

Channel Radio Licenses, Inc., to allot Channel 258C1 to Guymon, OK, as the community's second local FM service. Channel 258C1 can be allotted to Guymon in compliance with the Commission's minimum distance separation requirements without the imposition of a site restriction, at coordinates 36-41-00 North Latitude; 101-29-06 West Longitude.

DATES: Comments must be filed on or before February 2, 1998, and reply comments on or before February 17, 1998.

ADDRESSES: Federal Communications Commission, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioner, or its counsel or consultant, as follows: Richard J. Bodorff, Christopher L. Robbins, Wiley, Rein & Fielding, 1776 K Street, N.W., Washington, D.C. 20006 (Counsel to petitioner).

FOR FURTHER INFORMATION CONTACT: Leslie K. Shapiro, Mass Media Bureau, (202) 418-2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MM Docket No. 97-238, adopted November 26, 1997, and released December 12, 1997. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, NW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractor, International Transcription Services, Inc., (202) 857-3800, 1231 20th Street, NW, Washington, DC 20036.

Provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, see 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

Federal Communications Commission.

John A. Karousos,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 227 and 425

[I.D. 950214048-7291-03]

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Parts 17 and 425

RIN 1018-AD12

Endangered and Threatened Wildlife and Plants; Withdrawal of Proposed Rule to List a Distinct Population Segment of Atlantic Salmon (*Salmo Salar*) as Threatened

AGENCY: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Commerce and Fish and Wildlife Service, Interior.

ACTION: Proposed rule; withdrawal.

SUMMARY: The National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS), collectively the Services, withdraw the September 29, 1995, proposed rule (60 FR 50530) to list a distinct population segment (DPS) of Atlantic salmon (*Salmo salar*) in seven Maine rivers as threatened under the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This decision is based on an evaluation of the best scientific data available and consideration of ongoing and planned actions by State and Federal agencies and private entities including the development by the State of Maine of the Atlantic Salmon Conservation Plan for Seven Maine Rivers (Conservation Plan).

ADDRESSES: National Marine Fisheries Service, Northeast Region, Protected Resources Division, One Blackburn Drive, Gloucester, MA 01930; U.S. Fish and Wildlife Service, Region 5, Endangered Species Division, 300 Westgate Center Drive, Hadley, MA 01035.

FOR FURTHER INFORMATION CONTACT: Mary Colligan (NMFS) at 978/281-9116 or Paul Nickerson (FWS) at 413/253-8615.

SUPPLEMENTARY INFORMATION:

Background

Information on the life history, distribution and abundance of U.S. Atlantic salmon can be found in the proposed rule published in the **Federal Register** on September 29, 1995 (60 FR 50530).

Previous Federal Action

Atlantic salmon populations in the Dennys, Machias, East Machias, Narraguagus, and Pleasant rivers were designated as category 2 candidate species by the FWS on November 21, 1991 (56 FR 58804). Category 2 candidates, a designation discontinued in a Notice of Review published by the FWS on February 28, 1996 (61 FR 7596), were taxa for which information in possession of the FWS indicated that proposing to list as endangered or threatened was possibly appropriate but for which conclusive data on biological vulnerability and threats were not currently available. On October 1, 1993, the Services received a petition from RESTORE: The North Woods, the Biodiversity Legal Foundation, and Jeffrey Elliott to list anadromous Atlantic salmon throughout its known historical range in the United States. The Services published a notice of their 90-day finding on January 20, 1994 (59 FR 3067), stating that the petition presented substantial information indicating that the requested action may be warranted. A biological review team conducted a status review and prepared a draft report entitled "Status Review for Anadromous Atlantic Salmon in the United States, January 1995" (Status Review) (FWS and NMFS 1995). On March 17, 1995, the Services published a notice of their 12-month finding (60 FR 14410) stating that available biological evidence indicated that the species described in the petition did not meet the definition of a "species" under the Act. Consequently, the Services concluded that the petitioned action to list Atlantic salmon throughout its historical range within the United States was not warranted. However, the Services did find that sufficient information was available to support a listing action for a DPS comprised of seven river populations of Atlantic salmon in Maine (the seven rivers DPS) and stated that preparation of a proposed rule to list this DPS had begun.

On September 29, 1995, the Services published a proposed rule to list the seven rivers DPS of Atlantic salmon as threatened (60 FR 50530) (hereafter referred to as "the proposed rule"). Pursuant to section 4(d) of the Act, the proposed rule (60 FR 50530) offered the State of Maine an opportunity to develop a Conservation Plan to retain the lead for the species' recovery. The Services reopened their comment period on the proposed rule (60 FR 50530) on August 27, 1996 (61 FR 44032), to announce three public hearings which were held in Maine in September of that

year. The State prepared and circulated a draft Conservation Plan and sought public input at hearings also held in September 1996. The State submitted the final Conservation Plan to the Services on March 5, 1997, and made it available for public comment. The Services again reopened their comment period on May 23, 1997 (62 FR 28413), to invite comments on the Conservation Plan and on other information that had become available after the publication of the proposed rule (60 FR 50530).

Consideration as a "Species" Under the Act

The term "species" is defined by section 3(15) of the Act as including "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife that interbreeds when mature." In the proposed rule (60 FR 50530), the Services stated that Atlantic salmon populations in the Sheepscot, Ducktrap, Narraguagus, Pleasant, Machias, East Machias and Dennys rivers (the seven rivers) comprised one DPS (the seven rivers DPS). Also in the proposed rule (60 FR 50530), Atlantic salmon populations in the Kennebec River, Penobscot River, St. Croix River, and Tunk Stream were designated as category 2 candidate species by the FWS and as candidate species by NMFS until investigations into the presence and persistence of native Atlantic salmon populations within these rivers could be conducted.

On February 7, 1996, the Services published a national policy (the Services' DPS policy) (61 FR 4722) to clarify their interpretation of the phrase "distinct population segment of any species of vertebrate fish or wildlife" for the purposes of listing, delisting, and reclassifying species under the Act. The policy identified the following three elements to be considered in deciding whether to list a possible DPS as endangered or threatened under Act: The discreteness of the population segment in relation to the remainder of the species or subspecies to which it belongs; the significance of the population segment to the species or subspecies to which it belongs; and the conservation status of the population segment in relation to the Act's standards for listing.

Discreteness of the Population Segment

According to the Services' DPS policy, a population segment may be considered discrete if it satisfies either one of the following conditions: it is markedly separated from other populations of the same taxon as a consequence of physical, physiological,

ecological, or behavioral factors; or it is delimited by international governmental boundaries across which there is a significant difference in control of exploitation, management of habitat, or conservation status. Mitochondrial DNA and microsatellite DNA data obtained through an ongoing peer-reviewed genetic study by the U.S. Geological Survey—Biological Resources Division (USGS—BRD) demonstrate that North American Atlantic salmon stocks are reproductively isolated and genetically distinct from European stocks (King, *et al.* 1997). Differences within the North American complex are less clear, but due to differences in management and conservation programs between the United States and Canada, U.S. Atlantic salmon populations are considered to be discrete for the purposes of the Act. Management and conservation programs in the United States and Canada have similar goals, but differences in legislation and policy support the use of the United States/Canada international boundary as a measure of discreteness.

Significance of the Population Segment

The Services' DPS policy states that the consideration of the significance of the population segment to the taxon to which it belongs may include, but is not limited to, the following: Persistence of the discrete population in an ecological setting unusual or unique for the taxon; evidence that the loss of the discrete population segment would result in a significant gap in the range of a taxon; evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere; or evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

A critical factor in determining the significance of river populations of Atlantic salmon is the persistence of a substantial component of native stock reproduction. Results of the USGS—BRD genetics study (King, *et al.* 1997) provide a range-wide survey of mitochondrial and nuclear DNA variation in Atlantic salmon. Composite mitochondrial DNA haplotypes revealed a strong discontinuity between North American and European salmon. Gene flow estimates for both mitochondrial and nuclear DNA at the inter-continental scale were less than one migrant per generation, strongly indicating a major discontinuity between North American and European populations. Pair-wise comparisons of microsatellite genotypes revealed evidence of some significant population subdivisions described by the

researchers as worthy of management consideration. This is consistent with the Services' recommendation in the proposed rule (60 FR 50530) that Atlantic salmon populations should be managed on a river-by-river basis.

The DPS proposed for listing by the Services consisted of those seven river populations in Maine for which the greatest evidence of the persistence of historical, river-specific characteristics having evolutionary significance could be found. The results of the USGS—BRD genetics study (King, *et al.* 1997) together with phenotypic traits, life history and habitat characteristics suggest that the seven rivers DPS could be expanded in the future. Because the possibility exists that additional populations could be added to the seven rivers DPS in the future, and for purposes of future conservation activities, the Services are renaming the seven rivers DPS the Gulf of Maine DPS. Other Atlantic salmon populations will be added to the Gulf of Maine DPS if they are found to be naturally reproducing and to have historical, river-specific characteristics. The area within which populations meeting these criteria for addition to the DPS would most likely be found is from the Kennebec River north to, but not including, the St. Croix River.

The Services believe that the Atlantic salmon populations in Togus Stream, a tributary to the Kennebec River, and Cove Brook, a tributary to the Penobscot River, may warrant inclusion in the Gulf of Maine DPS. Further investigation of these and other extant river populations from the Kennebec River north to, but not including, the St. Croix River will continue in order to determine if they meet the criteria for inclusion in the DPS. Populations that resulted primarily from colonization by fish unintentionally released or by fish which escaped from commercial aquaculture operations will not be included in the Gulf of Maine DPS; populations that resulted from private or public hatchery stockings where the broodstock did not originate from populations within the range of the Gulf of Maine DPS also will not be included.

Summary of Comments and Responses

The Services held three public hearings in Maine in September 1996 to solicit comments on the proposed listing determination for the seven rivers DPS of Atlantic Salmon. Over 150 individuals attended the hearings, and the Services received additional written comments on the proposed rule (60 FR 50530) from the State, Federal, and local government agencies, Indian tribes, non-governmental organizations, the

scientific community, and other individuals. In accordance with policy published on July 1, 1994 (59 FR 34270), the Services requested scientific peer review of the proposed rule (60 FR 50530) and draft Status Review and received comments from 15 reviewers. In addition, on March 25, 1997, the Services sent available genetics information to 23 individuals for scientific peer review and received comments from 15 reviewers. The comment period on the proposed rule (60 FR 50530) was reopened in May 1997 to allow public review and comment on additional information, including the Conservation Plan, that had become available since the publication of the proposed rule (60 FR 50530). Following is a summary of the major issues identified in public comments and the Services' responses to those issues.

Issue 1: Accuracy and Sufficiency of Scientific Data

Comment: A few individuals stated that the biological data used was flawed and that, in fact, the salmon population is sufficiently large and growing. Other commenters stated that the stocks are declining and cited habitat degradation as a potential cause. The primary area of disagreement concerning the availability and assessment of data surrounded the issue of delineation of the DPS and, in particular, the role of genetic information in making that determination.

Response: The Act requires that listing determinations be made on the basis of a population's status which is determined by utilizing the best available scientific and commercial data, with consideration being given to State and foreign efforts to protect such species. Data on species distribution and abundance is provided each year by the U.S. Atlantic Salmon Assessment Committee (USASAC), and additional information specific to the seven watersheds is provided in field activity reports prepared jointly by the FWS and the Maine Atlantic Salmon Authority (ASA). To specifically address concerns raised over the delineation of the DPS and the role of genetic information in that determination, the Services sent out the genetics section of the draft Status Review and a State-prepared genetics report (Maine Atlantic Salmon Task Force 1996) for an additional peer review. Many of these reviewers stated a desire for additional information; however, many supported the Services' proposal given the existing information. Many reviewers acknowledged that the USGS-BRD genetics report (King, *et al.* 1997) contains the most comprehensive

analysis ever conducted of U.S. Atlantic salmon populations. Some reviewers posed questions regarding the sampling and collection methodology and the statistical analysis of the results. These comments have been provided to the authors of the report to be addressed during preparation of the final report. The Services believe that, due to the nature of these comments, the results of the study will not be changed in a way which would affect the decision to withdraw the proposed rule (60 FR 50530).

Detailed assessments have been conducted in the Narraguagus River to document the extent to which Atlantic salmon mortality in the freshwater phase of the salmon's life cycle may be responsible for the declines in adult abundance first observed in the mid-1980's (FWS and NMFS 1995). One of the specific objectives of this research was to determine the abundance and age structure of the adult and juvenile Atlantic salmon populations. This study concluded that rearing habitats in the Narraguagus River, although not pristine, are in good condition and capable of supporting robust juvenile salmon populations. Macroinvertebrate population data also suggest that freshwater habitats are in good condition, with diversity and abundance indices similar to those obtained 20 years earlier (FWS and NMFS 1995). Water chemistry data indicate that the mainstem Narraguagus River has adequate water quality to support juveniles, and contaminant sampling data suggest that most chemicals used in blueberry culture and forestry are not detected in the fish or waters of the Narraguagus River (ASA 1997).

In 1992, native Atlantic salmon parr (young salmon in freshwater) were collected from the Dennys, Machias and Narraguagus rivers to be raised to maturity and used as broodstock. Adults that were produced by this program were released back into their rivers of origin in June and October 1996. Redd (spawning bed) counts on all three rivers indicated a surplus of redds relative to known returning sea run adults suggesting that reconditioned hatchery broodstock spawned successfully.

Issue 2: Delineation of the Seven Rivers DPS

Comment: Some commenters expressed the opinion that all Atlantic salmon in New England are artificial and have been affected so greatly by hatchery practices that no aboriginal Atlantic salmon remain. They stated that these populations did not qualify

for consideration for protection under the Act due to this mixed heritage. Some commenters stated that the Services were abusing their authority under the Act by making such a proposal. Other commenters stated that protection under the Act should be considered for all stocks in rivers that historically contained Atlantic salmon.

Response: The Services' DPS policy (61 FR 4722) and its application to Atlantic salmon is explained in the section of this notice entitled "Consideration as a 'Species' Under the Act." The Services note that, in addition to the information presented in that section, the results of the recently completed USGS-BRD genetics study (King, *et al.* 1997) do not support the claim that Atlantic salmon have been homogenized by migration, stocking and/or aquaculture operations. Analysis of the most current information on genetics, life history and stock assessment provides very strong evidence that the North American Atlantic salmon population is discrete and significant.

Issue 3: Appropriateness of Listing at This Time

Comment: Some commenters urged the Services to delay the decision whether to list in order to allow more time for the river-specific rearing program to work, and some suggested that more time should be allowed for the Conservation Plan to be implemented. Others recommended that the Services immediately list Atlantic salmon and designate critical habitat.

Response: The Act requires the Services to make listing determinations based on the biological status of the species and consideration of State and international efforts being made to protect it. Although adult returns to the seven rivers remain low and average less than 10 percent of the escapement goal (the number of adult returns sufficient to fully seed the habitat), collection of fish and the subsequent stocking of their progeny, as explained in the proposed rule (60 FR 50530), has resulted in substantially higher juvenile counts. Also, projections of marine survival have improved steadily since 1994 (International Council for Exploration of the Seas (ICES) 1997). In addition, as explained in detail in the section of this notice entitled "Efforts to Protect Maine Atlantic Salmon," the Services have determined that protection efforts have substantially reduced the level of threat to the DPS. Consequently, the Services have concluded that the DPS is not likely to become endangered within the

foreseeable future and that, therefore, listing is not justified at this time.

Issue 4: Adequacy of Existing Conservation Measures and Regulatory Mechanisms

Comment: Many commenters expressed the opinion that existing regulations were more than adequate to provide protection to Atlantic salmon. Some asserted that the factor most responsible for the species' decline was marine survival and suggested that, since this was not a controllable factor, nothing was to be gained by listing the species. Other commenters expressed concern about the State of Maine acquiring management authority stating that Maine had a history of ineffective management of Atlantic salmon. They argued for increased Federal involvement through a listing action.

Response: The Services agree that there are a number of existing conservation measures and regulatory mechanisms in place to protect Atlantic salmon. Those conservation measures and regulatory mechanisms are discussed in more detail in the "Summary of Factors Affecting the Species" and the "Efforts to Protect Maine Atlantic Salmon" sections of this notice. It is important to note that the Services have been, and will continue to be, closely involved in the management of Atlantic salmon in Maine, as well as throughout the rest of New England. The Services do not agree that Maine has a history of ineffective management of Atlantic salmon. The Status Review does state that the recreational harvest of the 1970's was likely too high but that, subsequently, restrictions were placed on the fishery, and currently only catch and release fishing is permitted. The Services also reviewed past management measures to determine their role, if any, in the species' decline. Current management measures were reviewed for their ability to protect and assist with the recovery of Atlantic salmon populations. The Services have determined that existing State regulations and management measures, together with additional efforts outlined in the Conservation Plan, sufficiently protect the species during the portion of its life cycle spent in Maine waters and will facilitate its continued improvement.

Issue 5: Economic Ramifications of Listing Atlantic Salmon as Endangered

Comment: Many individuals stated that listing would add more government regulations that would cripple local economies. Concerns were raised over potential ramifications to forestry, aquaculture and agriculture. Other

commenters cited economic benefits of successful salmon restoration.

Response: The Act does not allow the Services to consider economics in making listing determinations. The Act does require Federal agencies to consult with the Services on any action they undertake, fund or authorize which may affect a proposed or listed species. In the majority of cases, these consultations do not slow or halt project planning and construction. The Services agree that there are many benefits, including economic benefits, to Atlantic salmon restoration.

Issue 6: Effects of Agriculture on Atlantic Salmon

Comment: Commenters provided a broad range of views regarding the relationship between agricultural practices and Atlantic salmon. Some stated that agricultural practices do not threaten Atlantic salmon. Some of the same commenters expressed concern that listing Atlantic salmon would have negative effects on agriculture. Finally, a few commenters stated that erosion, pesticide run-off, and water withdrawal associated with agriculture are contributing to the decline of the species.

Response: The Services examined the potential impact of agricultural practices on Atlantic salmon in the draft Status Review and concluded that current agricultural practices do not pose a major threat to Atlantic salmon. In response to the proposed rule (60 FR 50530), the Governor of Maine formed a Task Force to address the decline of Atlantic salmon in the State. The Agriculture Working Group of the Task Force conducted an in-depth analysis of the relationship between agricultural practices and Atlantic salmon protection and recovery. This group identified a number of potential threats including water use, non-point source pollution and peat mining. The group also cited the increased interest in cranberry cultivation in the seven watersheds as a potential threat. The sections of this notice entitled "Summary of Factors Affecting the Species" and "Efforts To Protect Maine Atlantic Salmon" discuss ongoing and proposed actions to address threats from agriculture.

Issue 7: Effects of Recreational Fishing on Atlantic Salmon

Comment: Many commenters stated that recreational fishing does not threaten Atlantic salmon populations and some suggested that, if a listing resulted in the termination of a recreational fishery, the support of

anglers for salmon recovery would be lost.

Response: In the proposed rule (60 FR 50530), the Services stated that multi-sea-winter fish (fish which have spent two or more winters at sea) could incur some mortality from catch and release fishing and that parr could be vulnerable to incidental hooking mortality or illegal harvest by trout anglers. The Services also expressed some concern over the potential for poaching. In the past the recreational harvest of Atlantic salmon had the potential to negatively impact species abundance, however, there is no legal harvest in Maine at this time. In the Conservation Plan, the State of Maine has imposed further restrictions on the catch and release fishery for Atlantic salmon to reduce or eliminate the potential for adverse impacts to salmon by restricting the season, area and gear to be used. In addition, the State has imposed restrictions on recreational trout fishing to address concerns over impacts from incidental catch. To improve compliance with these new regulations, the State has added two seasonal wardens and has recommended increased fines for violations.

During their review of the Conservation Plan, the Services requested that the State further define biological parameters for the catch and release fishery by identifying conditions under which a river may be closed and by describing monitoring or assessment efforts. The State has subsequently informed the Services that the Maine Technical Advisory Committee (TAC) is being requested to recommend to the ASA the appropriateness of catch and release fishing on each river. The ASA will then take this recommendation through a public hearing process and promulgate regulations. The TAC was advised to consider the following factors: Parr densities at index sites; sea temperature index developed for the North American Salmon Conservation Organization (NASCO); returns of adults or redd counts; availability of hatchery fry; and incidental mortality related to catch and release. The State has informed the Services that estimates of actual returns (numbers of adult salmon returning to their rivers of origin) would be compared to minimum biologically acceptable limits of spawners (spawning adult salmon) to determine the feasibility of catch and release for any given season. The Services are satisfied with this proposed plan of action and as members of the TAC will have an active role in the development of specific criteria.

Issue 8: Effects of Aquaculture on Wild Atlantic Salmon

Comment: There was a wide range of opinions expressed concerning the effects of aquaculture on wild Atlantic salmon populations. Some commenters felt that aquaculture has negative impacts, whereas others stated that aquaculture does not threaten wild salmon populations and could in fact aid restoration or rehabilitation of wild populations through breeding and stocking programs. Finally, some commenters expressed concern that listing would have negative impacts on the aquaculture industry.

Response: Through the Aquaculture Working Group of the Task Force, the Services and the aquaculture industry have identified industry practices that could impact wild populations. Strategies to mitigate or eliminate these potential impacts have been identified and are being implemented. The Maine Aquaculture Association is working with the University of Maine and representatives of the industry to develop a biosecurity code that will incorporate both a loss control code of practice and a fish health code. These codes will reduce the potential for genetic and health impacts to wild stocks. The Services will continue to monitor the development and implementation of these codes.

The aquaculture industry is conducting further investigations into marking of cultured stock and is experimenting with the commercial culture of sterile triploids. The aquaculture industry, in an effort to actively participate in salmon recovery, has accepted river-specific eggs for 2 years and is raising those eggs to smolts (sub-adults) and/or adults to be released back into their rivers of origin. The FWS has secured funds to construct weirs on three rivers that will aid in both wild stock management efforts and in culling aquaculture escapees.

Issue 9: Effects of Forestry on Atlantic Salmon

Comment: Comments on forestry ranged from identifying forestry as having a negative impact on salmon recovery to stating that there is no proven link between forestry and the decline of salmon. Those who stated that forestry negatively impacts Atlantic salmon cited non-point source pollution and habitat degradation. Concerns were also raised over the potential economic ramifications of listing to the forestry industry.

Response: In the draft Status Review and the proposed rule (60 FR 50530), the Services cited forestry as a

predominant land use in the central and northern coastal Maine watersheds. The Services concluded that while past forestry practices may have adversely affected salmon and their habitat, the regulatory mechanisms currently in place are sufficient to ensure that ongoing practices do not pose a major threat to the species. The Conservation Plan identifies potential impacts from forestry to include non-point source pollution, alteration of stream temperatures and hydrology, direct disturbance to habitat, and blockage of fish passage by deposition of woody debris. The Conservation Plan outlines a number of existing protective measures which address potential threats from forestry. These measures are discussed in detail in the section of this notice entitled "Efforts to Protect Maine Atlantic Salmon."

Issue 10: Effects of Hydroelectric Operations on Atlantic Salmon

Comment: Many commenters stated that dams have played a major role in the reduction in range of Atlantic salmon and in the depressed levels of remaining populations. Others stated that dams are not responsible for the decline of salmon. Finally, a few expressed concern over the potential negative effects of a listing on the hydroelectric industry.

Response: In the draft Status Review and the proposed rule (60 FR 50530), the Services stated that the construction of dams was a major cause for the decline of U.S. Atlantic salmon. The rivers included in the seven rivers DPS do not have hydroelectric dams on them and, therefore, listing would not have impacted the hydroelectric industry.

Issue 11: Effects of Marine Survival on the Decline of Atlantic Salmon

Comment: A few commenters stated that natural fluctuations in the marine environment are responsible for the decline of salmon and that, because these fluctuations could not be affected by listing, listing is not necessary.

Response: As required by the Act, the determination as to whether a listing action is appropriate is based on the biological status of the species and consideration of State and international efforts to protect it. The Services considered all threats to the species including natural fluctuations in the marine environment in determining to propose the seven rivers DPS of Atlantic salmon as threatened and in deciding to withdraw the proposal.

Issue 12: Genetics Information

Comment: The Service received comments from 15 individuals who

conducted a scientific peer review of the genetics information. Most reviewers agreed it was difficult with the information available at that time to draw any conclusion regarding the correct delineation of a DPS. One reviewer stated that the metapopulation paradigm was more relevant than the stock concept as it emphasizes the interconnections between population units within metapopulations and the multi-layered nature of the relationships among them (the metapopulation theory, in part, proposes that the loss of the species at one site can be compensated through recolonization of the site from adjacent sites). In contrast, another reviewer pointed out, as evidence against the metapopulation theory, that populations tend to stay extirpated. In general, many reviewers desired more information, but most stated that if "a substantial component of native genetic variation persists in the populations of the named rivers, they are presumably the last reservoirs of these genes, and hence deserving of the strongest possible protection." An additional reviewer agreed that there is no "pure" native race of Atlantic salmon remaining but the remnant of mixed populations that does exist is all that is left of the original diversity of New England salmon.

There was general agreement among reviewers that rivers south of Maine are not appropriate for listing because the original populations were extirpated, and current populations represent introductions of non-native stocks of mixed origin. One reviewer questioned the logic of excluding the Kennebec, Penobscot and St. Croix rivers from the DPS. This reviewer believed that, due to their size, these three rivers might become the last source of broodstock for stocking the seven rivers in the event the Atlantic salmon populations in the seven rivers DPS become extinct. Another reviewer argued that the populations in the Kennebec, Penobscot, and St. Croix rivers and Tunk Stream, which were designated as candidates by the Services in the proposed rule (60 FR 50530), should be included in the seven rivers DPS. Some felt that the differences between U.S. and Canadian populations were overstated or exaggerated.

Some comments specifically addressed the question of "significance" and one reviewer stated that additional analyses of selectively neutral genetic variation would probably not be helpful for determining how to conserve and manage any adaptive variation that may reside in the rivers of Maine. Also, another reviewer stated that neutral markers do not reveal much about

significance. One reviewer offered an operational test of evolutionary value and suggested that if a climatic warming trend occurred, the Ducktrap River might be an appropriate source of broodstock for restocking rivers in the central part of the present species' distribution. This reviewer suggested that, putting genetics and statistics aside, if it is likely that a river population would be singled out to be used in the future as a source for restocking other rivers, then it should probably be preserved. Many reviewers emphasized the fact that Maine Atlantic salmon are at the southern extent of the species' range. One reviewer stated the following: "The fact is that some salmon do continue to return to Maine's rivers in spite of all the difficulties put in their way. Furthermore, these fish hang on near the southern limits of the species' global range, in spite of the extreme nature of the environment and the challenges they must overcome." These reviewers believed that these facts supported the contention that Maine Atlantic salmon constitute a highly selected group (or DPS) uniquely suited to life in Maine's rivers.

Some reviewers believed that the effects of hatcheries and stocking were adequately addressed in the draft Status Review, while others commented that more detail was needed. Most reviewers agreed that past extensive stocking raised concerns but was not conclusive evidence of the disruption or replacement of locally adapted native strains. Some commenters cited the suggestion in the State-prepared genetics report's (Maine Atlantic Salmon Task Force 1996) that the situation with Atlantic salmon is analogous to that with the lower Columbia River coho salmon for which both DPS status and Evolutionary Significant Unit (ESU) status was rejected due to the effects of stock transfers and hatchery propagation. One reviewer stated that this comparison was not appropriate as Columbia River coho lie in the middle of the species' range surrounded by populations that are less genetically compromised. Maine Atlantic salmon, on the other hand, are at the edge of the species' range. One reviewer offered his view that if a historical ESU can be identified with reasonable confidence (as is the case with Maine Atlantic salmon) there should be a presumption that it still remains unless there is a preponderance of evidence to indicate that it does not.

Commenters on the most recent USGS-BRD genetics report (King, *et al.* 1997) generally were impressed with the volume of data contained and analyzed. All reviewers agreed that the results

supported earlier studies clearly demonstrating a statistically significant genetic difference between North American and European populations of Atlantic salmon. There was no such consensus regarding the interpretation of results for populations within North America. Most reviewers agreed that delineation of U.S. and Canadian populations as two separate DPS's could not be justified based on these results; however, they pointed out that sampling of Canadian populations was too sparse to conclude that they were part of the same DPS.

Response: The Services' carefully reviewed all of the available information concerning the genetics of Atlantic salmon. The Services' identified the seven rivers DPS as a "species" under the Act in accordance with the Services' DPS policy (61 FR 4722). The Services' DPS policy and its application to the delineation of the seven rivers DPS (and the Gulf of Maine DPS) are described in the "Consideration as a 'Species' Under the Act" section of this notice.

Issue 13: The Conservation Plan

Comments: Eleven letters of comment were received on the Conservation Plan. Seven of those were from State agencies and industries and organizations operating within the State which voiced enthusiasm and support for the Conservation Plan and encouraged the Services to accept the Conservation Plan and not list Atlantic salmon under the Act. The State's response included a list of ongoing actions under the Conservation Plan. Some concern was raised over funding for implementation of the Conservation Plan and for work on rivers not included in the seven rivers DPS originally proposed for listing. In addition, one commenter recommended that the FWS should closely monitor implementation of the Conservation Plan. One commenter, offered the opinion that the Conservation Plan lacks accountability and enforceability and is not biologically defensible.

Response: The Services have worked closely with the State during the development of the Conservation Plan and believe that a very critical part of the Conservation Plan is the detailed implementation schedule and monitoring plan for each river. Each party's ability to meet funding obligations under the Conservation Plan will be evaluated annually as part of the review process.

Summary of Factors Affecting the Species

Section 4 of the Act and regulations promulgated to implement the listing

provisions of the Act (50 CFR part 424) set forth the procedures for adding species to the Federal list. Section 4 requires that listing determinations be based solely on the best scientific and commercial data available, without reference to possible economic or other impacts of such determinations. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the Act. The information presented here primarily concerns new developments since the publication of the proposed rule (60 FR 50530) and indicates the ways in which implementation of the Conservation Plan is further reducing threats to the DPS.

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Forestry

One of the predominant land uses of central and northern coastal Maine watersheds is the growing and harvesting of forest products. Forest management practices can cause numerous short and long-term negative impacts to Atlantic salmon as a result of increased runoff, decreased shade and increased water temperatures, deposition of woody debris and silt into waterways, and the use of insecticides or herbicides. In the proposed rule (60 FR 50530), the Services presented their finding that while historical forest practices have had harmful effects on Atlantic salmon in certain watersheds, numerous State and Federal laws now in existence prevent significant adverse impacts to Atlantic salmon and other aquatic species. The Conservation Plan offers further protection against potential impact to Atlantic salmon from forestry activities. Ongoing actions outlined in the Conservation Plan include: Formation of Project SHARE (Salmon Habitat and River Enhancement) addressing potential threats from forestry in 5 Downeast watersheds; establishment of riparian management zones; Champion International's adoption of self-imposed restrictive management standards for timber operations near streams and rivers; providing code enforcement training and shoreline technical assistance to help municipalities administer shoreline zoning standards; promoting best management practices in forests within the State through Maine's non-point source pollution management program; and finally, formation of several river coalitions to improve watershed protection.

Agriculture

Lowbush blueberry agriculture is another significant land use in eastern Maine watersheds. The associated extraction and diversion of water and application of herbicides, fungicides, and insecticides could adversely affect Atlantic salmon and their habitat. In the proposed rule (60 FR 50530), the Services concluded that current agricultural practices were not considered a major threat to Atlantic salmon due to protective measures in place. Cranberry production, a small but rapidly increasing component of Downeast Maine agriculture, requires land conversion, a large supply of water, and significant use of pesticides. Significant acreage is currently being converted to cranberry production.

The Conservation Plan identifies the following programs and management activities currently being implemented to reduce impacts to Atlantic salmon from agricultural practices: Integrated crop management practices and best management practices for blueberry and cranberry production developed by the Maine Cooperative Extension Service; the State management plan for pesticides and ground water, as well as a more specific plan to protect groundwater from hexazinone; and the non-point source pollution and coastal zone management programs which include best management practices to protect water quality. Additional activities proposed in the Conservation Plan are the development and implementation of total water use management plans for each watershed, the development of a non-point source pollution control program for the Sheepscot River, and the identification of wetlands with functions that maintain the integrity of salmon habitat.

Peat Mining

Many eastern Maine watersheds contain deposits of peat. Commercial peat mining has the potential to adversely affect salmon habitat through the release of peat fibers, arsenic, and other chemical residues present in peat deposits. There are no known current impacts to Atlantic salmon, but further study is recommended to determine possible impacts, if any, of peat mining on Atlantic salmon and their habitat. The Conservation Plan identifies additional actions which are being taken to eliminate potential impacts from peat mining including: Improving the permit review process; increasing standards for erosion control; and evaluating possible threats to Atlantic salmon from water quality changes.

Dams

In the proposed rule (60 FR 50530), the Services cited the historical impact of dams on Atlantic salmon but stated that there were no hydroelectric projects on any of the seven rivers which constitute the range of the seven rivers DPS. Portions of two other rivers, the Kennebec and the Penobscot, are heavily impacted by hydroelectric dams. The fact that naturally reproducing populations of Atlantic salmon are likely restricted to tributaries below the lowermost mainstem dam on each of these rivers is directly attributable to the impact of these dams. While expansion of the range of Atlantic salmon in these river systems may be limited at present, it does not appear that the continued persistence of the lower tributary populations is threatened by the presence of dams on the mainstems upstream of these lower tributaries. Beaver (*Castor canadensis*) dams and debris dams, which have been documented on many of the rivers within the seven rivers DPS, are typically partial, temporary obstructions to Atlantic salmon migration. The Conservation Plan identifies activities underway to address this threat which include breaching problematic beaver dams, removing debris dams, and expanding the beaver trapping season in certain areas. In addition, the Conservation Plan includes a commitment to identify and rectify fish passage problems at the Cooper's Mills Dam on the Sheepscot River.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The proposed rule (60 FR 50530) discussed protective measures against any potential impact from a commercial Atlantic salmon fishery either domestically or internationally. A quota agreement was reached in 1997 for the West Greenland fishery, and Canada announced the continuation of the moratorium in Newfoundland and further restrictions and a comprehensive management plan for Labrador. Reduced ocean harvest resulting from these actions should benefit salmon runs throughout North America during the next several years. The Conservation Plan does not attempt to deal with ocean harvest, as that is beyond the State's jurisdiction.

The Conservation Plan notes that there is no legal harvest of Atlantic salmon in Maine but that a catch and release fishery is permitted. As outlined in the Conservation Plan, the State is addressing potential threats from poaching and catch and release fishing

by restricting seasons, locations and gear; increasing law enforcement by adding two seasonal wardens; modifying regulations on other targeted fisheries to reduce any impact to Atlantic salmon caught as bycatch; and agreeing, where necessary, to close cold water adult salmon holding areas to all fishing. In addition, any catch and release fishing will be permitted only after analyzing data from all phases of the species' life cycle to assess risks to the DPS. Furthermore, a monitoring and reporting program has been created for incidental take, and there is a recommendation to increase penalties for poaching. During 1997, additional seasonal restrictions were imposed, and seasonal wardens were employed to reduce poaching in the seven rivers.

C. Disease or Predation

The proposed rule (60 FR 50530) included a comprehensive list of potential predators of Atlantic salmon but concluded that the effects and magnitude of competition and predation in the riverine, estuarine, and marine environments are not known. The Conservation Plan proposes further investigation of predation issues such as impacts of seal (harbor seal (*Phoca vitulina*) and gray seal (*Halichoerus grypus*)) and cormorant (double-crested cormorant (*Phalacrocorax auritus*)) predation and food habits of American eels (*Anguilla rostrata*) collected in juvenile Atlantic salmon habitat. The Conservation Plan also proposes a change in the daily limits on chain pickerel (*Esox niger*) to reduce pickerel populations that prey on migrating salmon smolts.

While Atlantic salmon are susceptible to a number of diseases and parasites that can result in high mortality, furunculosis caused by a bacterium (*Aeromonas salmonicida*) is the only known source of disease-related mortality that has been documented in wild Atlantic salmon in New England. The Conservation Plan describes efforts that are being implemented to reduce threats from disease. These include: maintenance of the current State, Federal, and New England fish health inspection protocols; continued vaccinations of farmed fish prior to placement in sea cages; and enforcement of private insurance standards. It is also noted that a State/Federal/industry fish health advisory board has been established to monitor and improve the current fish health protocols as they relate to salmonid fish culture. Additional protection will be provided by an emergency disease eradication program involving action steps to be taken in the event of the

detection of exotic fish pathogens in public or private rearing facilities; expansion of an ongoing epidemiological monitoring program to determine the type, incidence and geographic distribution of salmonid pathogens in Maine; documentation, evaluation and compilation of industry husbandry practices into a fish health code of practices; and, finally, complete adoption of an industry code of practices to minimize escapes of farmed fish.

D. Inadequacy of Existing Regulatory Mechanisms

Regulatory mechanisms governing aquaculture, forestry, agriculture, poaching, recreational fishing, and commercial harvest are discussed elsewhere in this section and in the "Efforts to Protect Maine Atlantic Salmon" section of this notice.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Scientific evidence suggests that low natural survival in the marine environment is a major factor contributing to the decline of Atlantic salmon throughout North America. Recent research indicates that major seasonal events influence survival of post-smolts (young salmon which have reached the ocean and are beginning to migrate). It appears that survival of the North American stock complex of Atlantic salmon is at least partly explained by sea surface water temperature during the winter months when Atlantic salmon concentrate at the mouth of the Labrador Sea and east of Greenland. The marine survival index improved in 1997 for the third consecutive year, suggesting the likelihood of improved adult returns during the next few years.

Research initiated by the USASAC, the ICES-North Atlantic Salmon Study Group (ICES-NASSG), and the ICES-North Atlantic Salmon Working Group (ICES-NASWG) has furthered our basic understanding of the marine ecology of Atlantic salmon. Natural mortality in the marine environment can be attributed to four general sources: predation, starvation, disease/parasites and abiotic factors. Scientists have discovered correlations between mortality in the marine environment and abiotic factors, particularly sea surface temperature (ICES 1997). Correlations between survival rates for Atlantic salmon from numerous North American rivers led these scientists to suspect that a critical source of mortality was acting upon all the stocks when they were mixed and sharing a common habitat (the ocean). These

scientists further speculated that sea temperatures influenced Atlantic salmon survival and abundance at West Greenland and, therefore, homewater catches. Patterns of stock production were found to relate to the area of winter habitat available to North American post-smolts.

Recent research has pointed to the importance of the availability of suitable marine habitat as defined by sea surface temperature in the North Atlantic Ocean and particularly the Labrador Sea region (ICES 1997). A natural climatic phenomenon known as the North Atlantic Oscillation appears to regulate general sea surface temperature patterns in this region and influence the marine survival and growth of Atlantic salmon. The cyclic character of this naturally occurring climatic pattern could be responsible for widespread patterns of low survival in Atlantic salmon observed recently (ICES 1997). The ICES's 1997 report stated that estimates of pre-fishery abundance of non-maturing and maturing one-sea-winter (1SW) salmon for 1995 and 1996 suggest an end to the historically low values of non-maturing 1SW salmon and a clear increase in maturing 1SW salmon. The report concluded that the gradual upward trend of multi-sea-winter (MSW) returns to U.S. rivers is expected to continue.

Conclusion—Summary of Factors Affecting the Species

The proposed rule (60 FR 50530) concluded that there were basically three major factors which continue to threaten the continued survival of Atlantic salmon within the seven rivers DPS—poaching, low natural survival of fish during their first winter at sea, and potential impacts from Atlantic salmon aquaculture operations and fish hatcheries to the genetic integrity and disease vulnerability of the DPS. The tightening of recreational fishing regulations described in the Conservation Plan and the increased enforcement of these regulations through the addition of two seasonal wardens to the rivers of the seven rivers DPS reduce the threat of poaching. Threats to the genetic integrity and disease vulnerability of the DPS from aquaculture and fish hatcheries are also alleviated by existing fish health protocols, screening of outlets at freshwater hatcheries, development of a code for fish health and containment at freshwater rearing and sea cage sites, experimental rearing of sterile triploids, and the construction of weirs. These ongoing and proposed actions, together with the river-specific rearing program and projected improvements in the

marine index, have improved the status of the DPS such that the Services are now able to conclude that the DPS is not likely to become endangered within the foreseeable future.

Efforts To Protect Maine Atlantic Salmon

The Services, New England States and private industries and organizations have a long history of working cooperatively for the protection, restoration, and rehabilitation of Atlantic salmon. In 1991 the FWS expressed concern about the status of Atlantic salmon and designated salmon in five rivers as category 2 candidate species. A prelisting strategy to advance the recovery of these stocks was developed in 1992 which included plans for stock assessment, habitat inventory, and procurement of river-specific broodstock for a fry stocking program. The Maine Wild Atlantic Salmon Stewardship Program was initiated by the FWS in 1994. Program activities include angler surveys, habitat surveys, and weir and trap installation and maintenance. Consistent with the Services' mandate to consider efforts being made to protect species in making listing determinations, the Services have considered the following Federal and State conservation efforts.

A. Federal Conservation Efforts

Narraguagus River Study

In 1991 the NMFS initiated an intensive juvenile population monitoring program on the Narraguagus River in Maine. Juvenile population estimates have been obtained annually at approximately 30 sites within the river. These data are then analyzed by the ASA and NMFS to refine models for estimating drainage-wide parr abundance, smolt recruitment, and adult return rates for wild Atlantic salmon. Accurate estimates of juvenile populations will continue to greatly enhance the ability to develop and refine effective management strategies. Cooperative research on Atlantic salmon production conducted by the Northeast Fisheries Science Center (NEFSC) and the ASA has examined, in detail, production from the spawner to the pre-smolt stage in the Narraguagus River. The NEFSC and ASA research has yielded a 7-year time series with accurate adult counts and basin-wide pre-smolt production indices (FWS and NMFS 1995). In 1997 the ASA and NEFSC monitored outmigration of Atlantic salmon smolts in the Narraguagus River with four rotary screw fish traps. More accurate estimates of smolt production increases

the reliability of estimates of marine survival rates. Research has confirmed that overwinter survival of pre-smolts is a critical phase in Atlantic salmon population dynamics (FWS and NMFS 1995). Refinements in these estimates may be critical to determining the mechanisms that influence this life history stage. Five traps were utilized in 1997 as part of a mark/recapture population study. This information provides a baseline for studying the correlation between environmental conditions and overwinter survival. In the future, if suspect relationships are found, then the probable causes of mortality can be investigated, and work can be undertaken to identify possible habitat rehabilitation or enhancement that could increase survival to the smolt stage.

Data is being obtained by the NEFSC and the ASA on smolt emigration mortality, movements and dispersal to provide more accurate estimates of parameters that might influence early marine survival and ocean movement patterns. Electrofishing is utilized to assess the survival of stocked fry, to track parr populations over time, and to collect parr for broodstock. A unique drainage-wide age 1+ parr population assessment method (Basin-wide Geographic and Ecological Stratification Technique, BGEST) has been developed for the Narraguagus River (FWS 1997). This drainage-wide approach was developed to overcome the difficulties of comparing population data from individual sites when those data do not account for juvenile salmon movements within each drainage.

River-Specific Stocking

In 1992 the ASA and the FWS implemented a Prelisting Recovery Plan for the Atlantic salmon populations in the seven rivers DPS (Baum et al. 1992). The highest priority identified in the Prelisting Recovery Plan was the development of river-specific broodstocks which could be utilized for restocking efforts in the rivers of concern. The management goal established for the seven rivers was to maximize the production of wild Atlantic salmon smolts by augmenting low wild juvenile populations with hatchery-produced fry. River-specific stocking was endorsed to protect the genetic integrity of remaining salmon stocks and to increase the adaptability and survival of stocked fry.

During the period 1992 to 1996, more than 4,000 wild-origin Atlantic salmon parr were collected from 6 Maine rivers and raised to maturity in freshwater. Each parr that survived to maturity resulted in the production of

approximately 1,000 feeding fry for restocking. The survival rate from stocked fry to the parr stage is assumed to be between 5 and 10 percent which means that between 50 and 100 parr will replace each of the original parr collected (Baum, King, and Marancik 1996). Currently the majority of the nursery habitat in the Dennys, Narraguagus, and Machias rivers is utilized as a result of extensive fry stocking. Fry stocking began in 1996 in the East Machias and Sheepscot rivers. Two year classes of immature parr are being held to be used as broodstock for the Pleasant River. No collections have been made on the Ducktrap River. During 1995, approximately 1.5 million eggs were produced from river-specific broodstock. The resulting 790,000 fry were stocked in 5 rivers in May of 1996. More than 1.7 million eggs were taken from broodstock from 5 rivers during the 1996 spawning season which resulted in approximately 1.07 million fry for the 1997 stocking season.

Approximately 50,000 Machias River-origin eggs were transferred from Craig Brook National Fish Hatchery to a private hatchery operated by volunteers from the Pleasant River Fish and Game Conservation Association and the Downeast Salmon Federation. The 34,000 fry which resulted from this cooperative effort were stocked back into the Machias River. Experimentation continued with otolith and elastomer marking techniques. In addition to the stocking of fry, adult surplus broodstock have been released to supplement the river populations. Marked or tagged adults were released in the Narraguagus, Machias and Dennys rivers in June 1997. Additional adults were released in the Dennys, Machias and Narraguagus rivers in October 1997 to augment wild spawning stock. Age 2 smolts were also released in the Dennys and Machias rivers and were adipose fin clipped for identification when they return in 2 years as adults to spawn.

Adult salmon counts are obtained on the Narraguagus River by a permanent salmon trapping facility operated by the ASA since 1991 and supplemented by analysis of videos to document any additional adults that had jumped over the water control dam. A portable weir has been operated on the Dennys River since 1992 and on the Sheepscot River from 1994 to 1996. Angler data and redd counts also provide information useful in assessing adult abundance. Difficult weather conditions in 1995 resulted in poor visibility and incomplete, or absent, redd count data for most river reaches. Conditions were significantly better in 1996 and a total of 429 redds were counted in the 7 drainages, the

highest number since 1991. Not all redds can be attributed to wild spawners, however, as captive broodstock were released to some of the rivers. Redd counts on rivers that did not receive releases of captive broodstock, with the exception of the Sheepscot River, were higher than at any other time since 1992.

Watershed Characterization Project

Staff of the ASA have worked with the USGS and the Maine Geological Survey to undertake a Sub-Watershed Characterization Study for the Narraguagus River. The study utilizes digital data to create an overview, maps, and data sheets for each sub-watershed which provide information on the land cover composition, erosion potential, hypsometric curve and Atlantic salmon habitat. This will lead to a better understanding of the relationships between flows, water depths and wetted habitat. For each of the 49 sub-watersheds, the percentage of total spawning and nursery habitat within that sub-watershed, land cover composition, wetland types, stream flow data, a hypsometric curve, surficial geologic statistics and an erosion indicator will be provided.

Habitat Protection

Staff from the ASA and FWS have worked with private organizations such as the National Fish and Wildlife Foundation and The Baker Conservation Trust to acquire parcels of land to protect Atlantic salmon habitat on the Ducktrap and Sheepscot rivers. The Coastal Mountains Land Trust acquired 123 acres and over 1 mile of Ducktrap River shoreline bordering spawning habitat. The Fish and Wildlife Foundation acquired 2 additional parcels totaling 10.3 hectares directly adjacent to spawning areas. The FWS, through its Partners for Wildlife Program, dedicated funds to restore two damaged areas on the Ducktrap River that are the sites of abandoned gravel quarries identified as sources of siltation and sedimentation directly upstream of spawning and rearing habitat. Funds were also contributed to this effort by the Natural Resources Conservation Service, and the Ducktrap Watershed Coalition. The gravel pit owner, the Ducktrap River Coalition, and campers from the 4-H Tanglewood Camp provided expertise and labor. Through a cooperative effort, a one-half-mile stretch of the Dyer River, lacking vegetated buffer and being used as a cattle wallow, is being restored and protected. This required working with the farmer to identify alternative drinking water for his cattle,

constructing a fence along the stream, planting to establish a vegetated buffer along the stream, and establishing pool and riffle habitat in the stream.

Habitat and Juvenile Assessments

With the recognition that knowledge of habitat quantity and quality is a prerequisite for effective management of Atlantic salmon populations, intensive habitat inventories have been undertaken in recent years. By the end of the 1997 field season, highly accurate computerized data sets will be compiled for all seven rivers. These data will be used to coordinate future redd counting, parr collecting, and fry stocking activities. The planning and logistics of stocking a large number (850,000) of fry in the 7 drainages has been facilitated by a geographic information system. These data are also being made available to other agencies and interested parties for land conservation and management. An atlas was produced for the Machias River for use during fry stocking. In addition, maps were produced for redd count activities on the Dennys, Machias, Narraguagus, Pleasant, and Sheepscot rivers. A separate pilot project was undertaken to consolidate data from multiple sources into an overview of the hydrological characteristics for each sub-basin within the Narraguagus River watershed. The next step will be to identify factors that could affect stream flow, water depth, and wetted habitat and to evaluate the potential of those factors to affect habitat suitability and production potential. River temperatures were monitored extensively, and investigations are ongoing to identify and understand the role of cold water refugia.

Surveys to locate and breach beaver dams and debris dams were conducted on each of the seven rivers. During the 1996 field season, a total of 85 obstructions were recorded on the 7 rivers and their tributaries. Seventy-four of these were located below spawning habitat and were breached or removed at least once in October of 1996. Breaching beaver dams and debris dams provided upstream passage to over 292 kilometers of river containing quality spawning and rearing habitat. Breaching is timed just prior to spawning in order to provide an adequate migration window for salmon. A significant number of redds have been counted upstream from breached dams indicating a degree of success from this management measure. This work was conducted again in 1997, and will continue in the future.

North American Salmon Conservation Organization

The NASCO is an international organization with the goal of promoting the conservation, restoration, enhancement, and rational management of Atlantic salmon stocks in the North Atlantic Ocean through international cooperation. In 1993 the West Greenland Commission adopted a 5-year scientifically-based quota-setting agreement (West Greenland Commission 1993). At the Thirteenth Annual Meeting of NASCO in 1996, the Commission was unable to agree upon a quota utilizing that agreement due to differing interpretations of agreement components. As a result, West Greenland unilaterally set a quota which was higher than the scientists advised. The United States was very concerned about this departure and met with the other NASCO parties prior to the Fourteenth Annual Meeting in 1997 to attempt to reach agreement. In 1997 the Commission adopted an addendum to the 1993 agreement which maintains the scientific method for setting quotas but allows for a reserve quota to be established in years of low abundance (West Greenland Commission 1997). Accordingly, a reserve quota of 57 tons, much lower than quotas for previous years, was set for the 1997 fishery including local use and subsistence fisheries. The events in 1997 add assurance that the United States will be able to successfully negotiate in the international forum to protect U.S. stocks on their migration.

B. State Conservation Efforts

The designation of some Atlantic salmon populations as candidate species under the Act and the subsequent receipt of a petition to list them as endangered prompted additional interest in the species. The forestry industry began Project SHARE, and other organizations such as the Sheepscot Valley Conservation Association, the Ducktrap River Coalition, and the Midcoast Atlantic Salmon Watershed Council were founded as a result of this interest.

Atlantic Salmon Authority

The ASA was formed by the Maine Legislature in September 1995 replacing the Atlantic Sea Run Salmon Commission (ASRSC) which had been in existence since 1945. The ASA is governed by the Atlantic Salmon Board which consists of nine members appointed by the Governor. The ASA has sole authority, except for those rights lawfully held by Maine's Native American Indian Tribes, and

responsibility to manage the Atlantic salmon fishery in the State, including sole authority to introduce Atlantic salmon into Maine inland waters. Sole authority for the inland waters of the Dennys, East Machias, Machias, Pleasant, Narraguagus, Ducktrap and Sheepscot rivers was transferred to the ASA from the Task Force on July 1, 1997. The State-wide goal of the ASA is to protect, conserve, restore, manage, and enhance Atlantic salmon habitat, populations, and fisheries within historical habitat in Maine (Baum *et al.* 1997).

Management activities outlined in the 1995 ASRSC plan (Baum 1995) include restoration of self-sustaining runs of Atlantic salmon, increasing natural reproduction of existing Atlantic salmon populations, providing recreational angling opportunities and compatible non-consumptive uses of Maine's Atlantic salmon resources, improving fish passage for Atlantic salmon where there are natural and artificial barriers to migration, establishing partnerships which will benefit salmon restoration and management programs, and increasing public awareness and broadening support for attainment of the ASA's overall goal through development of a public education program. The Report of the Maine Atlantic Salmon Authority to the Joint Standing Committee on Inland Fisheries and Wildlife (Baum and Atlantic Salmon Board 1997), states: "Many of the challenges facing restoration and management of Atlantic salmon runs are found within the State of Maine, including the following: inadequate or incomplete information and biological data pertaining to salmon habitat and populations, upstream and downstream fish passage at hydroelectric dams, land-use practices, conflicts with other fishery programs, insufficient broodstock and inadequate numbers of juvenile salmon for restocking efforts."

The ASA is currently the sole management authority for Atlantic salmon management in the State, and staff work with the Division of Inland Fish and Wildlife and the Department of Marine Resources to address areas of overlap. The Chair of the ASA Board now has a seat on the board of the State's Land and Water Resources Council (Council). It is through this venue that the ASA can address activities conducted, funded or authorized by other State agencies to ensure that they do not negatively impact Atlantic salmon. This is a very positive step that recognizes the interrelationship of Atlantic salmon with other species and its dependence on a healthy ecosystem.

Conservation Plan

The Services' proposed rule (60 FR 50530) included a special 4(d) rule inviting the State of Maine to develop a conservation plan for the species. Following the publication of that proposed rule (60 FR 50530), the Governor of Maine issued an Executive Order on October 20, 1995, establishing the Task Force and charged it with preparation of a conservation plan for the protection and recovery of Atlantic salmon populations in the seven rivers. The Task Force included scientists, academics, State employees, Native American sustenance fishers, conservationists and private citizens. The Task Force was organized into the following six working groups: genetics, aquaculture, agriculture, forestry, recreational fisheries, and the four rivers group to address four rivers (Kennebec River, Penobscot River, St. Croix River and Tunk Stream) containing Atlantic salmon populations which had been identified by the Services in the proposed rule (60 FR 50530) as candidates for listing.

The stated intent of the Conservation Plan is to minimize human impacts on the Atlantic salmon and to restore the species with the involvement of the citizens who know and use the resources in the watersheds. The introduction to the Conservation Plan states that this collaborative approach to protection and rehabilitation of Atlantic salmon is vital to maintaining the commitment of Maine citizens to the conservation of the species.

The Conservation Plan identifies the following factors that affect juvenile, adult, and migratory smolt survival in rivers and streams: Stream hydrology, seasonal water temperatures, pH, dissolved oxygen, streambed characteristics, food availability, competition, predation, pollution, recreational angling, and illegal harvest. Factors influencing survival of salmon at sea include water temperature, food availability, competition, predation, and commercial fisheries. The Conservation Plan includes ongoing and proposed actions to reduce potential threats to Atlantic salmon and its habitat. These actions are discussed below.

1. Agriculture: The Conservation Plan identifies a wide range of agricultural activities that take place in the seven river watersheds including dairy, hay, silage corn, horse, sheep, beef cattle, and Christmas tree operations; production of vegetables, blueberries, and cranberries; landscape and horticultural operations; and peat mining. Wild blueberry culture is the primary form of agriculture in the five

Washington County watersheds (Narraguagus, Pleasant, Machias, East Machias and Dennys rivers). The only active peat mine is located in the Narraguagus River watershed. Livestock production is the predominant form of agriculture in the Sheepscot River watershed.

The Conservation Plan groups agricultural activities that could affect Atlantic salmon habitat into three groups: Water use (including irrigation and use and disposal of process water), agricultural practices (non-point source pollution caused by crop production), and peat mining. The Conservation Plan identifies ongoing actions to address these potential threats: integrated crop management and best management practices for blueberry and cranberry production; a Coastal Zone Management program to protect water quality; a State pesticide management plan for protection of ground water; a State hexazinone management plan for protection of ground water; and soil and water conservation district programs offering technical support to farmers utilizing best management practices to reduce non-point source pollution.

The Conservation Plan proposes additional actions for enhanced protection: development and implementation of total water use management plans for each watershed; development of a watershed specific non-point source pollution control program for the Sheepscot River; targeted integrated crop management programs and promotion of best management practices to further reduce potential threats from pesticide use and non-point source pollution; identification of wetlands with functions important for maintaining the integrity of Atlantic salmon habitat; enhancement of the Board of Pesticide Control programs that evaluate and mitigate the threats to Atlantic salmon associated with pesticide use; improvement of the permit review process and standards for erosion control for peat mines; and evaluation of the threat to Atlantic salmon from water quality changes associated with peat mining. The Conservation Plan concludes that these new actions, implemented through cooperative efforts of watershed steering committees, in conjunction with existing programs, laws, and regulations, will protect Atlantic salmon habitat quantity and quality.

Interest in expansion of the cranberry industry in Maine increased during the development of the Conservation Plan, and all parties involved in the review of these proposals are working cooperatively, in compliance with the

Conservation Plan, to examine these proposals for their potential effect on Atlantic salmon. The Services expect that new activities which could potentially impact Atlantic salmon will be proposed. These activities will be addressed using the collaborative and cooperative approach endorsed in the Conservation Plan. In monitoring the success of the Conservation Plan, the Services will assess how effectively new issues are being addressed.

2. Aquaculture: The Conservation Plan states that potential threats to salmon from aquaculture include: disease and parasite transmission from farmed fish to wild fish; reduction of survival fitness as a result of escaped farmed fish interbreeding with wild fish; disruption of the incubation of wild salmon eggs by redd superimposition (redd formation by an escaped farmed fish on top of a redd constructed by a wild fish); or competition for food and space in river habitats from escaped juvenile farmed fish. The Conservation Plan further noted that potential threats from poor husbandry practices in freshwater fish culture operations could affect wild salmon in the Sheepscot, Pleasant and East Machias rivers. Current actions addressing these potential threats identified in the Conservation Plan include: State, Federal and New England fish health inspection protocols; vaccination of farmed fish prior to stocking in sea cages; enforcement of private insurance standards; harvesting of farmed salmon (with the exception of commercial broodstock) prior to the onset of maturation; escape control measures including careful site selection, regular equipment maintenance and storm preparation procedures; minimization of seal-induced escapement through the use of predator nets and acoustic and visual deterrent devices; and minimization of farmed juvenile salmon escapes through screening of water intakes and discharges of freshwater culture facilities.

Additional proposed measures to enhance protection include: Development of an emergency disease eradication program; expansion of the ongoing epidemiological monitoring program; creation of a fish health code of practices and a code of containment (for culture in freshwater and sea cage sites); participation in a river-specific rearing program; construction and operation of weirs to aid in research and management and to cull aquaculture escapees; development of a marking system for farmed fish to assist in distinguishing them from wild fish at

the weirs; and research into seal behavior around cages.

The construction of weirs will allow the collection of data on returning adults, collection of broodstock, and exclusion of aquaculture escapees. The FWS has secured funding for the construction of three weirs on the Dennys, Machias and East Machias rivers, and currently the design of those weirs is being finalized. The weirs will be constructed with state-of-the-art technology and will operate continuously and effectively without compromising the ability of wild, river-specific Atlantic salmon to migrate upriver or out to sea.

3. *Forestry*: Forestry is the dominant land use in five of the seven watersheds. Forestry-related actions proposed in the Conservation Plan are designed to build upon present regulations and initiatives, and, therefore, provide incremental improvements to existing Atlantic salmon protection. These actions will help to reduce non-point source pollution, alteration of stream temperatures and hydrology, direct disturbance of salmon habitat, blockage of fish passage with poorly designed road crossings, and deposition of woody debris in streams.

The Conservation Plan identifies current efforts to address potential threats to Atlantic salmon and their habitat from forestry activities: Project SHARE, a private non-profit organization dedicated to conserving and enhancing Atlantic salmon habitat; Sustainable Forestry Initiative, a forestry industry effort to promote a wide range of values in forest management decisions; riparian management zones; Champion International's self-imposed, restrictive management standards for timber operations near streams and rivers; Maine's non-point source pollution control program; code enforcement training and local shoreland zoning technical assistance; and the Sheepscot Valley Conservation Organization and the Ducktrap River Coalition.

The Conservation Plan also identifies proposed actions to enhance protection which include: control of non-point source pollution by increased coordination among State agencies, municipalities, industry and local volunteers to increase compliance with prescribed best management practices through education and enforcement; protection of important habitat through conservation agreements; education of logging contractors and resource managers to raise awareness about the importance of maintaining riparian shade trees; increasing State enforcement of regulations and

monitoring of harvesting activities near streams; the Maine Department of Environmental Protection (DEP), the Board of Pesticide Control and the ASA will review the geographic usage of pesticides in the seven watersheds and the DEP will target areas for in-stream assessment; the Board of Pesticide Control will work cooperatively with the Cooperative Extension Service and the Department of Agriculture Food and Rural Resources to update pesticide best management practices based on the latest research and to promote these practices in the seven river watersheds; and the Board of Pesticide Control will adjust State pesticide regulations to eliminate any threats to Atlantic salmon.

4. *Recreational Fishing*: The Conservation Plan states that until recently the greatest threat to Atlantic salmon was legal harvest through directed fishing but that currently only catch and release fishing is allowed. It states that mortality can occur from a directed catch and release fishery but cites new data from several reports that suggest a carefully designed and regulated catch and release fishery will have little impact on the species. The Conservation Plan states that poaching is a continuing problem. In addition, the Conservation Plan states that the number of Atlantic salmon killed each year as a result of recreational fishing for other freshwater and estuarine species is estimated to be very small. The Plan proposes additional steps to further minimize, if not eliminate, the risk of an accidental bycatch. To address these threats, no direct harvest of Atlantic salmon will be permitted and recreational fishing regulations will be enforced.

The ASA adopted new angling regulations, which became effective on June 30, 1997, in an effort to reduce the potential mortality of Atlantic salmon that are caught and released during periods of high water temperature. The Maine Department of Inland Fisheries and Wildlife also promulgated regulations to close specific areas of rivers from fishing for all species to protect Atlantic salmon. The Maine Department of Inland Fisheries and Wildlife and the Maine Department of Marine Resources have filled two new warden positions devoted to Atlantic salmon on the seven rivers. They will provide a law enforcement presence on the rivers and collect valuable information about habitat and angling trends which will be reported weekly. The Maine Land Use Regulation Commission is pursuing enforcement (fines and reparation) of two separate violations related to clearing vegetation

in riparian areas along the Narraguagus River.

The Conservation Plan proposes additional protective actions, some of which have been implemented. These include: modifying the catch and release program for Atlantic salmon to further restrict dates, location and gear allowed; instituting a reporting and monitoring program to better estimate any incidental take; restricting anglers to the use of artificial lures only; requiring a minimum length for all trout of 8 inches in the mainstem and major tributaries of all 7 rivers; requiring a maximum length for brown trout (*Salmo trutta*) and landlocked salmon of 25 inches within the Sheepscot River and estuary; requiring a maximum length of 25 inches for landlocked salmon within all Washington County waters, except West and Grand lakes; eliminating size and bag restrictions on black bass (*Micropterus* sp.), a predator of juvenile Atlantic salmon, on the Dennys River and Cathance Stream; when justified, closing cold water adult Atlantic salmon holding areas to all fishing; and finally, increasing penalties for poaching.

5. *Other Natural and Human Related Threats*: The Conservation Plan identifies additional actions that could affect Atlantic salmon: Commercial harvest of suckers (*Castostomus commersoni*), eels, elvers (young eels), and alewives (*Alosa pseudoharengus*); interbreeding among wild Atlantic salmon, landlocked salmon, brown trout, and salmon which have escaped from inland hatcheries; predation on juveniles by splake (lake trout (*Salvelinus fontinalis*) x brook trout (*S. namaycush*)) and brown trout; predation by cormorants on migrating smolts; predation by seals on returning adults; beaver dam blockage of migration routes and flooding salmon habitat; residential development and gravel mining operations; and possibly restricted passage at the Cooper's Mills Dam on the Sheepscot River.

Current actions addressing these potential threats were identified as follows: Monitoring of the bycatch of commercial fisheries; placement of a moratorium on new eel weirs; stricter regulation of elver fisheries; enforcement of commercial fishing regulations; breaching of beaver dams in the fall; expansion of the beaver trapping season; enforcement of municipal shoreland zoning restrictions; development of municipal comprehensive plans and institution of local ordinances designed to steer development away from sensitive resources and to manage the effects of gravel mining and development; implementation of a surface water

ambient toxic monitoring program by the DEP; evaluation of the Dennys River Superfund site; and toxic removal action at Smith Junk Yard.

Additional actions proposed for enhancing protection include: Placing exclusion panels on elver nets; instituting a moratorium on commercial sucker harvesting in freshwater on the seven rivers; monitoring other salmonid populations that could interbreed with Atlantic salmon; screening the outlet of Meddybemps Lake to prevent the drop down of landlocked salmon during the spawning season; screening the outflows of hatcheries to prevent escapement of small salmon and trout; evaluating the impact of splake, brown trout, cormorant and seal predation; identifying and rectifying fish passage problems at Cooper's Mills Dam; evaluating the Eastern Surplus Superfund site at Meddybemps Lake; and instituting a moratorium on the disposal of toxic materials at Smith Junk Yard.

The Conservation Plan concludes that the key to successfully providing for the needs of Atlantic salmon, other fisheries resources, agriculture, and forestry is watershed planning. The Conservation Plan uses specific watershed councils, which include all interested stakeholders (State and Federal agencies, conservation groups, industries, towns, landowners, etc.), to guide and oversee Atlantic salmon conservation activities related to land use and other activities within each watershed. The Sheepscot River Watershed Council was organized in the spring of 1996 and immediately began addressing agricultural non-point source pollution within that watershed. The Ducktrap Coalition is addressing a variety of conservation issues within that watershed, and the Midcoast Atlantic Salmon Watershed Council was established to coordinate planning on the Ducktrap and Sheepscot rivers. Two new local watershed councils have been formed on the Sheepscot and Pleasant rivers.

Project SHARE has coordinated conservation efforts on the five Downeast rivers since 1994. Local angler groups are present on all of the rivers and are very active in salmon conservation. Project SHARE continues to provide support for Atlantic salmon conservation and serves as a valuable forum for exchanging ideas and resolving conservation issues. Specific examples of work Project SHARE has undertaken include: A temperature monitoring study on five rivers; the design of a prototype trap to improve collection at the Dennys River weir; repair of the fish ladder, gate, and

screen at Meddybemps Lake; upgrading the Pleasant River Hatchery and Education Center; and training of land managers and foresters on salmon biology and management. Champion International, a significant landowner in five of the seven watersheds, has instituted riparian management standards that exceed the regulatory standards enforced by the State. The U.S. Environmental Protection Agency (EPA) is currently completing preliminary assessment work on the Eastern Surplus Superfund site at Meddybemps Lake, and the DEP is investigating the nearby Smith Junk Yard site for contaminants migrating into the Dennys River.

6. Monitoring and Implementation: The Conservation Plan is complex and will require the commitment from and cooperation of numerous State, private and Federal entities to succeed. The Services intend to conduct thorough monitoring of plan implementation. This oversight will be accomplished through membership in various groups and by inspecting projects, attending ASA and Project SHARE meetings, and remaining in contact with Maine officials. Beginning in 1998, the FWS will have additional staff to accomplish these tasks. The Services also anticipate relying on the expertise of the Technical Advisory Committee (TAC) of the ASA to continue to assess the salmon's status and needs.

The Conservation Plan recognizes that the continued rehabilitation of Atlantic salmon in the seven rivers will depend on partnerships between State and Federal agencies and private sector groups. The Council is responsible for the implementation and monitoring of the Conservation Plan and will supervise the Conservation Plan Coordinator, in consultation with the ASA. Because its members include the Commissioners from all the natural resource and development related agencies in Maine, the Council can affect State-wide policy and direct State agency actions. An Atlantic Salmon Committee has been formed under the Council, and the Chair of the ASA is as a full voting member of that Committee.

During the Services' second reopened comment period, the State of Maine submitted a report which provided an update on progress in implementation of the Conservation Plan. The Maine State Legislature approved and funded a Conservation Plan Coordinator at the State Planning Office and an Atlantic salmon biologist at the ASA. State agencies have been advised of their responsibilities under the Conservation Plan and are planning for the implementation of their respective

responsibilities. The Conservation Plan contains a 5-year monitoring and implementation schedule that will allow the Conservation Plan Coordinator to assess progress toward achievement of goals. The Council, with the assistance of the Conservation Plan Coordinator, will provide annual reports of Conservation Plan activities and results from each watershed. Information for that report will be solicited from the ASA, State agencies, private organizations and watershed councils. Monitoring reports will be organized under the following four headings: habitat protection, habitat enhancement, species protection, and fishery management. The Services will make these reports available for public review and comment.

Finding and Withdrawal

Section 4(b)(1)(a) of the Act provides that the Secretaries of Interior and Commerce shall make listing determinations solely on the basis of the best scientific and commercial data available and after taking into account those efforts being made by any State or foreign nation to protect such species. The Services have considered the current status of the seven rivers DPS of Atlantic salmon and have taken into account the efforts being made to protect the species including development of the Conservation Plan, the extent of implementation of the Conservation Plan to date, private and Federal efforts to restore the species, and international efforts to control ocean harvest through NASCO. The Services believe that ongoing actions, including those identified in the Conservation Plan, have substantially reduced threats to the species and that these ongoing actions, together with additional planned actions, will facilitate the continued rehabilitation of the seven rivers DPS. Consequently, the Services find that the seven rivers DPS of Atlantic salmon is not likely to become endangered in the foreseeable future and that, therefore, listing is not warranted at this time.

In addition, because the possibility exists that other populations of Atlantic salmon could be added to the seven rivers DPS in the future, and for purposes of future conservation activities, the Services are renaming the seven rivers DPS the Gulf of Maine DPS. Other populations of Atlantic salmon will be added to the Gulf of Maine DPS if they are found to be naturally reproducing and to have historical, river-specific characteristics. The area within which populations of Atlantic salmon meeting the criteria for inclusion in the DPS are most likely to

be found is from the Kennebec River north to, but not including, the St. Croix River. The Services believe that the populations in Togus Stream, a tributary to the Kennebec River, and Cove Brook, a tributary to the Penobscot River, may warrant inclusion in the Gulf of Maine DPS. Further investigation of these and other extant river populations from the Kennebec River north to, but not including, the St. Croix River will continue in order to determine if they meet the criteria for inclusion in the DPS.

The Conservation Plan was developed for the seven rivers DPS of Atlantic salmon originally proposed for listing by the Services. The Services will work with the State to determine the status of any other populations of Atlantic salmon which may be added to the DPS in the future and whether the Conservation Plan should be modified to address any threats faced by any added populations.

The Conservation Plan calls for annual reporting of plan implementation on a river-by-river basis. In order to inform interested citizens and to give them an opportunity for comment, the Services will make the annual reports available for review upon request and solicit comments through a notice in the **Federal Register** and news releases.

The Conservation Plan identifies numerous ongoing and planned actions for the protection and rehabilitation of the seven rivers DPS of Atlantic salmon. Modifications to the recreational fishery including the addition of wardens, shortened seasons and gear restrictions are already being implemented. The Services are seeking additional refinements to the catch and release program to further remove the likelihood of mortality including closure of some of the rivers when biological conditions warrant closure. The Services have received a commitment by the State that such

modifications will be in place prior to the 1998 angling season. Efforts to minimize impacts from aquaculture include institution of the most stringent fish health regulations in the country, weir construction on several rivers, development of a code of practices, and continued research on marking and triploidy. The Services will continue to monitor the development of a code of practice for the aquaculture industry and its subsequent implementation and assessment. The United States remains active in the international forum for Atlantic salmon management, NASCO, and the parties have endorsed scientific establishments of quotas to protect U.S. fish during their migration. Numerous other tasks dealing with agriculture, forestry, recreational fishing for other species, outreach and education, were discussed in the "Factors Affecting the Species" and the "Efforts to Protect Maine Atlantic Salmon" sections of this notice. The development of river specific stocks, ongoing habitat assessment work, establishment of watershed councils, juvenile survival studies, and conversion of Craig Brook Hatchery further support the Services' finding that listing is not justified at this time.

Endangered Species Act Oversight

The process for listing Maine Atlantic salmon under the Act will be reinitiated if:

1. An emergency which poses a significant risk to the well-being of the Gulf of Maine DPS is identified and not immediately and adequately addressed;
2. The biological status of the Gulf of Maine DPS is such that the DPS is in danger of extinction throughout all or a significant portion of its range, or;
3. The biological status of the Gulf of Maine DPS is such that the DPS is likely to become endangered in the foreseeable future throughout all or a significant portion of its range.

The circumstances described under 1, 2, and 3 above could be a result of:

insufficient progress in implementation of the Conservation Plan; a failure to modify the Conservation Plan to address a new threat(s) or an increase in the severity of a threat(s); a failure to modify the Conservation Plan, if necessary, to address a threat(s) facing any other populations added to the Gulf of Maine DPS in the future; or the inability of the State of Maine to address a threat(s). A decision to reinitiate the listing process generally would be made shortly after the end of an annual reporting period; however, under circumstances involving an emergency threat, the decision would be made immediately following a determination by the Services that the emergency threat is not being adequately addressed. Appropriate notice will be provided to State officials should the Services decide to reinitiate the listing process.

References/Administrative Record

The complete citations for the references used in the preparation of this document can be obtained by contacting Mary Colligan or Paul Nickerson (see **ADDRESSES** section). Persons wishing to review the Administrative Record relating to this action may contact either individual to set up an appointment.

Authors: The primary authors of this notice are Mary Colligan and Paul Nickerson (see **ADDRESSES** section).

Authority: The authority for this action is section 4(b)(6)(B)(ii) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)

Dated: December 12, 1997.

Jamie Rappaport Clark,
Director, Fish and Wildlife Service.

Dated: December 12, 1997.

Rolland A. Schmitten,
*Assistant Administrator for Fisheries,
National Marine Fisheries Service.*

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