



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington, D.C. 20240



AUG 7 2003

In Reply Refer To:  
FWS/Region 5/012079

Mr. Richard J. Mannix  
Attorney at Law  
Crowell and Moring  
1001 Pennsylvania Avenue, NW.  
Washington, DC 20004-2595

Dear Mr. Mannix:

Thank you for your letter of March 28, 2003. The U.S. Fish and Wildlife Service (Service) has considered your request on behalf of Atlantic Salmon of Maine (ASM) pursuant to Section 515 of Public Law 106-554 (Section 515) for correction of: (1) The September 2002 draft biological opinion (BO) to the U.S. Army Corps of Engineers (Corps) on the proposed continuation of existing permits authorizing the installation and maintenance of fish pens within the State of Maine with conditions to protect endangered Atlantic salmon (draft Corps BO) and; (2) the January 2001 *Final Biological Opinion on the U.S. Environmental Protection Agency's (EPA) Proposed Approval of the State of Maine's Application to Administer the National Pollutant Discharge Elimination System (NPDES) Permit Program* (EPA BO). In brief, ASM contends that the Service should not rely upon the King Study<sup>1</sup> in the BOs because it does not meet the standards established by Section 515 and that the Service should also reexamine the applicability of outbreeding depression to wild salmon in Maine.

In your letter to the Service, you identified a number of issues related to your request for correction of information. For each of these issues (referenced by number and location in your letter), we provide a response below.

**1. Issue:** The King Study data have not been made available to affected parties, but dissemination of its conclusions is the basis for ongoing regulatory decision making (No. V, page 9).

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<sup>1</sup>King, T.L., W.B. Schill, B.A. Lubinski, M.C. Smith, M.S. Eackles, and R. Coleman. 1999. Microsatellite and mitochondrial DNA diversity in Atlantic salmon with emphasis on small coastal drainages of the Downeast and Midcoast of Maine. U.S. Geological Administration-Biological Resources Division-Leetown Science Center, Kearneysville, West Virginia.

**Response:** We disagree with the statement about availability of data. Many of the data underlying the King Study were freely available to the public since they were posted on the U.S. Geological Survey, Biological Resources Division website following release of Dr. King's report. The entirety of the raw data from Dr. King's 1999 report were provided to representatives of the aquaculture industry following a January 2000 Freedom of Information Act request. We have also enclosed a complete copy of the 1999 King Study.

**2. Issue:** The conclusion adopted from the King Study and disseminated by the Service does not meet the objectivity standard of the Service's guidelines. An independent critique of the King Study indicates that the underlying data and methodology are themselves inaccurate and unreliable. Another geneticist's effort to employ the King protocol indicate serious weaknesses in the quality control/quality assurance practices of Dr. King's laboratory (No. VI, page 9, including VI.A, page 10, and VI.B, page 11).

**Response:** The King Study, as well as several other studies indicating genetic differences between North American and European stocks of Atlantic salmon, were cited in the 1999 Status Review of Atlantic Salmon and have been subject to review and public comment through the administrative proceedings on the decision to list the Distinct Population Segment (DPS) of Atlantic salmon as endangered under the Endangered Species Act (ESA) (FR 65(223):69459-69438). These proceedings included:

- Notice of Availability for the 1999 Status Review making it available for public review (October 19, 1999; 64 FR 56297);
- Proposed Rule to list the DPS and requesting public comment (November 1999; 64 FR 62627); and,
- External peer review (solicited by the Service) on the proposed rule, including the 1999 Status Review; peer reviewers included geneticists (February 2000).

As part of these proceedings, the Maine Salmon Rescue Coalition (MSRC), of which ASM is a member via the Maine Aquaculture Association, submitted comments indicating concern about the King Study. MSRC included the analysis of the King Study by Dr. Gold that is included as part of your Section 515 request for correction. The Service considered MSRC's comments and determined that they did not preclude reliance upon the King Study. This decision was supported by the external peer review panel solicited by the Service.

At the time of the final rule to list the Atlantic salmon DPS, and at the time the EPA BO was finalized, the King Study represented the best available scientific information and was clearly

referenced. Since that time, Dr. King and others have published peer-reviewed studies<sup>2</sup> that were based upon, and support the same conclusions as the King Study. In addition, the National Research Council (NRC) of the National Academy of Sciences has reviewed the King Study and critiques of it (including Dr. Gold's). The NRC report<sup>3</sup> resulting from that review confirmed that on the whole, Dr. King's data were reliable. The NRC report (p. 3) states that "...the general conclusions are so strongly supported by the evidence that they are not invalidated by imperfections in the data collections or analyses. The committee concludes that North American Atlantic salmon are clearly distinct genetically from European salmon. In addition, despite the extensive additions of nonnative hatchery and aquaculture genotypes to Maine's rivers, the evidence is surprisingly strong that the wild salmon in Maine are genetically distinct from Canadian salmon. Furthermore, there is considerable genetic divergence among populations in the eight Maine rivers where wild salmon are found."

The Service believes that the King Study has been closely scrutinized and validated through peer-reviewed publication and an exhaustive review by the NRC. In addition, two recent Federal court rulings<sup>4</sup> have also upheld the Service's position with regard to the distinctiveness of Maine's Atlantic salmon and the threat of outbreeding depression. In fact, Federal District Court Judge Eugene Carter ruled that an immediate and permanent injunction against the use of non-North American strains of Atlantic salmon by Atlantic Salmon of Maine (and another aquaculture company) is necessary to protect the endangered Atlantic salmon DPS in Maine from outbreeding depression.

Working with Steve Page of ASM, we have recently responded to the comments and concerns of Dr. Patton about the King protocol (enclosure B of your request). We understand Dr. Patton's laboratory is now able to reproduce the genetic scoring of Dr. King's laboratory and Dr. Patton's concerns about quality control/quality assurance have been addressed. Furthermore, we have recently provided ASM a copy of the genetic data used by Dr. King to perform the assignment testing of aquaculture fish.

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<sup>2</sup> King, T.L., S.T. Kalinowski, W.B. Schill, A.P. Spidle, and B.A. Lubinski. 2001. Population structure of Atlantic salmon (*Salmo salar* L.): a range-wide perspective from microsatellite DNA variation. *Mol. Ecol.* 10:807-821.

Spidle, A.P., W.B. Schill, B.A. Lubinski, and T.L. King. 2001. Fine-scale population structure in Atlantic salmon from Maine's Penobscot River drainage. *Cons. Gen.* 2:11-24.

Spidle, A.P., S.T. Kalinowski, B.A. Lubinski, D.L. Perkins, K.F. Beland, J. F. Kocik, T.L. King. 2003. Population structure of Atlantic salmon in Maine with reference to populations from Atlantic Canada. *Trans. Am. Fish. Soc.* 132:196-209.

<sup>3</sup> National Research Council. 2002. *Genetic Status of Atlantic Salmon in Maine*. Washington, DC: National Academy Press.

<sup>4</sup> *U.S. Public Interest Research Group v. Atlantic Salmon of Maine*, No. 00-151-B-C (D. Maine May 28, 2003).

*State of Maine et al. v. Norton et al.*, No. 00-250-B-C, (D. Maine April 24, 2003).

Regarding the issue of objectivity that you raise (see top of page 10), the Service has properly cited the King Study in both BOs. We believe we have appropriately and objectively represented the conclusions made in the King Study.

**3. Issue:** Reliance by the Service on the conclusion of the King Study did not satisfy the Section 515 requirements of transparency and reproducibility (No. VII, page 11).

**Response:** We disagree. Our response in Issue 1 above indicates the availability of data underlying the King Study. Portions of our response in Issue 2 above respond to the issue of reproducibility. In particular, the King Study has been validated through additional peer-reviewed studies published after the King Study, as well as the comprehensive review completed by the NRC.

**4. Issue:** The failure of the King Study conclusion to meet the Section 515 standards for objectivity, transparency, and reproducibility was confirmed in the context of a request for injunctive relief sought by the State of Maine.

**Response:** While Dr. King's data were the subject of litigation brought by the State of Maine, we believe those issues have subsequently been addressed. We disagree with your conclusions regarding objectivity, transparency and reproducibility. Objectivity is addressed in our response to Issue 2. Transparency and reproducibility are addressed in our response to Issue 3 (and, as noted in that response is also addressed in other responses)

**5. Issue:** Perpetuating the error — the Precautionary Principle Studies (No. IX, page 13). ASM contends that studies<sup>5</sup> cited by the Service in the EPA and draft Corps BOs generally argue that it is not possible to predict the outcomes of interbreeding, and that only by relying upon the King Study can the Service conclude that interbreeding will cause negative effects (i.e., outbreeding depression).

**Response:** Through selective use of quotations, we believe ASM has inaccurately characterized the conclusions of the Precautionary Principle Studies, all of which support the conclusion that interbreeding between genetically diverged populations poses a threat to natural populations. The NRC report also indicated that outbreeding depression is a threat to salmon in Maine,

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<sup>5</sup> Utter, F.M., K. Hindar and N. Ryman. 1993. Genetic effects of aquaculture on natural salmonid populations. Pages 144-165 in K. Heen, R.L. Monahan, and F. Utter, editors. Salmon aquaculture. Fishing News Books, Oxford.

Verspoor, E. 1997. Genetic diversity among Atlantic salmon (*Salmo salar* L.) populations. ICES Journal of Marine Science 54:965-973.

Youngson, A. F. and E. Verspoor. 1998. Interactions between wild and introduced Atlantic salmon (*Salmo salar*). Can. J. Fish. Aquat. Sci. 55(supp. 1):153-160.

especially as the number of wild salmon becomes small relative to the number of aquaculture fish. As noted in the response to Issue 2 above, additional studies published after Dr. King's 1999 report support his conclusions. In addition, the NRC reviewed both the King Study and critiques of that study including Dr. Gold's critique. The NRC report resulting from that review confirmed that Dr. King's data were reliable, and that it was valid to conclude that there are significant genetic differences between Maine Atlantic salmon and other Atlantic salmon (see quote from NRC report in our response to Issue 2 above).

**6. Issue:** ASM is directly affected by conditions which the Service has imposed as a result of the King Study. (ASM asserts that conclusions reached in the EPA BO result from conclusions in the King Study).

**Response:** We concur that ASM may be affected by decisions that the Service has made in the EPA BO. However pursuant to the Service's policy and requirements of the ESA, the Service relied on the best available scientific information when we prepared the final EPA BO. Likewise, as the Service completes the Corps BO, we will rely upon currently available scientific information, including genetic studies and reviews that have been published since the King Study. However, a request for correction under Section 515 cannot be used as a means to secure a particular decision from the Service regarding the final outcome of the BO prior to the completion of the deliberative process generating the document. Nor does Section 515 amend or repeal any other statutory or regulatory mandates governing the production of the Corps BO.

The ESA consultation procedures at 50 CFR part 402 provide a process for an applicant to submit comments on a draft BO. Section 402.14(g)(5) provides that an applicant must submit comments on a draft BO to the action agency. Those regulations also indicate, however, that an applicant may submit a copy of its comments to the consulting agency. As a result, as the Service finalizes the draft Corps BO pursuant to the ESA and the consultation procedures, the Service will consider ASM's concerns regarding the draft Corps BO's reliance on the King Study as applicant comments on that document.

In conclusion, the Service has conducted an analysis of issues raised in your Section 515 request. As required by the ESA, the Service relies on the best available scientific and commercial information available when writing biological opinions. Our reliance on the best available science and information available at the time of the EPA BO has been confirmed and supported by the publication of additional peer-reviewed scientific literature and the NRC report. As a result of our analysis, we find that no correction of information is warranted.

If you are interested in seeking a reconsideration of this response to your Section 515 request for correction, you may submit an appeal to the Service within 15 business days from the date of this letter and should contain the following:

Mr. Richard J. Mannix

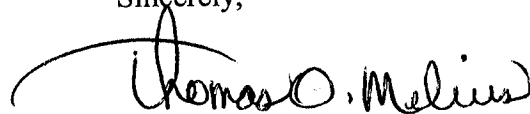
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- Indication that the person is seeking an appeal of an FWS decision on a previously submitted request for a correction of information, including the date of the original submission and date of FWS decision;
- Indication of how the individual or organization is an “affected person” under the provisions of the Service’s guidelines;
- Name and contact information. Organizations submitting an appeal should identify an individual as a contact;
- Explanation of the disagreement with the FWS decision and, if possible, a recommendation of corrective action; and
- A copy of the original request for the correction of information.

Please submit your appeal to:

Correspondence Control Unit  
Attention: Information Quality Complaint Processing  
U.S. Fish and Wildlife Service  
1849 C Street, NW, Mail Stop 3238-MIB  
Washington, D.C. 20240

Sincerely,

A handwritten signature in black ink that reads "Thomas O. Melius". The signature is written in a cursive style with a large, sweeping flourish at the beginning.

Thomas O. Melius  
Assistant Director - External Affairs

Enclosure

cc: Rick Bennett