

Fishery Management Report No. 23
of the

**ATLANTIC STATES
MARINE FISHERIES
COMMISSION**



Addendum I to the
Fishery Management Plan for
Inshore Stocks of
Winter Flounder

May 1992

ADDENDUM I
to the
FISHERY MANAGEMENT PLAN
FOR
INSHORE STOCKS OF
WINTER FLOUNDER
Pleuronectes americanus

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of the
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Plan Development Team:

Penelope Howell
Arnold Howe
Mark Gibson
Suzanne Ayvazian
Joe McGurrin

Edited by
Richard Christian

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Preface

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ADDENDUM I
to the
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR
INSHORE STOCKS OF WINTER FLOUNDER

May, 1992

INTRODUCTION

In October 1988, the Atlantic States Marine Fisheries Commission (ASMFC) authorized development of a Fishery Management Plan (FMP) for winter flounder (*Pleuronectes americanus*). Member states declaring an interest in the species were the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Delaware. The Winter Flounder Management Board was comprised of the states from Massachusetts through New Jersey. Members of the Scientific and Statistics (S&S) Committee included technical staff from the states of Maine through New Jersey, and the Plan Development Team (PDT) was comprised of scientists from Connecticut, Massachusetts, Rhode Island, the University of Massachusetts, and the ASMFC.

During 1989, the purpose of the plan evolved to address the following needs: 1) to manage inshore stocks of winter flounder; and 2) to prominently consider habitat and environmental quality as factors affecting the condition of the resource.

The decision to consider only inshore stocks of winter flounder was deliberate, based upon the principal focus of the ASMFC on fisheries in nearshore waters; also the offshore (Georges Bank) stock exhibited different stock characteristics (i.e., it could be considered a "separate stock" on a biological basis), and winter flounder in the offshore fishery were managed under the aegis of the New England Fishery Management Council's (NEFMC) Multispecies Management Plan.

Habitat and environmental quality were adopted as principal issues because of the considerable importance of inshore (and often degraded) waters as spawning and nursery areas. It was recognized that this was a *fishery management plan* and that the principal effectiveness of the ASMFC lay in development of fishery management measures. Nonetheless, it was also felt that this plan could serve a more useful role in the area of environmental quality, given the greater than usual dependency of this species on unimpaired habitat and an environment of high quality.

The plan was prepared from April 1989 through September 1991. Refinement of management strategies was accomplished during the Spring of 1992. The plan was approved at the May 1992 Spring meeting in Washington, D.C. The following implementation strategy also was approved at that time to guide agency resource managers in their implementation efforts. However, it was not included in the original FMP published by the Commission. The strategy is being published as an addendum to the original FMP at this time to develop a greater awareness among fishermen and government regulators of the plan provisions and the expectations of fishery managers.

ADDENDUM I

to the

ATLANTIC STATES MARINE FISHERIES COMMISSION FISHERY MANAGEMENT PLAN FOR INSHORE STOCKS OF WINTER FLOUNDER (*FISHERY MANAGEMENT REPORT NO. 21*)

May, 1992

IMPLEMENTATION STRATEGY

PURPOSE: To conserve and manage the winter flounder resource throughout its range for the utilization of current and future generations of the fishing and non-fishing public.

GOALS: Effective management will require controls on mortality due to habitat degradation and fishing. Specific goals are:

1. To maintain winter flounder stocks in sufficient abundance to support stable, productive commercial and recreational fisheries;
2. To preserve, maintain, and enhance habitat and environmental quality necessary for the optimal growth and reproduction of winter flounder;
3. To the extent possible, minimize incompatibility in management practices between this and other northwest Atlantic management plans, recognizing that winter flounder stocks vary biologically and may justify differing strategies;
4. To the extent possible, minimize conflicts between competing uses of the winter flounder resource.

MANAGEMENT MEASURES

I. Controls on Mortality Due to Habitat Degradation

A. Status of Habitat

- 1) Winter flounder habitat includes the northwest Atlantic coast from Chesapeake Bay to the Canadian maritime provinces, with individual estuaries providing winter spawning and nursery grounds for different populations.
- 2) Shallow water habitats play a crucial role in the productivity of these stocks and there is a relationship between stock size and spawning area (Figure 1.1).

- 3) Three anthropogenic factors having long term negative effects on winter flounder and their habitats are;
 - a) Habitat loss and alteration;
 - b) Contamination by toxics (Tables 1.2, 1.5);
 - c) Power plant entrainment and impingement.
- 4) The negative impacts of habitat degradation on winter flounder have been demonstrated in numerous studies addressing specific aspects of winter flounder biology and population dynamics. Further studies to quantify mortality due to habitat degradation in fishery yield models are needed.

B. Habitat Management Strategy and Measures (pp 90-92 of FMP)

- 1) A recommended strategy for management of habitat is to focus research on quantifying the three habitat mortality factors in fisheries population models and to implement specific measures to protect habitat.
- 2) Habitat management measures are recommended as follows:
 - a) Assure that Clean Water Act (Section 319) Non-Point Source Plans and Coastal Non-point Pollution Control Plans are developed and implemented such that adverse impacts of non-point source pollutants on winter flounder are minimized. These plans should include measures such as:
 - * Protective land use practices (*e.g.* establishment of substantial buffer zones around productive coastal nursery grounds);
 - * Reduction of non-point toxic contamination of ground water and nearshore coastal habitats by redirecting storm water runoff into catch basins;
 - * Evaluation of the cumulative effects of in-water structures on habitat quality;
 - b) Strengthen enforcement of sewage discharge, or PDES (Pollution Discharge Elimination System), permit effluent limits from centralized treatment plants, and ensure proper maintenance and operation of domestic septic systems.
 - c) Implement effective oil and toxic chemical spill prevention and control programs to prevent accidental release, and prioritize cleanup plans to protect areas where winter flounder are known to concentrate for spawning.
 - d) Establish and enforce vessel "No discharge" zones, and promote education of recreational boaters to reduce their contamination of inshore waters from chronic vessel fuel spills and waste disposal.
 - e) Establish time frames when sediment dredge activities should be prohibited or minimized in areas where winter flounder are known to concentrate for spawning.
 - f) Assist industrial siting councils in siting new power plants so that areas where winter flounder are known to concentrate for spawning are avoided, and assess cooling water entrainment mortality from existing plants (Clean Water Act, Section 316) on a stage-specific basis for both local and regional flounder populations.

- g) Identify sediments sufficiently contaminated to impose documentable acute or chronic impacts on winter flounder resources (including the benthic communities upon which they depend) and develop remediation plans or active sediment pollution prevention programs for such areas.

II. Controls on Fishing Mortality

A. Status of Stocks

- 1) Based on growth, migration, maturity, and exploitation patterns, three generalized unit stocks of winter flounder have been identified for planning purposes in inshore areas from Maine to Maryland. Within these units, six stocks have been considered for stock assessment and development of fishery management measures:
 - a) Gulf of Maine -- Waters north of Cape Cod.
 - b) Southern New England -- Massachusetts waters south and east of Cape Cod; Rhode Island waters; Long Island Sound east of the Connecticut River including Fishers Island Sound, New York.
 - c) Mid-Atlantic -- Waters west of a line from the Connecticut River, through Orient Point to Montauk Point, New York, to include western Long Island Sound, and Gardiners and Peconic Bays; waters south and west of Montauk Point to the Delaware-Maryland border.
- 2) On a coastwide basis (Maine-Virginia), commercial landings have generally declined from a peak of about 38 million pounds in 1981 to 15 million pounds in 1989. Recreational catches (Maine-Delaware) have declined from a peak of 18.6 million pounds in 1984 to 3.4 million pounds in 1989 (average catch 12.5 million lbs. 1979-89).
- 3) Average landings from commercial and recreational fisheries when divided according to Gulf of Maine, Southern New England, and Mid-Atlantic stock units and offshore areas indicate that:
 - a) Significant commercial catches come from beyond the scope of the inshore management units (landings from EEZ and Georges Bank = 56%) (see Table 2.6, p. 69).
 - b) There are statistically significant downward trends in total catch in the northern and central stock units. Catches in the southern management unit have been variable, but recent years are at historical lows.
- 4) Natural mortality rates (M) for the three stocks can be expected to vary by area, year, and age of fish. A single value of $M = 0.35$ has been adopted for this plan.
- 5) All three stocks of winter flounder are subject to high fishing mortality rates (F). Although estimates vary within each stock unit, median values are:
 - a) Gulf of Maine = 1.07
 - b) Southern NE = 0.99
 - c) Mid-Atlantic = 1.06

- 6) Overfishing can be defined as that fishing rate at which the biomass of spawning females falls below 25% of the maximum value in the absence of fishing (p. 70-71 of the plan). This is referred to as fishing at 25% of Maximum Spawning Potential (MSP), or F₂₅. At fishing mortality rates higher than this value, stock maintenance is questionable and spawning stock size is expected to decline over time.
- 7) A more robust fishing rate would be lower than F₂₅ (i. e. fishing at a rate which preserves more than 25% of MSP). In terms of % MSP, a rate of F₄₀ (40% MSP) provides a maximized range of yield to the fishery under differing conditions of recruitment. F₄₀ has been adopted as a final target fishing rate to allow stock restoration; F₃₀ is recommended as an intermediate level of fishing.

B. Fishery Management Strategy and Measures

- 1) The management strategy proposed in this plan is to, first, reduce fishing mortality to prevent overfishing (achieve a fishing rate equal to or less than F₂₅) and, second, to approach and achieve a fishing rate approximating F₄₀.
- 2) Fishery reference points for the three stock units are listed as follows:

<u>Stock Unit</u>	<u>Current F</u>	<u>F₂₅</u>	<u>F₃₀</u>	<u>F₄₀</u>
Gulf of Maine	1.07	1.00	0.78	0.49
Southern NE--MA	1.07	1.09	0.80	0.50
Southern NE--RI	1.03	0.79	0.62	0.41
Southern NE--ELIS	0.91	0.90	0.70	0.45
Mid-Atlantic--WLIS	0.91	1.16	0.88	0.53
Mid-Atlantic--NJ/NY	1.20	1.08	0.81	0.52

These reference points (F₂₅, F₃₀ and F₄₀) are calculated given existing size limits and mesh sizes (Table 3.1, p. 72).

- 3) Three arrays of management measures which will result in the F₂₅ reference point being achieved throughout each generalized stock unit are as follows:

<u>Stock Unit</u>	<u>Regulations which will achieve F₂₅</u>
Gulf of Maine	12" T.L. (commercial and recreational); 5.5" cod end mesh (diamond); area closures existing prior to July 1991;
Southern NE	12" T.L. (commercial and recreational); 5.5" cod end mesh (diamond); area closures existing prior to July 1991;

Mid-Atlantic

10" T.L. (commercial and recreational); 3.5" cod end mesh (diamond); area closures existing prior to July 1991;

Alternatives to these recommended measures which would achieve the same objectives could include larger minimum length limits and mesh sizes, more restrictive creel limits, or more extensive area closures.

- 4) A variety of management measures may be considered to achieve F40. Such measures would be required in addition to those required to achieve F25. In considering alternatives, states are strongly encouraged to ensure that management plans are compatible with those in effect or under consideration in adjoining states. It is understood that this need for consistency may limit an individual state's latitude in considering alternative management strategies.

Management measures which might be considered to achieve F40 include area, season, or time of day closures, creel limits, or restrictions on vessel characteristics or use.

SCHEDULE FOR IMPLEMENTATION

This plan recognizes that individual states have implemented a number of winter flounder conservation measures since planning began in 1989. These measures have resulted in most states achieving the initial management milestone (F25) established in the plan.

Effective one year after adoption of this plan, it is expected that all states will achieve F25 based on stock and fishery characteristics applicable in that state. By July 1, 1993, each state must provide a plan for S & S Committee review which will achieve F30 and, if approved by the Board, this plan shall be implemented by January 1, 1995. By July 1, 1997, each state must provide a plan for S & S Committee review which will achieve F40 and, if approved by the Board, this plan shall be implemented by January 1, 1999.

FISHERY MANAGEMENT AFTER ADOPTION OF THE PLAN

This plan calls for reductions in fishing mortality on winter flounder and allows states flexibility to achieve those reductions. Implementation of the plan will require the interaction of state fishery management agencies, the New England Fishery Management Council, the National Marine Fisheries Service, and ASMFC over a seven-year period. Therefore, the following institutional arrangements will be maintained following adoption of the plan:

1. The ASMFC Winter Flounder Management Board will continue in existence and will include all states with a declared interest in managing winter flounder. The Board will make management decisions germane to implementation of the plan. Board findings and decisions will be reported to ASMFC's Interstate Fisheries Management Program Policy Board which will have final authority for judging non-compliance with measures contained in the plan.
2. ASMFC's Winter Flounder S&S Committee will be maintained to collect data and conduct analyses necessary for the implementation and monitoring of the plan. The S&S Committee will

be comprised of fisheries scientists from states that declare an interest in managing winter flounder.

3. Participating states are encouraged to establish fishery advisory committees if necessary to promote implementation of the plan.

MANAGEMENT IN THE EEZ

Implementation of management measures in the Exclusive Economic Zone comparable to those identified above will be essential in order to achieve effective management of inshore stocks. Recommended measures initially include a 12" length limit and a 5.5" or larger cod end mesh size (diamond) throughout the EEZ to postpone fishing mortality to older age groups and increase spawning stock biomass. Additional measures might include area closures or other effort reductions.

The Winter Flounder Management Board has requested that the New England Fishery Management Council include a 12" minimum length and 6" minimum cod end mesh size in Amendment #5 of the Northeast Multispecies Fishery Management Plan now being developed. Both provisions have been included in the document taken to public hearing in May, 1992.