Science, Service, Stewardship

River herring (alewife and blueback herring) petition and NMFS response

Protected Resources Division

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Presentation Overview

- General Endangered Species Act (ESA) definitions
- Overview of Endangered Species Act petition/response process in the context of the National Research Defense Council's (NRDC) river herring petition
- Overview of status review process
- Discuss NMFS' response and next steps
- Discuss potential outcomes

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ESA Definitions

Species - includes any subspecies of fish or wildlife or plants, and any distinct population segment (DPS) of any species or vertebrate fish or wildlife which interbreeds when mature

Endangered species - any species which is in danger of extinction throughout all or a significant portion of its range

Threatened species - any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range

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Petition Process

- Any interested person can petition the Secretary of Interior and/or Commerce to list a species under the Endangered Species Act (ESA)
  - NRDC petition to list both species or distinct population segments (DPS) of river herring as threatened and designate critical habitat
  - Petition notes dramatic declines in coast-wide abundance
  - Fishing-related mortality, water pollution, dams, dredging and climate change were identified in the petition as primary threats

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Petition Process (cont'd)

- Upon receiving a petition, the Secretary must make a finding within **90 days** (to the maximum extent practicable) as to whether the petition presents "substantial scientific or commercial information indicating that the petitioned action **may be warranted**."
  - Substantial information- defined as "the amount of information that would lead a **reasonable person** to believe that the measure proposed in the petition **may be warranted**."
  - NMFS made a positive 90 day finding for river herring.

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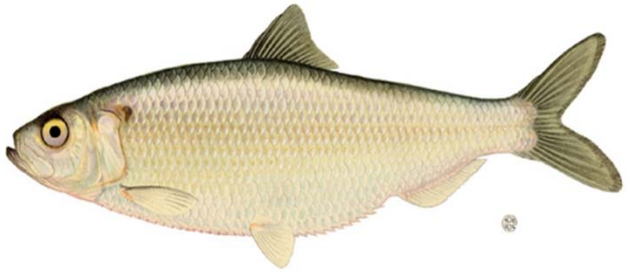
NRDC Petition

- Positive 90-day finding concluded that petition presents substantial information indicating petitioned action **may be warranted** published on November 2, 2011 (76 FR 50541)
- 90-day finding sought scientific and commercial information until February 3, 2012
- River herring is now a NMFS **Candidate Species**

Alewife



Blueback Herring

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River Herring Status Review

- NMFS initiated a review of the status of alewife and blueback herring
- This includes compiling best available information, conducting threats assessment/extinction risk analysis, and compiling information to be considered by NMFS to make a listing determination

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Status Review Process (cont.)

- NMFS-NERO staff coordinated with the Atlantic States Marine Fisheries Commission (ASMFC) to identify gaps between stock assessment information and information needed for review of the status of the species
- NMFS hosted three workshops on alewife and blueback herring:
  - Stock Structure Workshop June 22th in Gloucester, MA
    - Working Group meeting- June 20- 21th
  - Extinction Risk Workshop July 10th in Boston, MA
    - Working Group meeting- July 11-12th
  - Climate Change Workshop July 18-19th in Gloucester, MA

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Stock Structure Workshop

- Held June 20-22, 2012 in Gloucester, MA
- Invited experts from state and federal fisheries management agencies and academic institutions
- Gathered data and information to help NMFS make an informed decision on stock structure of alewives and blueback herring

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Stock Structure Workshop (cont'd)

- River herring experts presented data and information that suggest evidence of stock structure of alewives and blueback herring.
- Experts discussed stock structure ideas for alewives and blueback herring based on the information presented by the experts
- Identified strengths and weaknesses of each idea
- Identified data gaps that would boost our ability to discern stock structure of blueback herring and alewives
- Sought information from the public that would bolster any arguments for stock structure among populations of blueback herring and alewives

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Stock Structure Ideas sent to the extinction risk workshop

(*best supported based on evidence provided*)

- For both blueback herring and alewives:
  - —Single stock complex
- Alewives:
  - —Six stock complexes based on genetic evidence presented by Palkovacs + Willis
- Blueback herring:
  - —Five Stock complexes based on genetic evidence presented by Palkovacs

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Overview of River Herring Extinction Risk Analysis Workshop

- Public workshop held on July 10th with the working group meetings held July 11-12th
- Workshop discussions:
  - Endangered Species Act (ESA) and NMFS response process to petitions under the ESA
  - Overview of Stock Structure Workshop
  - ASMFC assessment report, data, models, and findings;
  - Extinction Risk Analysis (ERA) differ depending on data
  - Panel presentations on potential models to use for an ERA for river herring

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Overview of River Herring Extinction Risk Analysis Working Group Discussions

- Available data sets for both species rangewide
- Available data sets for both species by area for genetically unique groups as identified through the stock structure workshop
- Models that may work for alewife and blueback herring using coastwide data for entire range
  - MARSS Package in R (R package for fitting linear Multivariate Auto-Regressive State-Space Models) with the Dennis Model as a secondary option
- Models that may work for genetically unique groups
  - MARSS Package in R using a 4 year running sum with stock assessment model as secondary option

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Next Steps

- Reports from working group/workshop meetings will be peer reviewed
  - Stock assessment and Extinction Risk meeting reports- independently peer reviewed by Center for Independent Experts (CIE)
  - NMFS is further seeking qualified peer reviewers for Climate Change Workshop report ,as well as additional peer review of the Extinction Risk and Stock Structure reports
- NMFS will use stock assessment results, working group reports/products, and peer review reports to prepare a listing determination.

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Potential Outcomes

- NMFS proposes to list one or both species as **endangered**
- NMFS proposes to list one or both species as **threatened**
- NMFS determines that listing is **not warranted** for one or both species

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