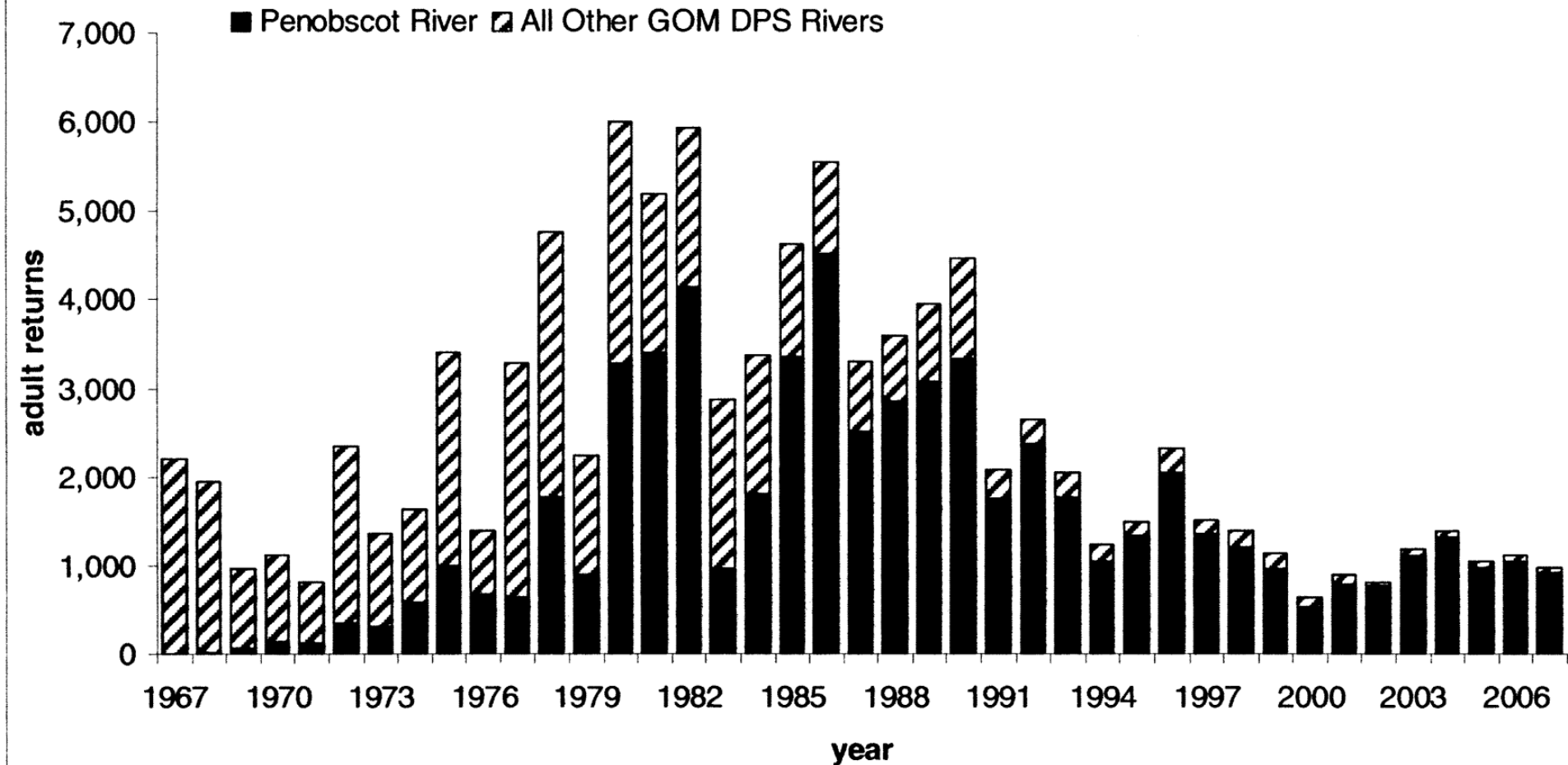


Atlantic Salmon ESA Listing



NHA New England Meeting
November 16, 2010

Declining numbers of adults



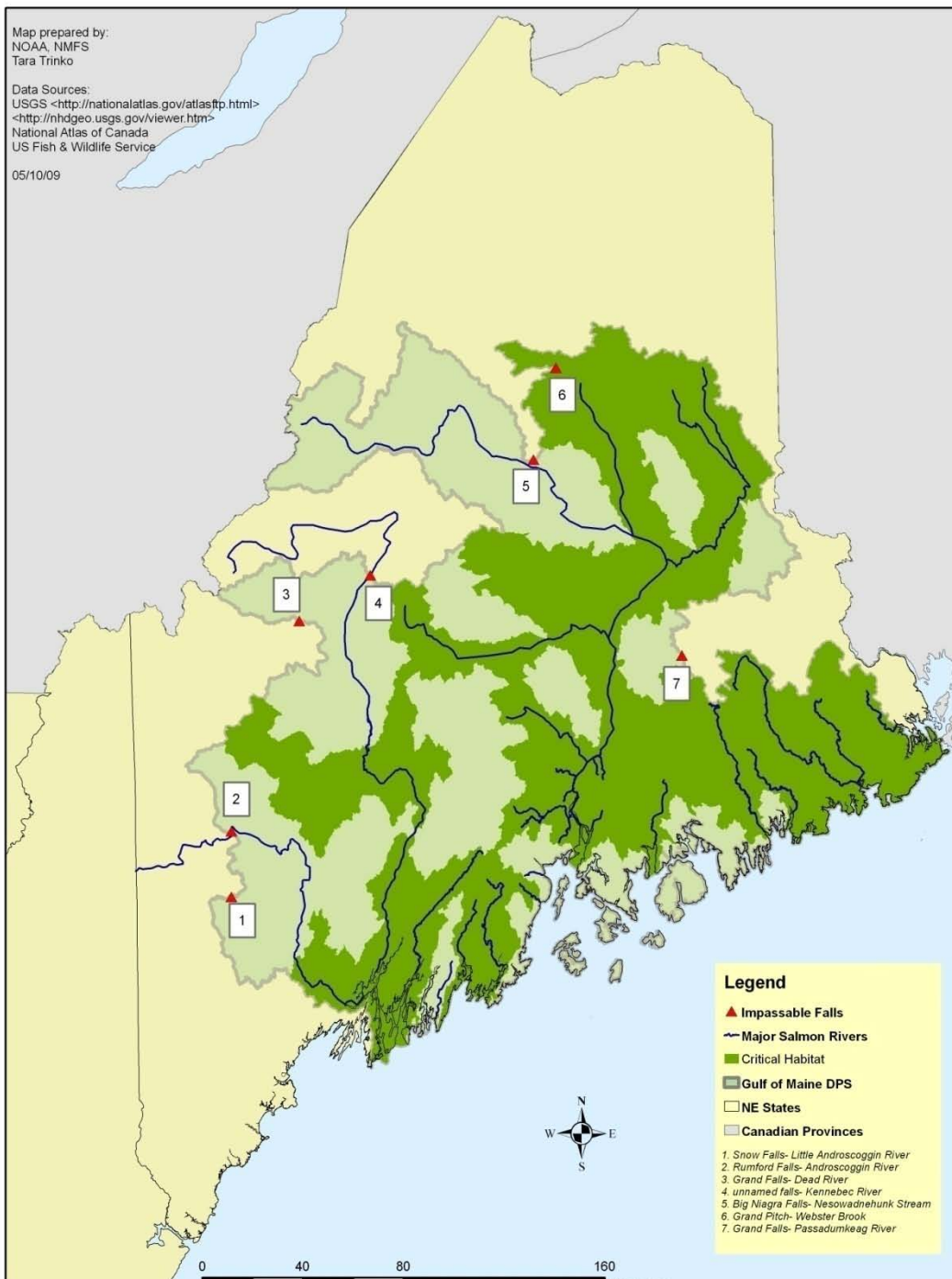
ESA Listing Overview

- ◆ When and why was the listing?
 - 2000 – “Downeast rivers” listing
 - Other rivers added in June 2009
 - Prompted by conservation group lawsuit
- ◆ Based on finding of a common genetic link to previously-listed salmon (***Distinct Population Segment***)
- ◆ Other rivers (e.g. St. Croix, Saco, Presumpscot) not included

Map prepared by:
NOAA, NMFS
Tara Trinko

Data Sources:
USGS <<http://nationalatlas.gov/atlasftp.html>>
<<http://nhdgeo.usgs.gov/viewer.htm>>
National Atlas of Canada
US Fish & Wildlife Service

05/10/09



Salmon Habitat Recovery Units



De-listing Criteria

- ◆ all three SHRUs must meet or exceed the criteria:
 - 2000 or greater adult returns per SHRU.
 - less than 50 % probability of falling below 500 adults per SHRU in the next 15 years based on population projections.
- ◆ Entire DPS must demonstrate consistent positive population growth for at least 2 generations (10 years).
- ◆ adult returns not dependent on hatchery stocking.
- ◆ Threats identified at the time of the listing must be addressed through regulatory or other means.

Listed threats to recovery

1. HABITAT DESTRUCTION/ALTERATION

Dams, Water quality, Habitat complexity, Habitat Connectivity, Water quantity

2. OVERHARVEST

3. DISEASE AND PREDATION

4. INADEQUATE REGULATORY STRUCTURE

5. OTHER NATURAL OR MANMADE FACTORS

hatcheries, aquaculture, marine survival, other depleted species, etc.

Habitat Use



Headwaters and tributaries

- *Egg* - November through April
- *Fry emergence* - May – June
- *Parr* – lives in stream for 2 years



Mainstems

- *Adult* – enters native river May-September.
 - may emigrate after spawning or reside in stream until following spring
- *Smolt* – migrate to sea April-June

Potential “Harm” Effects of Hydropower

- Migration blockage
 - Delay, injury or mortality
 - upstream passage inefficiency
 - downstream passage inefficiency
- Habitat alteration
 - Stream flow alteration
 - Impounded habitats
- Water quality
 - Temperature
 - Dissolved oxygen



Tools to minimize exposure and risk

Incidental Take

Some take may be authorized during the conduct of lawful activities after review by federal agencies under sections 7 or 10 of the Endangered Species Act.

In the absence of an Incidental Take determination, you may be vulnerable to federal penalties or citizen lawsuits should an unexpected impact occur as a result of your activity.

Minimizing exposure and risk

- Formal and informal dialogue with agencies
- Pursuit of Incidental Take Permits
- Habitat Conservation Plans
 - ◆ Quantify potential take
 - ◆ Collaborate with relevant agencies
 - ◆ Mitigation Plan to compensate for take
 - Develop and use BMP's for specific impacts
 - Monitor and document
 - Have a communication protocol
 - Consider off-site mitigation options if applicable

Tools (*continued*)

Section 10 – Incidental Take Permit

- **Applicant-initiated**
- **Shields applicant from legal liability**
 - Define impacts of operation
 - Propose steps to minimize impacts
 - Consider alternatives
 - Identify mitigation (if applicable)

Summary

- The salmon ESA listing will likely be with us for some time
- Habitat Conservation Plans and Incidental Take Permits are being pursued in some cases