

12.0 LIST OF PUBLIC MEETINGS

The public process for developing Amendment 1 to the Herring FMP began in early 2003, prior to the scoping period for the amendment. The following table identifies all public meetings (Herring Committee, Council, Herring Advisory Panel, Herring PDT) for which the development of Amendment 1 to the Herring FMP was on the agenda. There are approximately 336 individuals on the “Interested Party” mailing list for Atlantic herring, all of whom receive advanced notification when these meetings are scheduled.

Table 177 List of Public Meetings Held for the Development of Amendment 1

Date	Meeting	Location
March 19, 2003	Herring Advisory Panel	Portland, ME
March 25, 2003	Herring Oversight Committee	Danvers, MA
May 21, 2003	Joint Herring OS & AP with ASMFC	Danvers, MA
April 28, 2003	Herring Amendment 1 Scoping Meeting	Mansfield, MA
April 29, 2003	Herring Amendment 1 Scoping Meeting	Danvers, MA
May 1, 2003	Herring PDT	Mansfield, MA
May 6, 2003	Herring Amendment 1 Scoping Meeting	Rockport, ME
May 12, 2003	Herring Amendment 1 Scoping Meeting	Atlantic City, West, NJ
May 22, 2003	Council	Gloucester, MA
May 29, 2003	Herring PDT	Mansfield, MA
June 3, 2003	Herring Committee & Advisory Panel	Portland, ME
June 26 & 27, 2003	Herring PDT	Woods Hole, MA
July 31, 2003	Joint Herring OS/AP/PDT	Portland, ME
August 1, 2003	Herring Oversight Committee	Portland, ME
August 5, 2003	Herring PDT	Newburyport, MA
August 20, 2003	Herring Advisory Panel	Portland, ME
September 3, 2003	Herring Oversight Committee	Warwick, RI
September 18, 2003	Council	Fairhaven, MA
October 2, 2003	Herring PDT	Mansfield, MA
December 11, 2003	Herring PDT	Newburyport, MA
January 22, 2004	Herring PDT	Mansfield, MA
February 23, 2004	Herring PDT	Newburyport, MA
March 2, 2004	Herring Committee & Advisory Panel	Portland, ME
March 23, 2005	Council	Gloucester, MA
May 5, 2004	Herring PDT	Mansfield, MA
July 12, 2004	Herring Committee & Advisory Panel	Portland, ME
July 15, 2004	Council	Portland, ME
August 20, 2004	Herring Advisory Panel	Portland, ME
September 21, 2004	Herring PDT	Newburyport, MA
November 15, 2004	Herring Committee & Advisory Panel - morning	Portland, ME
November 15, 2204	Herring Oversight Committee - afternoon	Portland, ME
October 14, 2004	Herring Committee & Advisory Panel	Portland, ME
November 18, 2004	Council	Portsmouth, NH

December 14, 2004	Herring PDT	Newburyport, MA
March 1, 2005	Herring PDT	Newburyport, MA
May 6, 2005	Joint Herring PDT & Groundfish PDT	Mansfield, MA
May 17 & 18, 2005	Herring Oversight Committee	Peabody, MA
June 20, 2005	Joint Herring Committee & AP with ASMFC	Portland, ME
June 21, 2005	Council	Portland, ME
October 12, 2005	Amendment 1 Public Hearing	Portland, ME
October 13, 2005	Amendment 1 Public Hearing	Rockport, ME
October 14, 2005	Amendment 1 Public Hearing	Perry, ME
October 17, 2005	Amendment 1 Public Hearing	Fairhaven, MA
October 19, 2005	Amendment 1 Public Hearing	Gloucester, MA
October 20, 2005	Amendment 1 Public Hearing	Cape May, NJ
October 26, 2005	Herring Advisory Panel Meeting	Portsmouth, NH
November 10, 2005	Joint Herring Committee with ASMFC	Wakefield, MA
November 15, 2005	Council	Hyannis, MA
January 12, 2006	Herring PDT	Mansfield, MA
January 31, 2006	Council	Portland, ME

13.0 GLOSSARY

Adult stage – one of several marked phases or periods in the development and growth of many animals. In vertebrates, the life history stage where the animal is capable of reproducing, as opposed to the juvenile stage.

Adverse effect – any impact that reduces quality and/or quantity of EFH. May include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include sites-specific or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions.

Aggregation – a group of animals or plants occurring together in a particular location or region.

Anadromous species – fish that spawn in fresh or estuarine waters and migrate to ocean waters

Amphipods – a small crustacean of the order Amphipoda, such as the beach flea, having a laterally compressed body with no carapace.

Allowable Biological Catch (ABC) – the amount of fish that can be safely harvested from a stock. It is usually calculated by applying the target fishing mortality to the estimated biomass size.

Amendment – a formal change to a fishery management plan (FMP). The Council prepares amendments and submits them to the Secretary of Commerce for review and approval. The Council may also change FMPs through a "framework adjustment procedure" (see below). The Commission prepares amendments and submits them to the Commission's Atlantic Herring Section for approval. Implementing regulations are adopted by the states.

Atlantic herring – *Clupea h. harengus*. The species that will be managed by the management plans developed by the Council and the Commission and described in this document. Sometimes referred to as sea herring.

Benthic community – *Benthic* means the bottom habitat of the ocean, and can mean anything as shallow as a salt marsh or the intertidal zone, to areas of the bottom that are several miles deep in the ocean. *Benthic community* refers to those organisms that live in and on the bottom.

B_{MSY} – stock biomass that would produce MSY when fished at a fishing mortality rate equal to F_{MSY} . For most stocks, B_{MSY} is about ½ of the carrying capacity. The proposed overfishing definition control rules call for action when biomass is below ¼ or ½ B_{MSY} , depending on the species.

Bthreshold – 1) A limit reference point for biomass that defines an unacceptably low biomass i.e., puts a stock at high risk (recruitment failure, collapse, reduced long term yields, etc). 2) A biomass threshold that the SFA requires for defining when a stock is overfished. A stock is overfished if its biomass is below $B_{threshold}$.

Btarget – desirable biomass to maintain fishery stocks. This is usually synonymous with B_{MSY} or its proxy.

Biota – all the plant and animal life of a particular region.

Bycatch – fish that are harvested in a fishery, but which are not sold or kept for personal use. This includes economic discards and regulatory discards. The fish that are being targeted may be bycatch if they are not retained.

Capacity – the level of output a fishing fleet is able to produce given specified conditions and constraints. Maximum fishing capacity results when all fishing capital is applied over the maximum amount of available (or permitted) fishing time, assuming that all variable inputs are utilized efficiently.

Catch – the sum total of fish killed in a fishery in a given period. Catch is given in either weight or number of fish and may include landings, unreported landings, discards (bycatch), and incidental deaths.

Continental shelf waters – waters overlying the continental shelf, which extends seaward from the shoreline and deepens gradually to the point where the sea floor begins a slightly steeper descent to the deep ocean floor; the depth of the shelf edge varies, but is approximately 200 meters in many regions.

Crustaceans – invertebrates characterized by a hard outer shell and jointed appendages and bodies. They usually live in water and breathe through gills. Higher forms of this class include lobsters, shrimp and crawfish; lower forms include barnacles.

Days absent – an estimate by port agents of trip length. This data was collected as part of the NMFS weighout system prior to May 1, 1994.

Days –at –sea (DAS) – the total days, including steaming time that a boat spends at sea to fish.

Demersal species – most often refers to fish that live on or near the ocean bottom. They are often called benthic fish, groundfish, or bottom fish.

Ecosystem-based management – a management approach that takes major ecosystem components and services—both structural and functional—into account, often with a multispecies or habitat perspective.

Egg stage – one of several marked phases or periods in the development and growth of many animals. The life history stage of an animal that occurs after reproduction and refers to the developing embryo, its food store, and sometimes jelly or albumen, all surrounded by an outer shell or membrane. Occurs before the *larval* or *juvenile stage*.

Elasmobranch – any of numerous fishes of the class Chondrichthyes characterized by a cartilaginous skeleton and placoid scales: sharks; rays; skates.

Embayment – a bay or an indentation in a coastline resembling a bay.

Environmental Impact Statement (EIS) – an analysis of the expected impacts of a fishery management plan (or some other Proposed Action) on the environment and on people, initially prepared as a “Draft” (DEIS) for public comment. After an initial EIS is prepared for a plan, subsequent analyses are called “Supplemental” (i.e., DSEIS, FSEIS).

Essential Fish Habitat (EFH) – those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The EFH designation for most managed species in this region is based on a legal text definition and geographical area that are described in the Habitat Omnibus Amendment (1998).

Exclusive Economic Zone (EEZ) – for the purposes of the Magnuson-Stevens Fishery Conservation and Management Act, the area from the seaward boundary of each of the coastal states to 200 nautical miles from the baseline.

Exploitation rate – the percentage of catchable fish killed by fishing every year. If a fish stock has 1,000,000 fish large enough to be caught by fishing gear and 550,000 are killed by fishing during the year, the annual exploitation rate is 55%.

Fathom – a measure of length, containing six feet; the space to which a man can extend his arms; used chiefly in measuring cables, cordage, and the depth of navigable water by soundings.

Fishing effort – the amount of time and fishing power used to harvest fish. Fishing power includes gear size, boat size and horsepower.

Fishing mortality (F) – (see Mortality)

FMP (fishery management plan) – also referred to as a “plan,” this is a document that describes a fishery and establishes measures to manage it. The New England Fishery Management Council prepares FMPs and submits them to the Secretary of Commerce for approval and implementation. The Atlantic States Marine Fisheries Commission prepares FMPs and implementing regulations are adopted by the States.

Framework adjustments – adjustments within a range of measures previously specified in a fishery management plan (FMP). A change can usually be made more quickly and easily by a framework adjustment than through an amendment. For plans developed by the New England Council, the procedure requires at least two Council meetings including at least one public hearing and an evaluation of environmental impacts not already analyzed as part of the FMP.

Gonadosomatic Index (GSI) – a measure of the stage of spawning condition.

GRT –gross registered tons. Measure of vessel size based on volume.

Individual Fishing Quota (IFQ) – federal permit under a limited access system to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or held for exclusive use by an individual person or entity

Internal Waters Processing (IWP) – an operation by a foreign vessel processing fish caught by U. S. vessels. The foreign vessel is located in the internal waters of a state. "IWP" is usually a reference to the fish allocated for these operations.

Joint Venture (JV) – any operation by a foreign vessel assisting fishing by U.S. fishing vessels, including catching, scouting, processing and/or support. (A joint venture generally entails a foreign vessel processing fish received from U.S. fishing vessels and conducting associated support activities.) “JVP” is usually a reference to the fish allocated for joint venture operations.

Juvenile stage – one of several marked phases or periods in the development and growth of many animals. The life history stage of an animal that comes between the *egg* or *larval stage* and the *adult stage*; juveniles are considered immature in the sense that they are not yet capable of reproducing, yet they differ from the larval stage because they look like smaller versions of the adults.

Landings – the portion of the catch that is harvested for personal use or sold.

Larvae (or Larval) stage – one of several marked phases or periods in the development and growth of many animals. The first stage of development after hatching from the *egg* for many fish and invertebrates. This life stage looks fundamentally different than the juvenile and adult stages, and is incapable of reproduction; it must undergo metamorphosis into the juvenile or adult shape or form.

Limited entry (or access) – a management system that limits the number of participants in a fishery. Usually, qualification for this system is based on historic participation and the participants remain constant over time (with the exception of attrition).

Meter – a measure of length, equal to 39.37 English inches, the standard of linear measure in the metric system of weights and measures. It was intended to be, and is very nearly, the ten millionth part of the distance from the equator to the north pole, as ascertained by actual measurement of an arc of a meridian.

Metric ton – a unit of weight equal to a thousand kilograms (1 kg = 2.2 lbs.). A metric ton is equivalent to 2,205 lbs. A thousand metric tons is equivalent to 2.2 million lbs.

Mortality

Fishing mortality (F) – (see also exploitation rate) a measurement of the rate of removal of fish from a population by fishing. Fishing mortality (F) is that rate at which fish are harvested at any given point in time. ("Exploitation rate" is an annual rate of removal, "F" is an instantaneous rate.)

F_{target} – the fishing mortality that management measures are designed to achieve.

Natural mortality (M) – a measurement of the rate of fish deaths from all other causes other than fishing such as predation, disease, starvation and pollution. The rate of natural mortality may vary from species to species.

Total mortality – the rate of mortality from all sources (fishing, natural, pollution). Total mortality can be expressed as an instantaneous rate (called Z and equal to F + M) or Annual rate (called A and calculated as the ratio of total deaths in a year divided by number alive at the beginning of the year).

Minimum biomass level – the minimum stock size (or biomass) below which there is a significantly lower chance that the stock will produce enough new fish to sustain itself over the long term. If a stock is at this level, fishing mortality must be reduced to as near zero as possible until the stock rebuilds.

Observer – any person required or authorized to be carried on a vessel for conservation and management purposes by regulations or permits under this action.

Open access – describes a fishery or permit for which there is no qualification criteria to participate. Open-access permits may be issued with restrictions on fishing (for example, the type of gear that may be used or the amount of fish that may be caught).

Optimum Yield (OY) – the amount of fish which –

- (a) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;
- (b) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and
- (c) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overfished – a condition defined when stock biomass is below minimum biomass threshold and the probability of successful spawning production is low.

Overfishing – a level or rate of fishing mortality that jeopardizes the long-term capacity of a stock or stock complex to produce MSY on a continuing basis.

Pelagic gear – mobile or static fishing gear that is not fixed, and is used within the water column, not on the ocean bottom. Some examples are midwater trawls and pelagic longlines.

Plan Development Team (PDT) – a group of technical experts responsible for developing and analyzing management measures under the direction of the Council or the ASMFC. The ASMFC uses the term **Technical Committee** during the development of a plan and **Plan Review Team** after a plan is adopted.

Prey availability – the availability or accessibility of prey (food, **forage**) to a predator. Important for growth and survival.

Primary production – the synthesis of organic materials from inorganic substances by photosynthesis.

Proposed rule – a federal regulation is usually published in the *Federal Register* as a proposed rule with a time period for public comment. After the comment period closes, the proposed regulation may be changed or withdrawn before it is published as a final rule, along with its date of implementation and response to comments.

Rebuilding schedule – a plan to increase the biomass of a fishery stock, based on a target fishing mortality applied over a period of time.

Recovery time – the period of time required for something (e.g. a habitat) to achieve its former state after being disturbed.

Recruitment – the amount of fish added to the fishery each year due to growth and/or migration into the fishing area. For example, the number of fish that grow to become vulnerable to fishing gear in one year would be recruitment to the fishery.

Recruitment overfishing – fishing at an exploitation rate that reduces the population biomass to a point where recruitment is substantially reduced.

Regional Administrator – Regional Administrator, NOAA/NMFS Northeast Region, Gloucester, MA.

Regulated groundfish species – cod, haddock, pollock, yellowtail flounder, winter flounder, witch flounder, American plaice, windowpane flounder, white hake and redfish. These species are usually targeted with large-mesh net gear.

Relative exploitation – an index of exploitation derived by dividing landings by trawl survey biomass. This measure does not provide an absolute magnitude of exploitation but allows for general statements about trends in exploitation.

Secretarial review process – a process which normally takes 140 days from the time the Council submits a plan or amendment to the Secretary of Commerce until its implementation. The Secretary of Commerce reviews and possibly approves the plan or amendment which must meet the National Standards established by the Magnuson Stevens Fishery Conservation and Management Act as well as other federal requirements (the National Environmental Policy Act, the Marine Mammal Protection Act, the Endangered Species Act and other applicable law.)

Spawning component – reference to a group of herring that spawn in a general location. There is evidence herring return to the same areas to spawn. These fish may, in fact, comprise different "stocks" but the evidence is ambiguous; they are identified as components to allow the development of measures for their protection. A healthy herring resource depends on maintaining spawning in as many areas as possible.

Spawning stock biomass (SSB) – the total weight of fish in a stock that sexually mature, i.e., are old enough to reproduce.

Species assemblage – several species occurring together in a particular location or region

Species composition – a term relating the relative abundance of one species to another using a common measurement; the proportion (percentage) of various species in relation to the total on a given area.

Species diversity – the number of different species in an area and their relative abundance.

Species richness – see *Species diversity*. A measurement or expression of the number of species present in an area; the more species present, the higher the degree of species richness.

Status Determination – a determination of stock status relative to $B_{\text{threshold}}$ (defines overfished) and $F_{\text{threshold}}$ (defines overfishing). A determination of either overfished or overfishing triggers a SFA requirement for rebuilding plan (overfished), ending overfishing (overfishing) or both.

Stock – a grouping of fish usually based on genetic relationship, geographic distribution and movement patterns. A region may have more than one stock of a species.

Stock assessment – a process for determining the number (abundance/biomass) and status (life-history characteristics, including age distribution, natural mortality rate, age at maturity, fecundity as a function of age) of individuals in a stock.

TAC – the total allowable catch from a stock of fish based on stock size and a specified management objective.

Technical Committee – a group of biologists assembled by the Commission to assess the (herring) resource.

Tolerance – a reference to a management measure used in the original Commission herring management plan. This measure allows fishing in a spawning closure as long as only a certain percentage of the fish caught contain spawn (roe or milt).

VMS – an electronic vessel monitoring system, which may also be used for communications. Previously referred to as a vessel tracking system, or VTS.

Year class – also called cohort. Fish that were spawned in the same year. By convention, the “birth date” is set to January 1st and a fish must experience a summer before turning 1. For example, winter flounder that were spawned in February-April 1997 are all part of the 1997 cohort (or year-class). They would be considered age 0 in 1997, age 1 in 1998, etc.

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