

*Science, Service, Stewardship*



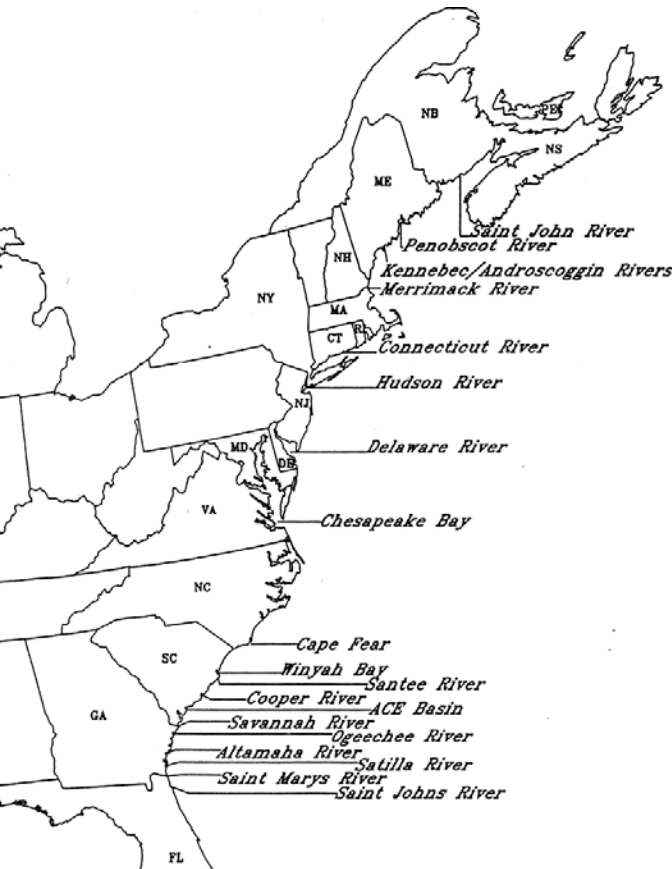
# Endangered Species Act and FERC Hydroelectric Projects

**NOAA  
FISHERIES  
SERVICE**

Jeff Murphy & Julie Crocker  
NHA New England Meeting  
November 16, 2010



# Shortnose Sturgeon



- Federally listed as endangered in 1967
- Listed under the sole jurisdiction of NOAA Fisheries
- 19 Populations occur along the East Coast

## Shortnose sturgeon in New England...

- Maine – Penobscot River, Kennebec/Sheepscot/Androscoggin complex, Saco River
- Massachusetts – Merrimack River, Connecticut River



# Shortnose Sturgeon & Hydroelectric Projects

## Challenges

- Shortnose sturgeon typically spawn near the fall line – often at the base of a dam where operations can affect the suitability of spawning habitat, affect the movements of adults or viability of eggs and larvae
- Upstream Passage – Sturgeon don't negotiate ladders well and have limited success entering fish lifts
- Downstream Passage – Shortnose sturgeon make downstream movements as yearlings and adults (large variability in size) and can be vulnerable to impingement at relatively low velocities
- Stranding - vulnerable to low dissolved oxygen and high temperatures that can occur in isolated pools



# Atlantic Sturgeon

- Proposed Listing Rule published October 6, 2010
- Public comment period open until January 4, 2011
- NOAA Fisheries has 1 year to publish a final rule
- There is no prohibition on “take” of proposed species, but the conference provisions of the ESA apply



# Atlantic Sturgeon Proposed Listing



- Proposal to list 5 Distinct Population Segments – **Gulf of Maine** (threatened); **New York Bight** (endangered); **Chesapeake Bay** (endangered); **Carolina** (endangered); and, **South Atlantic** (endangered)



## Gulf of Maine DPS of Atlantic Salmon

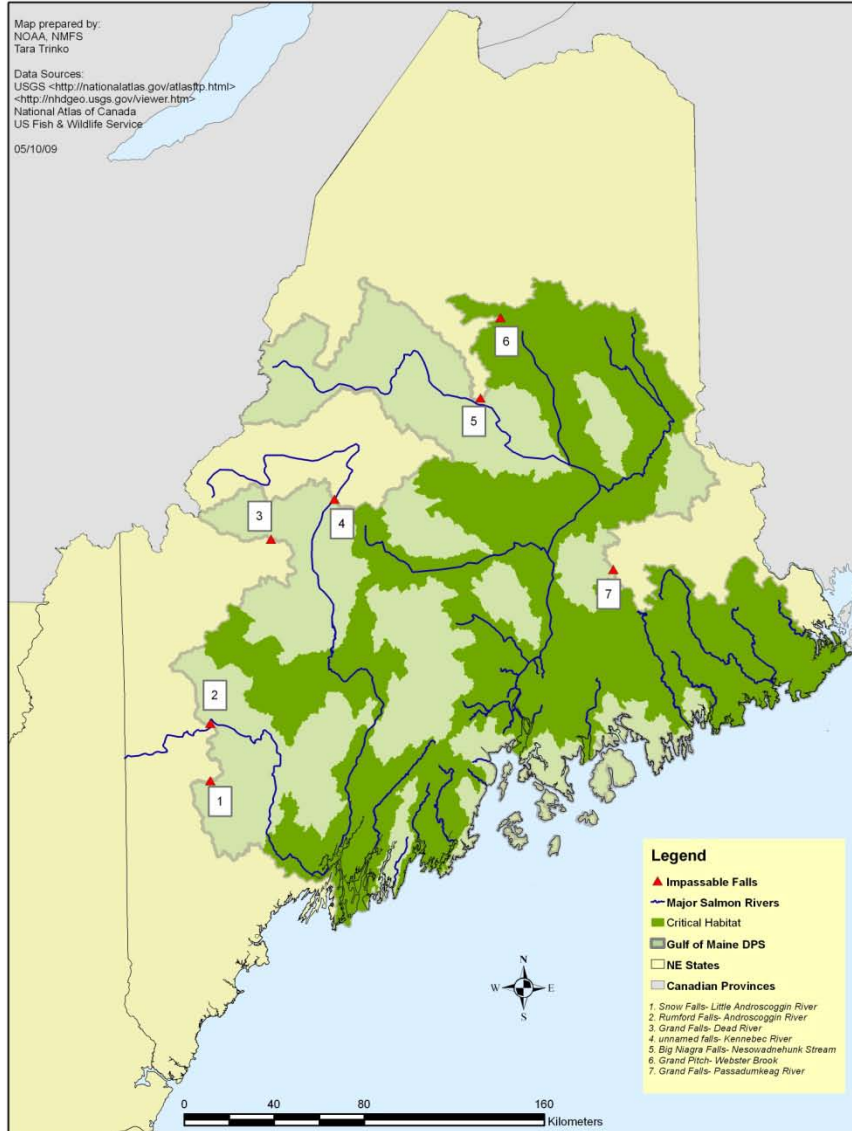
- Atlantic salmon in the Gulf of Maine (GOM) Distinct Population Segment (DPS) is jointly listed by NOAA's National Marine Fisheries Service (NMFS) and the U.S. Fish & Wildlife Service (USFWS) as endangered in 2000.
- The GOM DPS includes:
  - Includes all anadromous Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River.
  - Included are all associated conservation hatchery populations used to supplement these natural populations; currently, such conservation hatchery populations are maintained at Green Lake National Fish Hatchery (GLNFH) and Craig Brook National Fish Hatchery (CBNFH).
- NMFS has lead for consultations for FERC licensed projects.



## Atlantic Salmon Critical Habitat

- Critical habitat is the listing of specific areas that contain habitat features needed for the recovery of the species.
- Includes 45 specific areas occupied by Atlantic salmon at the time of listing that include approximately 19,571 km of perennial river, stream, and estuary habitat and 799 square km of lake habitat within the range of the GOM DPS.

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## **Threats to Maine Salmon**

### **3 Most Influential Stressors:**

- **Dams**
- **Inadequacy of Existing Regulatory Mechanisms for Dams**
- **Low Marine Survival**



## Implications for Hydro Owners

- “Take” of any listed species would be a violation of section 9 of the Endangered Species Act, unless exempted through an incidental take statement (section 7) or an incidental take permit (section 10)
  - *Take means to harass, harm, pursue, hunt, shoot, wound, kill, capture or collect.*
  - *Incidental take – take of listed fish or wildlife that results from, but is not the purpose of, carrying out an otherwise lawful activity*



## Examples of Take At Hydro Dams

- Turbine entrainment/impingement injury or death
- Upstream and downstream fish passage delay
- Handling at fish passage facilities
- Alteration of habitat (instream flows, stranding, water quality)
- Increased predation



## Take Authorization

- Section 7 of the ESA
  - Biological Opinion and Incidental Take Statement
- Section 10 of the ESA
  - Habitat Conservation Plan and Incidental Take Permit



## **Section 7 of the ESA**

- **7(a)(1) – Federal agencies have an affirmative conservation responsibility. Directs federal agencies to have programs that support recovery**
- **7(a)(2) – Consultation process federal agencies go through to ensure that their actions do not jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat. Includes any action funded, authorized, or carried out by a federal agency.**

# Section 7 Consultation



- Between the lead Federal agency (FERC) and NOAA Fisheries
- Concludes in issuance of a Biological Opinion
  - NOAA Fisheries determination as to whether the action *is not likely to jeopardize the continued existence of any ESA-listed species or result in the destruction or adverse modification of designated critical habitat*
  - *Jeopardy* - to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species



# Biological Opinion

- identify the nature and extent of the effects of the federal action on listed species and critical habitat
- identify reasonable and prudent alternatives, if any, when an action is likely to result in jeopardy or adverse modification
- provide an exception for specified levels of “incidental take” otherwise prohibited under section 9 of the ESA
- provide mandatory reasonable and prudent measures to minimize the impacts of incidental take to listed species



## Section 10 Permit

- 10(a)(1)(B) Secretary may permit any taking otherwise prohibited if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity
- Applicant needs to submit a conservation plan that specifies
  - Impact which will result from taking
  - Steps applicant will take to minimize and mitigate such impacts and funding for implementation
  - Alternative actions to the taking that were considered and reasons why they are not being utilized
  - Other measures that the Secretary may require as necessary or appropriate for purposes of the plan





## Species Protection Plans

- NOAA Fisheries and USFWS work with Licensees to develop a plan to protect species.
  - Can occur without immediate federal nexus.
  - Purpose of plan is to minimize adverse effects of the hydro project on salmon.
  - FERC can incorporate plan into license.
  - Formal consultation occurs with FERC.



## **Avoid and Minimize Take**

- First step is to avoid and minimize take
- NMFS will require upstream and downstream survival performance standards at each facility
  - Through entire project area
- NFMS will not rely on hatchery supplementation
- Habitat restoration projects will be accepted