in supply and price.

Recommendations

The breakout group did not reach a consensus on recommendations at this time.

Discussion

The lack of a clearly defined discussion topic inhibited the breakout group from developing and recommending solutions. Nevertheless, the group identified that the primary goal is to keep the fishing season open and therefore to keep markets open, for as long as possible during the year. Workshop participants generally agreed that closed seasons are affecting market forces, which are affecting economic and regulatory discards of summer flounder.

The breakout group discussed a number of different options for prolonging the fishing season, including the development of a bycatch reserve to utilize the bycatch of legal-sized fish. The group recognized that this concept had been developed by another breakout group and therefore did not go into much detail for risk of repeating those efforts.

Date-certain trip limits were discussed as another option for prolonging the fishing season. Date-certain trip limits are limits on the harvest of fish over a predetermined length of time (to be determined by each state), such as the common daily trip limit, weekly, or even monthly trip limits. Such an option has several benefits. Most notably, the more regular flow of product to the market

would keep prices high (stable) and reduce economic discards. Also, fishermen would have an economic incentive to fish more selectively, thereby reducing non-target bycatch and further reducing the derby fishery. The breakout group noted that if this option were to be developed more completely, trip limit transfers should not be allowed. Individual fishing quotas (IFQs) and individual transferable quotas (ITQs) were considered, though no consensus was reached.

The breakout group considered a proposal mandating fishermen to retain 100% of their catch, including bycatch. Doing so would create an economic disincentive to *harvest* non-target species, particularly if prices for those species were low or markets were non-existent. This approach has been successful in some Pacific fisheries. Enforcement would be necessary (and costly) so as to prevent discarding at sea. Assuming effective enforcement measures were in place, an economic disincentive to even *catch* non-target species should hasten industry development of cleaner methods and gears that reduce bycatch. The group further considered a program to distribute fish to food banks as a further incentive for fishermen to retain bycatch.

The breakout group discussed the long-term economic benefits of management measures that maintained a strong fish stock size and structure. Closed areas and restrictive gear should be considered as management measures whenever they are shown to protect undersized and spawning fish. Restricting fishing in areas with known undersized or otherwise illegal fish will reduce bycatch and fishermen will reduce handling time and operate more efficiently.

Economic discards of smaller-sized summer flounder are known to occur. Through the practice of high-grading, fishermen discard legal-sized summer flounder if they can catch larger summer flounder, which are worth more per pound at the market. Generally, high-grading is logistically and economically viable for small-scale fishermen who can target and harvest summer flounder during periods of low trip limits in some states. The breakout group considered

improvements in enforcing restrictions against high-grading, such as on-board monitoring systems. The downsides to such systems are that (1) they are expensive to implement and likely to be cost-prohibitive to smaller vessels, and (2) they invoke a “Big Brother” mentality.

General Recommendation

Participants believed the workshop generated a number of useful solutions and recommend that the Summer Flounder, Scup, and Black Sea Bass Management Board consider the ideas and recommendations detailed in this report for possible future action.

As noted in the text, no specific recommendations were developed for Topics 7 and 8, but the many ideas generated by participants in those breakout groups are included in the respective Discussion sections and should be considered along with those generated in the other Topics.

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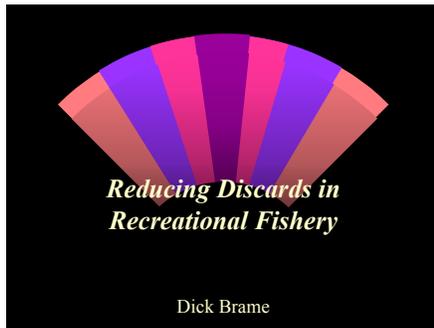
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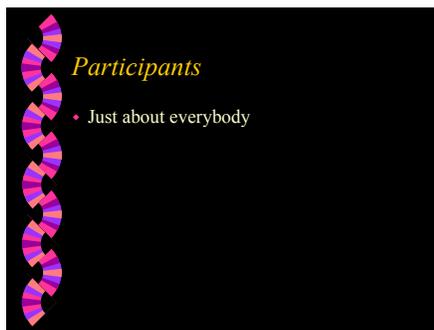
Appendix B: Breakout Group Presentations

1. Reduce Regulatory Discards in the Recreational Fishery

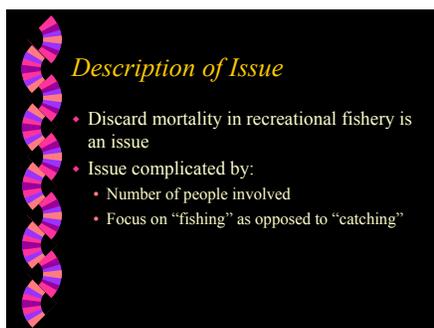
Slide 1



Slide 2



Slide 3



Slide 4



Recommendations

- Technical Committee examine:
 - Slot limits (with or without 1 trophy fish or allow a smaller fish)
 - Bag limit only
 - Allow possession of fish up to maximum total inches
 - Evaluate discard mortality using different gears

Slide 5



Recommendations (cont'd)

- Institute recreational fishing license
 - Improves data and enforcement
- Improve MRFSS data
- Limit number of summer flounder for-hire trips per day
- Use law enforcement for data collection
- Increase use of for-hire logbooks
- Improve outreach/education

Slide 6



Implementation Steps

- Board should direct technical committee to examine specific technical issues
- States should implement license, for-hire requirements, etc.
- MAFMC should use set aside for gear research

2. Reallocate from Commercial Directed Fisheries Towards Bycatch Fisheries and Multispecies Management

Slide 1

Reallocate From Directed Fisheries Towards Bycatch Fisheries

Bruce Freeman and Bill Outten

Slide 2

Participants

■ Mike Lewis	Peter Fricke
Harley Speir	Preston Pate
Rick Cole	Bruce Freeman
■ Bill Outten	Bob Beal
■ Marla Trollan	Jim O'Malley
Jim Ruhlc	Najih Lazar
■ Jerry Carvallo	Gil Pope
■ Chris Moore	

Slide 3

Description of Issue

- Bycatch described as legal sized dead discards.
- As the resource increases the amount of bycatch will increase.
- Need to reserve a portion of the increase for bycatch on a state-by-state basis.

Slide 4

Where?

- Fisheries
 - Summer flounder directed fishery
 - All fisheries with summer flounder discards
- States
 - MA through NC

Slide 5

Possible Solutions

- Minimum daily possession limit
 - based on historical landings
 - apply increases to the minimum possession limit first
 - then allocate based on historical landings.
- During closed seasons allow a summer flounder harvest of some proportion of the directed catch.
- Allow a de minimis bycatch coastwide.
- Abolish state-by-state quota system.

Slide 6

Recommendation

- Continue the state-by-state quota allocation for the directed summer flounder fishery.
- Develop a coastwide allocation for summer flounder discards allowing for a possession limit to account for bycatch.
- Deduct bycatch harvest from TAL prior to the state directed fishery allocation.
- Set possession limit as a percentage of the directed catch.

Slide 7

Pros & Cons

<p>■ Pros:</p> <ul style="list-style-type: none">- Fair and equitable to all states.- Allows for full utilization of summer flounder discards.- Will produce market stabilization.	<p>■ Cons:</p> <ul style="list-style-type: none">- May encourage new entrants into the fishery.- Some states may not benefit.
--	--

Slide 8

Implementation Steps

- Poll each state for bycatch during the closed season OR utilize the bycatch calculation from the stock assessment.
- Apply the bycatch allocation to everyone, not just those fisheries requiring a summer flounder permit.
- Would require an amendment to the plan.
- Would require monitoring – issue forwarded to data collection workgroup.

3. Minimize Derby Fishing While Increasing Utilization of Existing Bycatch

Slide 1



Minimizing Derby Fishing
While Increasing Use of
Existing Bycatch

Bruce Halgren
Chair

Slide 2



Participants

- B. Halgren
- R. Monaghan
- D. D'Entremont
- A. Mooney
- A. Wesche
- P. Jensen
- J. Lovgren
- D. Brame
- J. Dunnigan
- C. Moore

Slide 3



What is derby fishing?

- As the result of an unregulated quota management fishery, fishermen rush out to harvest as great a percentage of the share as possible
- Group agreed that a derby fishery no longer exists for the summer flounder fishery as a result of existing regulations

Slide 4



Regulations that have controlled derby fishery

- IFQs
- Trip limits (& other time limits)
- Limited entry to directed fishery
- Permits
- Seasons
- Staggered openings
- Mesh size
- Penalties / Enforcement
 - Cash
 - Permit sanctions
- Increasing quotas

Slide 5



Problems

- Size limits
 - Commercial
 - Recreational
- Over-capacity
 - Commercial
 - Recreational
- Restrictive trip limits
- Closed seasons (state by state)
- Mixed-fish fisheries

Slide 6



Solutions

Size Limits

- Recreational
 - **Decrease minimum size**
 - **Education**
- Commercial
 - Eliminate size limit with increasing mesh size in conjunction with other regulations

Slide 7



Over-capacity

- Commercial
 - Limited entry
 - Buy-outs
 - Revocation of license for repeated violations
 - Use it or lose it policy
- Recreational
 - Bag/Season/Size
 - Gear limitations
 - Recreational licensing
 - Limited entry → PC & Private

Slide 8



Restrictive Trip Limits

- IFQs
- Trip limit carry-over
- Seasonal limits
- Increased quota

Slide 9



Closed Seasons

- IFQs
- Better allocation of quota
- Improved coordination/communication between states
- When necessary, more short closures in lieu of one long closure
- Regional as opposed to state-by-state quotas

Slide 10



Mixed-fish Fisheries

- Adequate allocation of quota for bycatch in other directed fisheries
- Adequate allocation of quota in mixed-fish fisheries

Slide 11



Major Recommendations

- Improved observer coverage to identify problems and evaluate solutions
- Improved recreational data systems (MRFSS or other alternatives)
- IFQs
- Appropriate allocation of quota resources

Slide 12

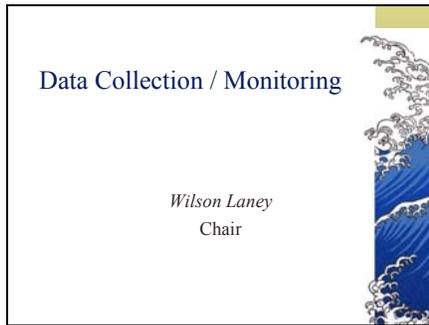


Implementation

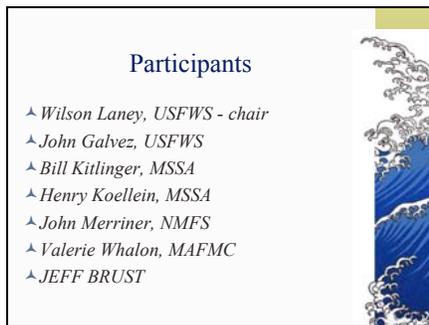
- New Legislation: *No*
- Implementation by:
 - Regional Councils
 - ASMFC
 - States
 - Cooperation of Fishing Industry

5. Involve the Commercial Industry and Recreational Sector in Data Collection and Monitoring Through Study Fleets and Industry-Based Surveys

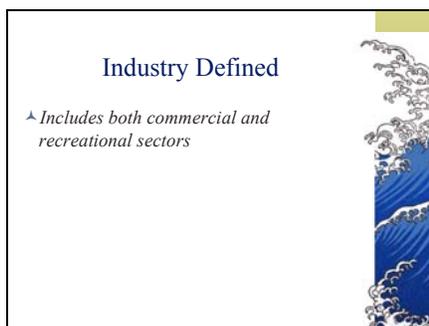
Slide 1



Slide 2



Slide 3



Slide 4

Issue

- ^ *Insufficient catch data and insufficient detail of the data we have.*
- ^ *Existing methods to collect these data (observers) are cost prohibitive.*
- ^ *Could use industry assistance to collect these data.*



Slide 5

Questions

- ^ *What types of data do we need?*
 - ^ *specific characterization of the catch by gear, area, season, size/market category, etc.*
- ^ *What do we mean by study fleet?*
 - ^ *fishery dependent*
 - ^ *fishermen volunteer to provide more specific data than required*
 - ^ *e.g. log books collect trip level data, but fishermen may volunteer to provide tow level data*
 - ^ *e.g. recreational fluke data collection in MD (MSSA) - area fished, size, where hooked*



Slide 6

Questions cont.

- ^ *What do we mean by industry based surveys?*
 - ^ *fishery independent*
 - ^ *use industry vessel/gear to conduct survey using scientific sampling protocols*
 - ^ *e.g. sea scallop study in closed areas*



Slide 7

Where?

- ^ States
 - ^ Mass to NC
- ^ Fisheries
 - ^ Trawl based fisheries (summer flounder, weakfish, scallop)
 - ^ Recreational



Slide 8

Concerns / Regulations

- ^ Non federally permitted vessels not required to fill out logs - but ACCSP will eventually pick up this trip level data
- ^ For hire vessels not required to fill out logs in all areas
- ^ Logbook data not specific enough (trip level vs tow level)
- ^ Insufficient biological sampling in recreational sector



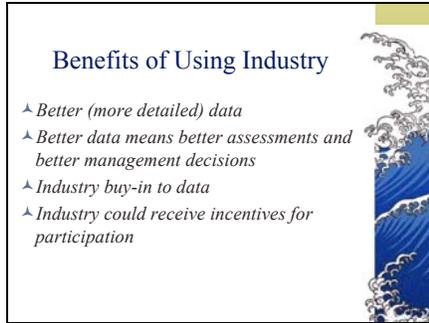
Slide 9

Group Recommendation

- ^ Implement industry assisted sampling programs (study fleets and cooperative surveys)



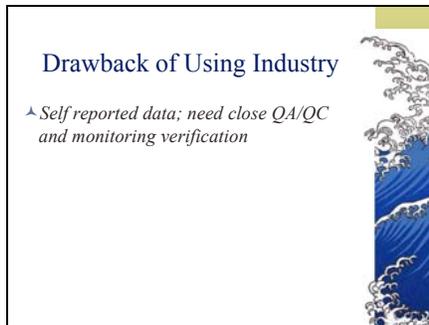
Slide 10



Benefits of Using Industry

- ^ *Better (more detailed) data*
- ^ *Better data means better assessments and better management decisions*
- ^ *Industry buy-in to data*
- ^ *Industry could receive incentives for participation*

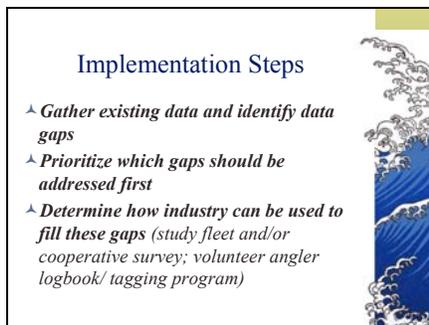
Slide 11



Drawback of Using Industry

- ^ *Self reported data; need close QA/QC and monitoring verification*

Slide 12



Implementation Steps

- ^ *Gather existing data and identify data gaps*
- ^ *Prioritize which gaps should be addressed first*
- ^ *Determine how industry can be used to fill these gaps (study fleet and/or cooperative survey; volunteer angler logbook/ tagging program)*

Slide 13

Steps cont.

- ^ **Determine how these types of programs could be funded**
 - ^ Regional/national fund (NC F.R.G. program)
 - ^ Industry Wallop-Breaux, ACFCMA
 - ^ Self-imposed industry tax on landings (Nickels for Know-How, NC)
- ^ **Need to ensure quality of data**
 - ^ Verification and validation
 - ^ Participants must adhere to certain sampling or reporting criteria
- ^ **Need sufficient education and outreach**



Slide 14

Specific Topics
Recreational “Study Fleets”

- ^ Currently being done in MD; investigate groups like CCA, RFA, ALS for existing programs
- ^ Outreach needed to train anglers on types of data to collect and how to collect it, and benefits of this program
- ^ Possible implemented through W-B funds
- ^ Could develop a Commission based (eg coastwide) project for states to implement
- ^ States could implement more easily than Councils - Councils may need amendment to plans to implement



Slide 15

Recreational “Study Fleets” cont.

- ^ Need fishing club and public participation
- ^ Possible coastwide recreational license to identify universe
- ^ Possibly implement a pilot study in area where discards are a big issue
- ^ What can ACCSP do to improve data collection?
- ^ Associated issues - Need increased MRFSS biological sampling



Slide 16

Commercial Study Fleets

- ▲ *Several models to investigate - ACCSP economic pilot, Canadian study fleets, CMAST*
- ▲ *Research set asides or other incentives to participate (MAFMC example)*
- ▲ *Should collect detailed information on all important species, not just summer flounder*
- ▲ *Associated issues*
 - ▲ *use observers in conjunction with study fleets*
 - ▲ *Need observer funds dedicated to fishery sampling rather than protected species sampling*
 - ▲ *Consider industry sponsoring own observer program*



Slide 17

Commercial Industry Based Surveys

- ▲ *Northeast Consortium is funding these types of programs*
- ▲ *North Carolina FRG program*
- ▲ *Provides industry buy-in to fishery independent data*
- ▲ *Incentives may be necessary, e.g. sell catch and/or flat fee*



Slide 18

Commercial Industry Based Surveys cont.

- ▲ *Sampling priorities may be based on information collected through study fleet*
- ▲ *Need collaboration between government, industry, and academia*
- ▲ *First priority may be in closed areas*
- ▲ *Might also be used to test experimental gear*



Slide 19

Key Points

- ^ *Outreach/education needed*
- ^ *Provides industry buy-in*
- ^ *Need standardization and quality control*
- ^ *Need to identify and prioritize specific data gaps*



Slide 20

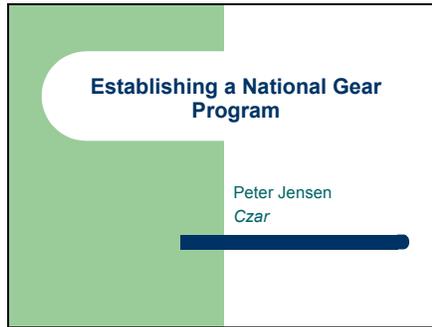
Key Points *cont.*

- ^ *Need to identify funding sources*
- ^ *Need to identify participants - could use ASMFC advisors, permit holders, etc.*
- ^ *Many models that could be investigated to develop procedures*
- ^ *Lots of this could be done by technical committee and advisors*



6. Establish a National Gear Research Program, Including Experimental Gear Research and Fishermen Education

Slide 1

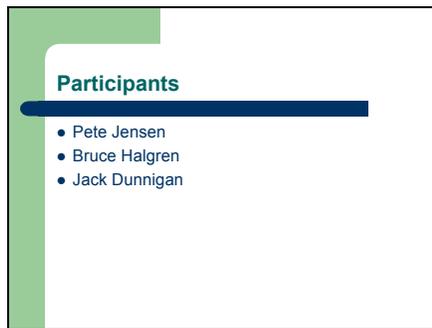


Establishing a National Gear Program

Peter Jensen
Czar

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Slide 2



Participants

- Pete Jensen
- Bruce Halgren
- Jack Dunnigan

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Slide 3



Where?

- Fisheries
 - Directed fluke
 - Mixed-fish (SNE)
 - Groundfish
 - Scallop
- Gears
 - Commercial
 - Trawl
 - Scallop dredges
 - Hook & line
 - Pound net
 - Recreational
 - Hook & line

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Slide 4

Reducing Regulatory Discards

- Improved gear technology such as BRDs and raised footrope technology have been shown to reduce bycatch mortality in other fisheries.
- Similar gear research in cooperation with the fishing industry and states can likewise reduce bycatch mortality of summer flounder in the directed fishery and in fisheries for other species.

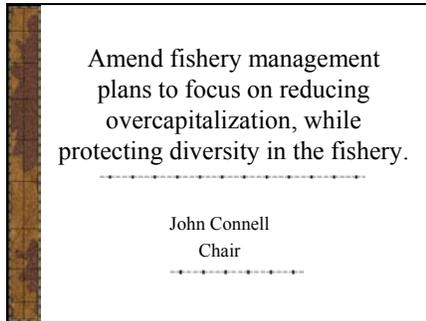
Slide 5

Implementation

- NMFS should establish national gear program with national commitment / coordination and resources appropriately directed to all regions and science centers on a continuing basis.
- Implementation and coordination must include: states, regional councils, academic institutions, SEAGRANT, and industry.
- Program must address both commercial and recreational fisheries.
- Obtain congressional funding source.

7. Amend Fishery Management Plans to Focus on Reducing Overcapitalization, While Protecting Diversity in the Fishery

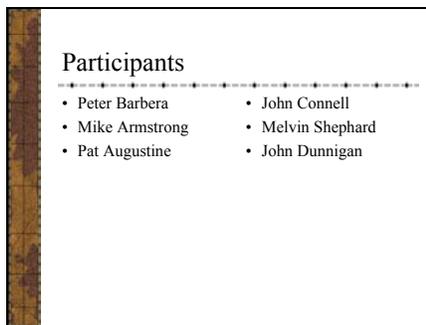
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Amend fishery management plans to focus on reducing overcapitalization, while protecting diversity in the fishery.

John Connell
Chair

Slide 2

A rectangular slide with a black border and a decorative vertical bar on the left side. The title 'Participants' is followed by a horizontal dashed line and a list of names in two columns.

Participants

- Peter Barbera
- Mike Armstrong
- Pat Augustine
- John Connell
- Melvin Shephard
- John Dunnigan

Slide 3

Description of Issue

- Too many people in the fishery has led to excess fishing effort.
 - Overcapacity (people)
- vs.
- Overcapitalization (vessels, etc.)
- Quotas and low trip limits are imposed so that everyone can continue to fish.
- Low trip limits contribute to regulatory discards.

Slide 4

Where is overcapacity occurring?

- Fisheries
 - Recreational
 - Trawl
 - Scallop?
- States
 - MA through NC

Slide 5

Options Considered

- Voluntary and involuntary buy-out programs
- “Use it or lose it” policies
- IFQs and ITQs
- “Three strikes and you’re out” policies
- Recreational license
- Coastwide bag & size limits

Slide 6

Voluntary Buy-Out Program

- Considerations:
 - ◊ Federal and State Permits
- Pros:
 - ◊ Offer people the choice of whether to fish
- Cons:
 - ◊ Remove mostly latent effort
 - ◊ Some people sell out and return under a different name

Slide 7

Other Considerations

- Building consensus on a permit reduction program
 - ◊ Difficult to do because of the number of states
 - ◊ May require legislative action

Slide 8

Recommendation:

- Amendments to FMPs to reduce overcapitalization should not be considered at this time.

8. Consider the Impacts of Economic Market Forces on Summer Flounder Discards

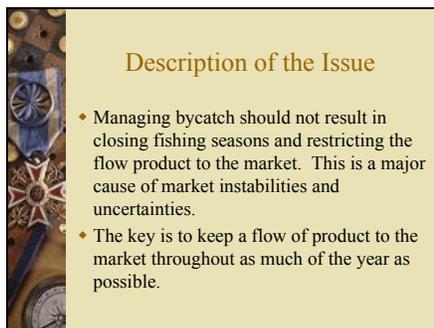
Slide 1



Slide 2



Slide 3



Slide 4



Options Considered

- ◆ Bycatch reserve
 - Developed by “Reallocation” break-out group
 - Would utilize bycatch of legal-size fish
 - Would be aided by a quota increase
 - No consensus
- ◆ Trip limits with date certain
- ◆ ITQs / IFQs
 - No consensus

Slide 5



Trip limits with date certain

- ◆ Would keep market prices high and reduce economic discards.
- ◆ Date certain could be day, week, month, etc
 - Decided by each state
- ◆ Allows fishermen to fish more selectively, reducing non-target bycatch
- ◆ Eliminates the derby fishery
- ◆ Need to guarantee no transferability of trip limits

Slide 6



Other Options Considered

- ◆ Closed areas and restrictive gear
 - Protect undersized and spawning fish
 - Reduce handling time of bycatch
 - Long-term economic benefits of maintaining a strong fish population
- ◆ Retain all catch
 - Bycatch would be processed for food banks, etc
 - Economic disincentive to bycatch non-target species or sizes
 - Expensive to monitor or enforce

Slide 7



Recommendation:

- ♦ The group did not reach a consensus recommendation at this time.

APPENDIX C: Port Descriptions of Summer Flounder Fisheries

The discussion below attempts to characterize the fisheries by port within larger statistical regions. Much of the text is drawn from McCay et al. (1993), McCay and Cieri (2000) and MAFMC (1998). Excerpts below are not intended to fully characterize the diverse fisheries of each port; rather, they are intended to focus on those fisheries where bycatch of summer flounder might occur. The reader is encouraged to refer to these documents for more complete discussions of the fisheries.

Southern New England

Massachusetts

Primary fishing ports in Massachusetts include New Bedford and Chatham. In New Bedford, the majority of the total landed value in 1992 was sea scallops (60%), with only 1.2% was summer flounder (MAFMC 1998). Scallop dredges and otter trawls are the dominant gear types, with angler, summer flounder, spiny dogfish, *Loligo* squid, and scup among the most important species landed.

...Summer flounder (fluke) is mostly a summer fishery, but some fishers are now targeting summer flounder during the latter part of the year. Fluke are mostly caught in Nantucket Sound, especially by smaller boats with 1 or 2 man crews. They target squid during the spring and fall when they are not going for summer flounder...(McCay et al. 1993)

Chatham is a much smaller port than New Bedford in terms of total landed value. Over 80% of the landed value was comprised of bay scallops, quahogs, and mussels. Summer flounder contributed 0.10% of the landed value. Chatham boats land a variety of species, including summer flounder, scup, black sea bass, mackerel, butterfish, weakfish, and bluefish. Summer flounder harvested by fish pots accounted for 65% of the landed summer flounder value, while 27% was by draggers.

Rhode Island

Rhode Island fisheries include inshore and offshore components, using both mobile and static gears. The trawl fishery represented 56.4% of the total 1996 landings in Rhode Island. The trawl fishery harvests multiple species in Narragansett Bay and coastal waters, including 95% of the total summer flounder landings in Rhode Island in 1996. Effort directed at other species includes scup, black sea bass, squid, and blackback flounder. Rhode Island practices a 15% quota set-aside in November and December.

Primary fishing ports in Rhode Island include Newport, Quonset Point, and Point Judith. In Newport, lobster accounted for 44% of the total landed value in 1992. Summer flounder ranked

fifth in total landed value. Lobster pots accounted for 50% of the total species landings and otter trawls accounted for 33%.

...Newport traditionally landed groundfish and lobster, but in the early 1990s began targeting squid, mackerel, butterfish, scup and dogfish. "Groundfishing boats, a few scallopers, gill-netters, and draggers make up the range of boats in Newport. While Newport's fish potters rely almost entirely on scup, they also catch a little tautog, small amounts of black sea bass, bluefish, and summer flounder, among other species." (McCay et al. 1993) The dragger fishery mainly targets northeastern groundfish, as well as *Loligo* squid...(MAFMC 1998)

In other Washington County communities including Quonset Point, *Loligo* and *Illex* squid dominate the landed values, but also important are lobster, quahog, and oysters. Other inshore fisheries including eel potting, trapping striped bass, and a tautog spearfishery. There is some inshore trolling for summer flounder.

...Atlantic mackerel, butterfish, scup, summer flounder, and angler are among the top ten species landed by value, and they figure importantly in the catch of the otter trawl vessels...The fish pots are predominantly for scup, but some black sea bass, summer flounder, bluefish, and *Loligo* squid are caught in them too...(MAFMC 1998)

Point Judith boats mainly target whiting, summer flounder, monkfish, though squid is also increasing in economic importance in the area.

...The top 10 species by percent landed value in 1992 were: lobster (28%), *Loligo* squid (15%), silver hake (10%), angler (10%), summer flounder (8%), scup (5%), butterfish (4%), winter flounder (4%), yellowtail flounder (2%), and cod (2%)...Otter trawls accounted for 67% of the total landed value of all gear...Of the total landed value by species caught with otter trawlers, *Loligo* squid was first with 23% of the total. Summer flounder ranked fourth with 12% of the total...Some summer flounder...are taken in floating traps. A small amount are also taken by gillnets...Fishers from these ports tend to target a broad diversity of species and so are able to fish year round. 'Scup, fluke, and sea bass are inside during the summer, offshore during the winter.' (McCay et al. 1993)...Summer flounder are also landed by draggers...(MAFMC 1998)

New York Bight

Connecticut

Stonington:

...Stonington is the primary port in Connecticut...Stonington is the only offshore port with a fleet consisting of trawlers, lobster boats, ocean scallopers. People are mostly going for groundfish such as cod, haddock, and flounder...[There is a] mixed species trawl fishery whose landings include large amounts of summer

flounder and a small amount of scup and black sea bass. 'As soon as the summer flounder fishery is open, fishers will go for it exclusively until the quota is filled.' (McCay et al. 1993) In the past, summer flounder was the most important species caught by fishermen in Stonington. However, squid is increasing in importance as a result of the summer flounder quotas...(MAFMC 1998)

New York

Freeport and Point Lookout:

According to NMFS weighout data...Freeport and neighboring Point Lookout (included in the Freeport port code) are almost entirely dependent on otter trawl landings (over 89% poundage, 87% value), and the major species are Loligo squid and silver hake, with smaller amounts of scup, weakfish, bluefish, butterfish, summer flounder, other flounders, Atlantic mackerel. Gill nets are used for bluefish, angler, and other species, and there are small handline, pot, pound-net and bay shellfisheries associated with these ports...(McCay and Cieri 2000)

Greenport and Mattituck:

...Otter trawl landings are by far the most important, over 95%, and the classic Mid-Atlantic complement of species is found, led by silver hake and Loligo squid, but including butterfish, summer and winter flounder, scup, striped bass, angler, and other species. There is also pound-net fishing, haul-seining, gillnetting, handlining, pelagic longlining, lobster and conch pot fishing, and raking for clams and dredging for bay scallops...

...Over 90% of the weighout landings attributed to Mattituck came from otter trawl fishing, and the full complement of Mid-Atlantic species were major landings (=>2% value in 1998: bluefish (25%), butterfish (12%), summer flounder (14.5%), scup (4.4%), dogfish 3.1%), lobster and striped bass were also significant, among the 37 species landed. Total landings in 1998 were less than 275,000 pounds. But recall that "Other New York" includes lobster and other landings that probably came from places like Mattituck...

...[The owner of one of the commercial docks / fish houses] said that since there is only one quota system for both commercial and recreational fishers, it's ridiculous to even try to make money off fluke as a commercial fisher. Fluke used to be 75% of their income. But fishers can't survive on the current 70-lb. trip limit...(McCay and Cieri 2000)

Amagansett and Three Mile Harbor:

Beach seines, pound-nets, and handlining were the major gear types identified for Amagansett weighout data in 1998. Beach seines are used for bluefish, eels, Atlantic silverside and other species, totaling 6% of the 1998 value. The greatest value (36% in 1998) came from pound-nets or fish weirs. In 1998 41 species were landed in these fish weirs. The landings of pound-nets provide a sample of the biodiversity of the inshore waters as well as the diversity of preferences in local and metropolitan markets. The species included: Bluefish (54%), summer

flounder (16%), Loligo squid (6.5%), weakfish (6%), carp (4%), striped bass (3%), scup (2%) and white perch (1.6%)...

...Another traditional fishery, handlining, is about the same in value as pound-nets in Amagansett (34.5%). It is used primarily for scup, striped bass, and bluefish, but 28 other species were also caught handlining, ranging from small amounts of cod, butterfish, eels, king, Spanish and Atlantic mackerel, and white perch, to larger amounts of summer flounder and dogfish. One of the wholesalers in Amagansett does a significant business in live fish...(McCay and Cieri 2000)

Montauk:

Montauk, the largest fishing port in New York, is situated near the eastern tip of the South Fork of Long Island. Otter-trawls and longlines are the principal gear-types, in terms of pounds landed and value...Loligo squid and silver hake are the two most important fin-fish caught in 1998, but tilefish also stand out, and swordfish and tuna landings are important as well...The number of species landed at Montauk is staggering: 90. The methods used to harvest fish and shellfish are diverse, including pound nets or fish weirs, box traps, haul seines, and spears, along with the more usual pots, lines, and trawl nets...(McCay and Cieri 2000)

Shinnecock/Hampton Bays:

Shinnecock/Hampton Bays is second only to Montauk as a commercial fishing center in New York. The offshore fishing industry in this part of Long Island is concentrated to the west of Shinnecock Inlet, on a barrier island that is just to the south of Hampton Bays...

...This is primarily a dragger fishing port, otter trawl landings making up 84% of the poundage and 74% of the value in 1998...Silver hake (whiting) and Loligo squid made up over 70% of these landings; 66 other species were landed by draggers, including bluefish, butterfish, red hake, and summer flounder. Gill nets are second in importance, accounting for 12% of the value of landings in 1998. They too had diverse landings, totaling 39 species, led by bluefish (31% of lbs.), angler (28%), and skates (23%). Bottom longlines (7.3% of value) were used for tilefish; pelagic longlines for swordfish and tunas. There is also a diverse assemblage of inshore techniques, including haul seines, pound-nets, pots (for crab, fish, eel, conch, and both inshore and offshore lobster), fyke-nets, and the shellfish techniques of shovels, rakes, and "by hand"... (McCay and Cieri 2000)

New Jersey

Belford:

...Otter trawl finfishing is the most important activity, accounting for 50% of the landed value in 1998...It is a multi-species fishery: 42 species were landed in 1998. Major species caught by otter trawlers landing in Belford, by landed value, were summer flounder, Loligo squid, silver hake, winter flounder, spiny dogfish and skates. Lobster pot fishing is third only to purse seining and dragging; it accounted for 17% of landed value in 1998...

...In recent years surf clam and ocean quahog vessels have been offloading at Belford, but in 1998 they accounted for less than 4% of the landed value (in contrast to 1992, when ocean quahogs accounted for over 30% of landed value). Crab dredging, in Raritan Bay, is of equal value. The last of New Jersey's pound-nets are in Raritan and Sandy Hook Bays; they accounted for 3.9% of Belford's total landed value in 1998. Some of that was from menhaden but 27 other species were also landed from the pound-nets, notably bluefish, weakfish, summer flounder, and butterfish; small amounts of tuna, skates, shad, tautog. Other fishing techniques used include crab and fish pots, handlining, and diving...(McCay and Cieri 2000)

Point Pleasant:

The fisheries are very diverse, the classic situation in the Mid-Atlantic. Two stand out in terms of volume and value: otter trawls and gillnetting, the latter particularly important for spiny dogfish as well as bluefish, weakfish, and other species...But sea scallop dredging is very important, as are surf clamming/ocean quahogging and offshore lobstering. Landings by major species for Point Pleasant are confidential but one can generalize that the most valuable species, in 1998, was angler or monkfish, which was partly incident to the scallop fishery but also caught by specialized gill-netters both local and migrating from other ports in the northeast and mid-Atlantic. Sea scallops were next in terms of ex-vessel value in 1998, followed by Loligo squid, a major focus of the local dragger fishery in the last decade, summer flounder, also a traditional fishery of the area but sharply cut back by regulations; lobster; spiny dogfish (like monkfish, caught by gill-netters as well as other fishers), and silver hake, or whiting. Whiting was one of the mainstays of this fishery from the 1970s through the 1980s; its availability and abundance have since declined. In terms of pounds landed, menhaden (purse-seined) and surf clams and ocean quahogs were the leading species in 1998, having come to replace the traditional otter trawl finfish fishery in importance over the past decade...(McCay and Cieri 2000)

Barnegat Light (Long Beach Island):

...An alternative developed over the past decade is sea scalloping and the attendant by-catch of angler. Another is for expansion of the species sought with bottom and pelagic longlines, including sharks and dogfish among others. In 1998 the pelagic longline gear of Long Beach Island caught fully 23 different species, and bottom gear caught 17 species.

Whether transitional adaptation or old stand-by, the gill-net fisheries of Long Beach Island are the most substantial, representing 76% of poundage and 45% of landed value in 1998...The number of species involved is equally impressive: 61 for the drift gill-nets, including mackerel, dogfish, flounders, tunas, weakfish, shad, sharks; 23 for the sink gill-nets. In contrast, otter trawl dragging is minor and only 10 species were landed. Spiny dogfish are a recent focus, representing over one-third of the total landings in 1998...(McCay and Cieri 2000)

Cape May:

Cape May is New Jersey's largest commercial fishing port in terms of landings and value. When combined with neighboring Wildwood (the fishing port is often referred to as "Cape May/Wildwood"), its landings exceeded 93 million lbs., worth over \$29 million in 1998.

Draggers, or vessels using bottom otter trawls, account for 69% of Cape May's landings and 70% of its value...Most are used for a wide variety of finfish species (56). Some are also used for scallops; Cape May has a long history of combined or alternating fin-fishing and scalloping. Squid is very important: In 1998 17% of Cape May's landed value came from *Illex* squid and another 22% from *Loligo* squid...Much of the squid is processed locally as is Atlantic mackerel, caught with draggers and midwater pair trawls. Summer flounder has been a major species but regulations have severely reduced catches (4% landed value in 1998). Scup is another dragger-caught species of historic importance in Cape May; in 1998 it represented 6% of landed value. Cape May is also the home of one of the very few vessels allowed to use purse seines for bluefin tuna in U.S. waters; this vessel lands its catch in Gloucester, MA. The only purse seine landings in Cape May in 1998 were for menhaden, using smaller vessels. Fishing for large pelagics is also done with longlines and troll lines.

Although sea scallop management measures have reduced opportunities for many Cape May fishermen, scalloping remains important. In addition to scalloping with otter trawls, scallop dredges are used, accounting for 15% of the total value of Cape May's landings in 1998. Angler (monkfish) are caught with scallop dredges as well as gill-nets, otter trawls, and scallop otter trawls (1.8% of landed value). Dogfish catches are now relatively small (0.3% of total landings in 1998) ... (McCay and Cieri 2000)

Wildwood:

...Resident and migratory draggers and clam boats are found in Wildwood. The largest landings come from surf clams and ocean quahogs, both harvested offshore with hydraulic dredges...The otter trawl fleet accounts for 7% of Wildwood's landings, bringing in summer flounder, *Loligo* squid, butterfish, Atlantic croaker, black sea bass, weakfish, and other species...Wildwood also has a small pot fishery, including offshore lobster, conch, and fish pots (6% of value). The fish pots are used mainly for black sea bass. Gillnetting is done for weakfish, black sea bass, and other species. Wildwood also had some pelagic longline landings in 1998, notably swordfish and yellowfin tuna. Other species of Mid-Atlantic Fishery Management Council interest landed in 1998, in small quantities (less than 2% landed value) were bluefish, butterfish, Atlantic mackerel, scup, and dogfish... (McCay and Cieri 2000)

Other New Jersey:

...Surprisingly, some commercial fishing is reported from the heavily urbanized, industrialized areas of northeastern New Jersey. There is a substantial amount of

squid, both *Illex* and *Loligo*, as well as some summer flounder landed in (and trucked into) heavily urbanized Essex County, the site of a packing and processing company. (McCay and Cieri 2000)

Delmarva Region

Maryland

Ocean City:

...The principal coastal port in Maryland is Ocean City...Surf clams and ocean quahogs are the two most important landed species, but summer flounder, black sea bass, sea scallops, bigeye tuna, swordfish, spiny dogfish, and yellowfin tuna are also species of interest. Draggers take a variety of species, but primarily summer flounder and spiny dogfish. They trawl year round for summer flounder, black sea bass, and scup. From April through September they target summer flounder almost exclusively...Ocean City has a fishing fleet of longliners, trawlers, gillnetters and potting boats. Its boats are primarily smaller boats; they are either inshore boats or small trawler, day boats...*Loligo* squid is caught by trawlers year-round. During May and June there is a spring run in Ocean City, and during the rest of the year fishermen go offshore for squid...The number of boats targeting summer flounder in Ocean City is small, mainly because Maryland's quota is small...(McCay et al. 1993)

McCay and Cieri (2000) noted that "bottom dragging with otter trawls" focused on summer flounder and *Loligo*, but included a diversity of 48 species.

...[One fisherman interviewed] usually fishes for flounder, squid and trout. He has a bluefish permit but doesn't target that species because of its low value. For the last couple of months he has been going out for squid but is about to change over to flounder. He said there are 7 draggers that have flounder permits, and if the quota is divided by that number, it doesn't even come to 100 lb. per boat. So, he ends up doing a lot of fishing for bait as well, mostly skate and horseshoe crabs...(McCay and Cieri 2000)

Norfolk Canyon

Virginia

Virginia Beach/ Lynhaven:

The major gear type used as reported to the NMFS is the sink gill-net, used to catch a large number of species including bluefish, striped bass, Atlantic croaker, summer flounder, shad, dogfish, weakfish and spot...Drift and stake gill nets are also used, the latter for spiny dogfish and bluefish among other species. This is also a center of pot fishing, for blue crabs, eels, conchs (whelks) and fish. The fish catches were mainly black sea bass and tautog. Handlines accounted for 9% of the landed value in 1998, mostly from black sea bass and summer flounder catches, but also striped bass, tautog, tilefish, tunas, and others. Pound nets accounted for 3.3% of the value in 1998; species included striped bass, bluefish,

butterfish, Atlantic croaker, summer flounder, Spanish mackerel, spot, and weakfish...

...[One local fishermen interviewed noted that] it takes only three days to catch the quarterly quota of flounder...(McCay and Cieri 2000)

Newport News:

Sea scalloping is the principal fishery of Newport News, accounting for 72% of landed value in 1998. Scallopers use both dredges and bottom otter trawls...Another fishery is finfish dragging (8.2% of value, 24.5% of landings) for a large variety of species. Summer flounder, angler, and black sea bass are landed in significant quantities...Small-scale inshore and bay fisheries are part of the waterman complex. They include clamming (hard clams or quahogs) and oystering using dredges, patent tongs, tongs and rakes; drift and sink gill-netting; pot-fishing and dredging for crabs (blue crabs were 28% of landings, 7% of value) and oysters; pot fishing for conch and eels and seining...

...[An employee of one of the packing houses] said that local trawlers bring him summer flounder, gray trout, croaker, bluefish, sea bass, porgies, squid, Atlantic mackerel, butterfish, and scallops. Most of the landed weight used to be scallops, but this is no longer the case. The boats go out on 30 to 40-mile trips. When scalloping they go for 14 to 15 days. When fishing they go for 7 days. Right now they are going out for day trips because of quota limitations, according to the informant. 'They spend more time coming and going than working,' he said

He thinks that the current quota system creates a madhouse effect at the packing houses when boats rush after their quotas. 'Quotas aren't helping the stocks; they're just causing more to be thrown overboard,' he said. He thinks regulators should focus on input rather than output. He said that captains need multiple permits to survive but that the regulations have limited their ability to diversify...(McCay and Cieri 2000)

Hampton and Seaford:

...sea scalloping with dredges is the single-most important fishery by value; otter-trawl dragging for finfish is highest for poundage. Some draggers are also used for scalloping. Gill-netting, crab potting and dredging, seining, and tonging for clams are other techniques used in these two ports (Seaford is almost entirely devoted to scalloping, but scalloping is also important in Hampton).

Like Newport News, Hampton and Seaford are important sea scalloping ports near the mouth of Chesapeake Bay. Scallops accounted for 69% of landed value in 1998. In Hampton, a significant portion of the scallops is caught with otter trawls rather than scallop dredges. The sea scallop fleet of Seaford relies entirely on dredges and accounts for virtually all of the landings and landed value there. Besides scallops these dredge-equipped vessels caught large amounts of angler as well as a small amount of summer flounder.

Finfish dragging is also important in Hampton. Species diversity is extremely high. The otter trawl fleet of Hampton takes *Illex* and *Loligo* squid, black sea bass (a substantial amount is also caught with handlines); Atlantic mackerel; Atlantic croaker (a large portion was caught by haul seines as well as pound nets and sink gill nets); and angler (although most was landed by scallop dredges and scallop otter trawls). A small amount of pelagic longlining is also done from Hampton, for black tip, mako, shortfin and thresher sharks and tuna (big eye, yellowfin, albacore).

The inshore and bay fisheries of Hampton include the pound-net and seine fisheries for Atlantic croaker, gill-netting and handlining, blue crabs, (caught with dredges, pots, and scrapes) and hard clams or quahogs (harvested with patent tongs and crabs). We have combined the weighout data for Hampton and Seaford to preserve the confidentiality of data for fisheries with few businesses involved. Species diversity in the landings at Hampton and Seaford is extremely high, 79 in 1998...Fourteen had either poundage or value at or above 2% in 1998, led by sea scallops, summer flounder, *Illex* squid, Atlantic croaker, blue crab, and angler...(McCay and Cieri 2000)

Northampton County:

...Pound-nets are also important, both for crab and for fish. The fish pound nets catch Atlantic croakers, striped bass, summer flounder, weakfish and others, totaling 32 species. Otter trawl and "unknown" constitute the next largest gear types, totaling 8% of value; both were almost entirely horseshoe crab harvests in 1998. Gill-nets are used for a large variety of species; drift gill nets for 30 species, including striped bass, Atlantic croaker, and spot; sink gill nets for 25 species, including American shad and weakfish...(McCay and Cieri 2000)

Accomack County and Chincoteague:

The visiting otter trawl fishery accounts for almost half of Chincoteague's 1998 landed value; summer flounder predominates in this fishery and is the leading species for landed value (39%). Like other Mid-Atlantic otter trawl fleets, this one is highly diverse, landing 19 species in 1998, led by summer flounder, black sea bass, and *Loligo* squid. There is a small drift gill-net fishery for striped bass, Atlantic croaker and other species and a large sink gill-net fishery (27% of Chincoteague's value), mainly for angler, but also spiny dogfish, Atlantic mackerel, and other species. Angler was almost as valuable as fluke in 1998. Some handlining and longlining for tunas and sharks takes place, and in 1998 16% of the value came from fish pots, mainly black sea bass...

...Seventy-two species were landed in 1998, primarily blue crabs...Angler and summer flounder, mainly from Chincoteague's gill-net and otter trawl fisheries, account for 2.2% and 3.8% of the county's total value...

The major gear types are crab pots (52.2% of value) and conch and fish pots (4.9%); crab scrapes and dredges. Also important are gillnets (19.8% of value); otter trawls...

...An informant at one of the [packing] houses said that as of 1997, they handled thousands of fluke, but regulations on the summer flounder fishery put an end to that business. They now handle shellfish and farm raise oysters. They also wholesale some fluke, conch, and scallops that come in as bycatch...(McCay and Cieri 2000)

North Carolina

The North Carolina winter trawl fishery accounts for about 99% of summer flounder commercial landings in North Carolina (NEFSC 2000).

...The winter trawl fishery is a major producer, from September to April, and involves fishing grounds as far north as New York (North Carolina Division of Marine Fisheries 1993: 4). Catches are landed at ports from Wanchese to Beaufort-Morehead City, and throughout the Pamlico Sound. Wanchese is, however, the site of the primary landing facilities; in the early 1990s 30-40 vessels offloaded at 6 fish houses (North Carolina Division of Marine Fisheries 1993: 4). Beaufort-Morehead City is the 2nd largest port, with 5-6 fish houses serving 10-15 full-time trawlers. In the early 1990s there were 26 to 32 other trawlers fishing out of Oregon and Ocracoke Inlets and packing out of ports of Lowland, Vandemere, Bayboro, Englehard, Pamlico Beach and Oriental.

The nearshore flounder segment of this fishery, November through January, is when the mid-Atlantic trawler fleet, and North Carolina, concentrates on summer flounder. Before and after this period, the North Carolina fleet might also engage in two other techniques: deepwater fishing and flynetting. Some traditionally fished for summer flounder off southern New England as well. The deepwater fishery mainly involves boats from Wanchese, as well as Hampton, Virginia, fishing off shoals to the north of Norfolk canyon, targeting summer flounder, scup, and black sea bass. A variety of trawls may be used, including flynets, but flynetting is also seen as a discrete fishery...(McCay and Cieri 2000)

Wanchese

Wanchese is located on the southern end of Roanoke Island in Dare County, North Carolina... Much of the ocean fishing occurs in the winter months (November – April), and summer flounder is the principal species sought. However, the boats in Wanchese fish all year round. Summer flounder is caught with otter trawls which fish from shore out to 100 fathoms, and from Ocracoke, North Carolina to Cape May, New Jersey and New York...McCay et al. (1993) reported that summer flounder (21%), was the most important species in Dare County in terms of landed value in 1991...

...‘Recreational fishers use the inshore, offshore, and sound waters around Wanchese and Dare Counties.’ (McCay et al. 1993) Those fishing from boats do not predominantly target summer flounder, scup, or black sea bass. Some flounder are targeted by pier and surf fishers, who are primarily local residents and residents of nearby counties...

...[Of the other ports in North Carolina,] few sites we visited specialize in only one species, one type of gear, or one type of vessel. Crap pots and shrimp or otter trawls rank high among the principal gears used in the state...Few full-time, owner-operator North Carolina fishermen rely on a single species or single gear for their livelihood, and many operate from more than one vessel; indeed, this diversity and flexibility constitutes one of the central defining characteristics of a full-time fisherman in North Carolina. (MAFMC 1998)

Beaufort:

...[An informant working for a fish house] said that the company owns 7 boats, 3 that go for scallops during the summer and flounder during the winter, while the other 4 do shrimping during the summer and flounder and other fish during the winter. “The boats have to be able to convert or they would starve to death,” according to our informant. She explained that the shrimpers become draggers by changing their nets and adding dragger doors. “Everyone here does at least two things.” She said the company mostly handles shrimp in the summer, and that the shrimp season will extend from April to November “if we’re lucky.” The boats start going for flounder in October/November and continue until the end of February unless the quota is achieved earlier. They will also go for croakers and trout in the winter...(McCay and Cieri 2000)

Pamlico County:

Pamlico County...had impressive total landings in 1998 of over 10 million pounds, worth over 9 million dollars. Important fishing centers include Bayboro, Vandemere, Hobucken and Oriental. Fishing takes place in the sounds and tidal rivers as well as coastal marine waters. Crab-potting, shrimp trawling, and flounder trawling are the major fisheries. Blue crabs accounted for 62% of the value in 1998, shrimp 13%, and fluke 19%. Fluke were caught mainly in trawls ("flounder trawls") but also in crab pots, crab trawls, drift or runaround gill-nets, set gill nets (float and sink), haul seines, pound nets, shrimp trawls, and swipe nets. Like other Mid-Atlantic areas, this is a very diversified fishing region, 46 species being landed by 19 different techniques or gears...

Appendix D: Considerations of Workshop Format for Future Regulatory Discards Workshops

The following was summarized from facilitator comments after the November 2001 Summer Flounder Regulatory Discards Workshop.

Management Board Considerations

- Species Management Boards should consider the Workshop recommendations. Participants will be more apt to participate in the fishery management process if it is known that action was taken based on ideas generated in these forums. Likewise, individuals will be less likely to participate if they perceive that management did not consider their ideas.

Workshop Protocols

- Adequate time should be made available to complete the anticipated work. Participants in the November 2001 Workshop (one day) simply did not have enough time to develop all topics.
- The first plenary session should begin with brief presentations on the status of the fishery stock, a characterization of the fisheries that discard the species in question as by-catch, and summaries of any former by-catch/discard workshops related to the species. Definitions of regulatory, economic, and discretionary discards should be stated.
- The entire group should develop major topics for which recommendations/solutions to reduce regulatory discards of the species could be developed in the time allotted. The November 2001 Workshop participants developed eight discussion topics.
- Breakout groups should be formed and focused on development of solutions to each topic, rather than debate. The facilitator should stress that point initially and Breakout group staff or the group “leader” should reiterate this as discussion ensues.
- The facilitator should consider “seeding” each breakout group with an individual who could take charge and lead fair and balanced discussions.
- The facilitator should not hesitate to intervene in breakout groups that appear to bog down.
- To allow maximum participation, an “open” breakout group format is suggested (participants are free to move about to other groups). Care should be exercised by the facilitator/staff to ensure that each breakout group has enough participants to be effective. Each breakout group should have staff assistance. Staff or an identified participant should record the discussion.
- Plenary sessions should take place during the workshop, as required. A final plenary session should be convened for presentations from each breakout group. The November 2001 Workshop breakout groups prepared PowerPoint presentations, which were well received.
- It may be difficult for the whole group to reach consensus on all solutions developed; however some synthesis of ideas may be possible. All breakout group recommendations should be forwarded to the appropriate Species Management Board for consideration.
- Workshop participants should complete evaluation forms. Planners of future workshops should utilize ideas generated from the evaluations.

Physical Considerations

- A relaxed, informal format is conducive to active participation. Round tables and separate breakout areas contribute to a collegial atmosphere.
- Some sort of snack (cookies, etc., and beverages) should be provided during breaks.