Science, Service, Stewardship

Atlantic Salmon & Critical Habitat

In 2008, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS; collectively, the Services) jointly proposed to list the expanded Gulf of Maine distinct population segment (GOM DPS) of Atlantic salmon as endangered. Designating critical habitat for a listed species is required under the Endangered Species Act (ESA).

Guiding principles for designating critical habitat

Section 3(5)(A) of the ESA defines critical habitat as:

> "*specific areas within the geographical area occupied by the species...on which are found those physical or biological features...essential to the conservation of the species and...which may require special management considerations or protection*".

In this context, the term *conservation* means:

> "*to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this act are no longer necessary*". ESA Section 3(3)

This notion of conservation forms the basis for the process by which NMFS is designating critical habitat for the GOM DPS.

Why designate critical habitat for Atlantic Salmon?

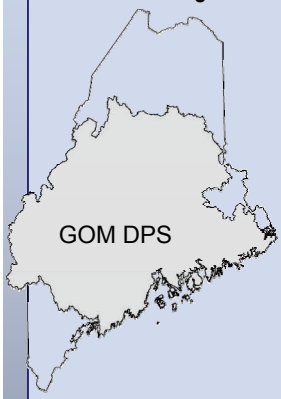
The GOM DPS of Atlantic salmon is set apart from other Atlantic salmon populations by unique life history, genetic, and zoogeographic characteristics. This suite of features is determined by the unique physical and biological features within the GOM DPS. Protection of these unique features through critical habitat designation is essential to the conservation of the species as a whole. Thus, critical habitat is being proposed for the GOM DPS as defined in the recently proposed listing rule.

Critical habitat designations provide additional protections beyond classifying a species as either endangered or threatened by preserving the physical and biological features essential for the conservation of the species. The ESA also requires that any proposed Federal actions do not adversely modify or destroy designated critical habitat. To ensure adequate opportunities for diversity and maximize recovery potential, areas within the range of the GOM DPS not currently occupied have also been evaluated for critical habitat designation.

Gulf of Maine Distinct Population Segment (GOM DPS)

Scientific name: *Salmo salar*

Status: Endangered



Geographic Range: The GOM DPS is comprised of all anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin northward along the Maine coast to the Dennys, including all associated conservation hatchery populations used to supplement natural populations.

Typical life history and habitat preferences: Atlantic salmon have a complex life history that ranges from territorial rearing in rivers to extensive feeding migrations on the high seas. Atlantic salmon are quite capable of surviving in and adapting to a wide range of habitat types and their success as a species is determined by their ability to adapt to and utilize an array of foraging and defensive strategies that maximize survival.

Threats to survival: dams, forestry, development, mining, roads and road crossings, aquaculture, hatcheries and stocking, dredging, climate change and acid precipitation.

Critical Habitat Designation Process

How does critical habitat get designated?

ESA section 4(b)(2) states:

> *"The Secretary shall designate critical habitat...on the basis of the best scientific data...after taking into consideration the economic impact, the impact on national security, and any other relevant impact...the Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of [designation]...unless he determines...that failure to designate such area...will result in the extinction of the species."*

1: Identify "Specific Areas"

Hydrologic Unit Code 10 (HUC 10) watersheds were chosen to represent the specific areas proposed for critical habitat designation within the GOM DPS because their size corresponds well with:

- ◊ the river-specific life history characteristics of the species
- ◊ the scale in which Atlantic salmon are currently managed

2: Identify "Physical and Biological Features"

The primary elements considered essential to the conservation of Atlantic salmon include sites for spawning and rearing; and sites for migration. The physical and biological features that allow these sites to be used successfully by the species include sufficient quantities and qualities of features such as substrate, water quality and quantity, cover, forage, and biological communities.

3: Identify "Special Management Considerations"

Activities which may affect the essential "physical and biological features" include dams, forestry, development, roads and road crossings, mining, hatcheries and stocking, aquaculture, and dredging.

4: Identify specific areas outside the geographical area occupied by the species...that are essential to the conservation of the species

The amount of habitat currently occupied by the species was compared to the amount of habitat necessary to achieve recovery in order to determine whether unoccupied areas are essential to the conservation of the species. No areas outside the currently occupied range are being proposed as critical habitat.

5: Consider areas for exclusion

Exclusions are being considered for the following:

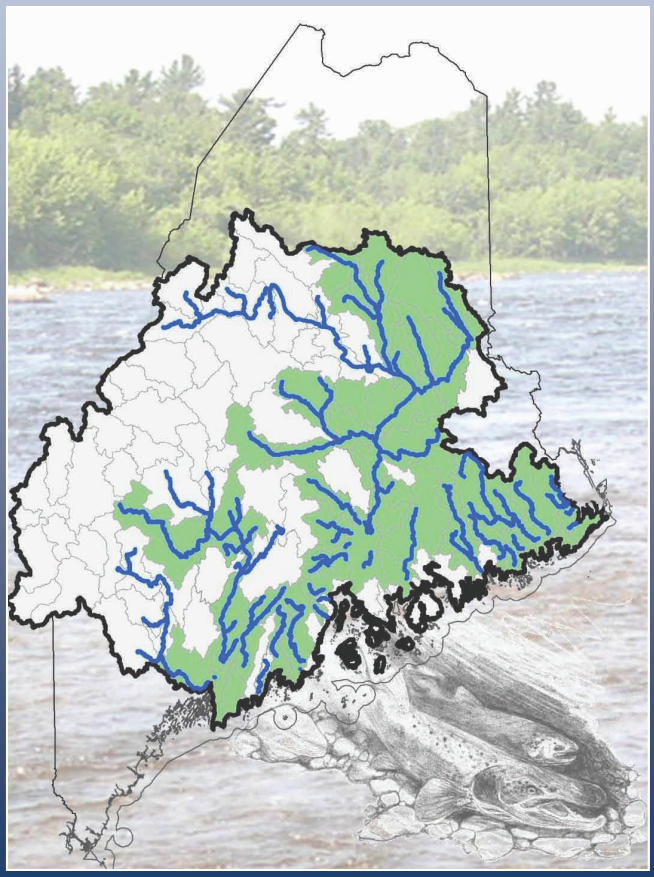
- ◊ tribal lands
- ◊ military areas
- ◊ areas of low biological value to the species & correspondingly higher economic cost associated with designating critical habitat

Proposed Critical Habitat

Within the GOM DPS, 105 HUC 10 watersheds were evaluated for critical habitat. 48 of these are considered occupied by listed Atlantic salmon. Exclusions within the occupied range include:

- ◊ tribal lands and military areas
- ◊ three HUC 10 watersheds with low biological value and higher economic costs associated with designation

After these exclusions, critical habitat designation is being proposed in 45 specific areas (denoted on map in green) containing approximately 203,781 kilometers of river, stream and estuary habitat and 868 square km of lake habitat.



Public Input

NMFS is soliciting comments from the public on all aspects of the proposed critical habitat designation. The federal register notice, supporting documents, and details regarding comment submission for the Proposed Critical Habitat for the Gulf of Maine Distinct Population Segment of Atlantic salmon can be found at http://www.nero.noaa.gov/prot_res/altsalmon/.

Public comments must be received by December 4th, 2008.