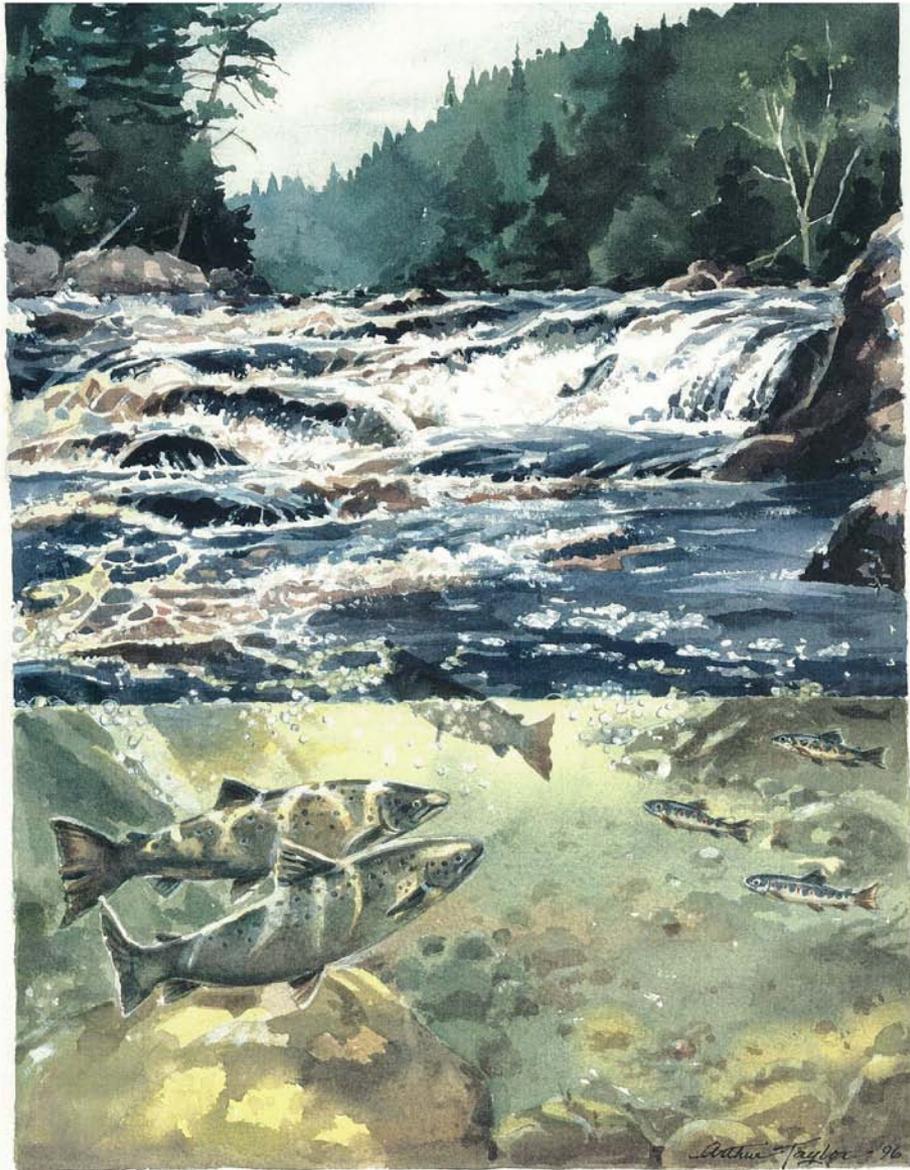


# DRAFT Atlantic Salmon Recovery Plan

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Atlantic salmon  
recovery coordinator



# Outline

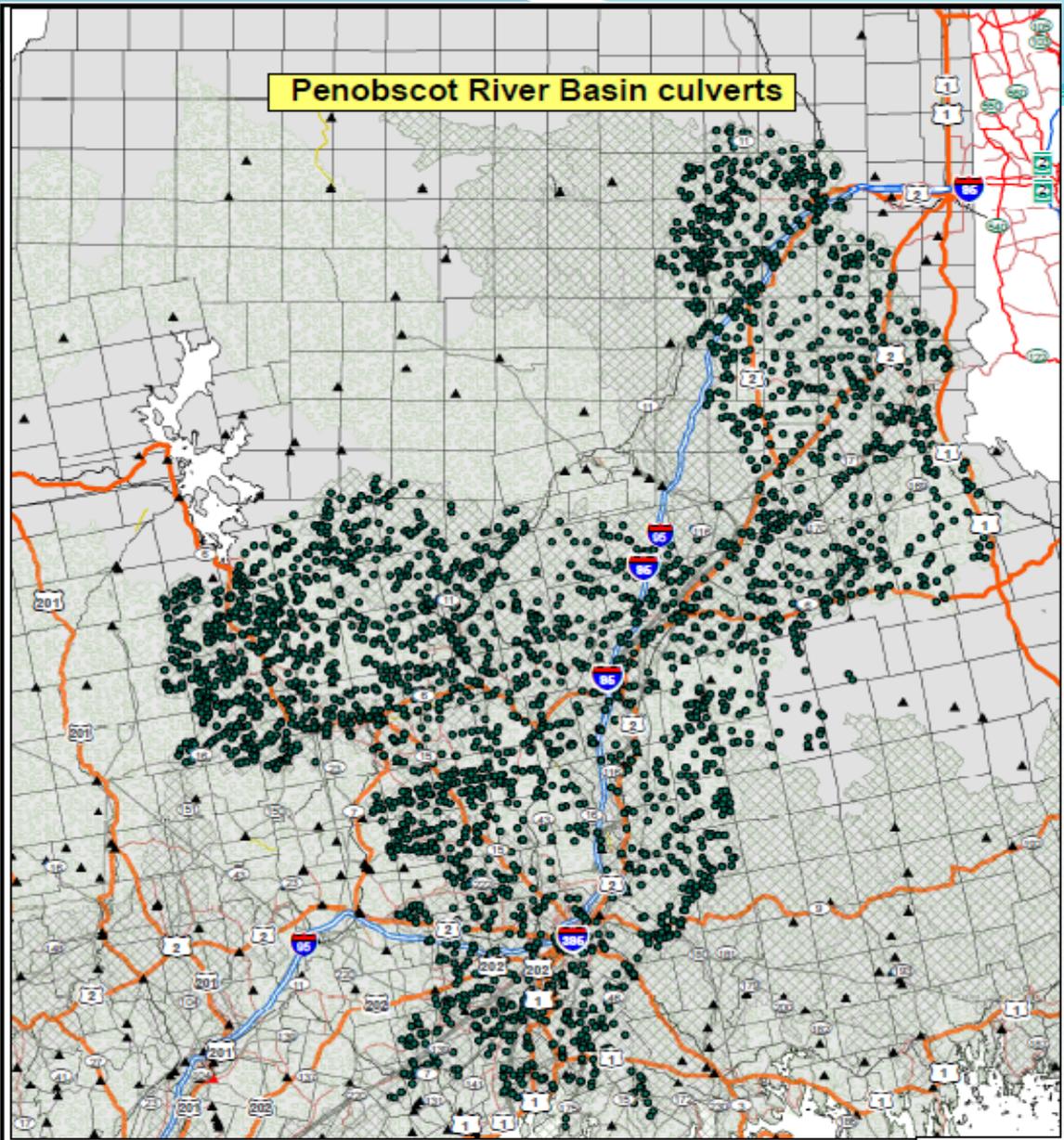
- Atlantic salmon recovery.
  - Major threats
- How is recovery defined?
  - Recovery criteria sets bars for threatened and removal from ESA.
- Terminology.
  - Barrier; not a barrier, moderate barrier, severe barrier.
  - Habitat; fully accessible, accessible, connected above a barrier, impeded access, no access.
- What is FWS asking for?
  - Your help

# What are the threats?

## Threats according to 2012 Recovery Plan

- Lack of access to suitable habitat from dams and culverts
- Inadequacy of existing regulatory mechanisms for dams and culverts
- Continued low marine survival

# Penobscot River Basin culverts



- Legend**
- Penobscot\_Barriers\_2010b1\_WithRoadsData
  - ▨ ATIS Critical\_Habitat\_by\_HUC10
  - ▨ ATIS GOM\_DPS
  - ▲ existing dams-MDEPIACE
  - ▲ removed dams

0 10 20 30 Miles

Data from USFWS, MDEI & MNAP.

Area of detail

# Salmon Habitat Recovery Units SHRUs

Androscoggin  
Kennebec  
Penobscot  
Downeast rivers



## Some of the Recovery criteria in Recovery Plan

- Sets the minimum bar for downlisting to threatened and delisting-taking off the Endangered Species Act list.
- Downlist to Threatened:
  - Total of at least 1500 naturally reared fish with minimum 500 in each of 2 out of 3 SHRUs.
  - Minimum 7500 habitat units that are **suitable and accessible** in each SHRU.
- Delist-removal from ESA:
  - Total of at least 6000 wild fish with 2000 in each SHRU.
  - Minimum 30,000 habitat units that are **suitable and accessible** in each SHRU.

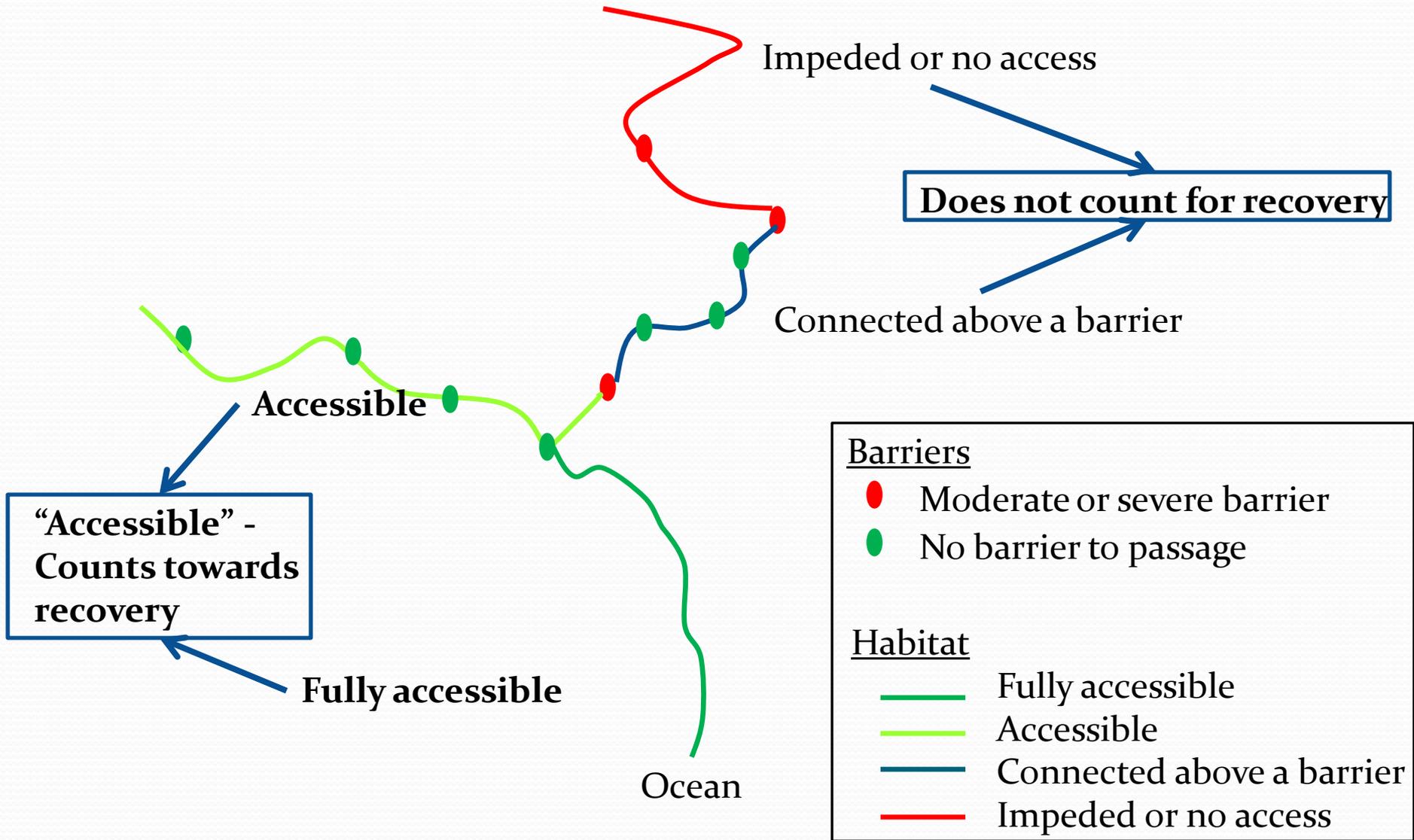
# Recovery Criteria and 2011 Data

Recovery Criteria	Penobscot	Merrymeeting Bay	Downeast
1500 total, 500 naturally reared adults/SHRU in 2 of 3.	248 (3438 total returns)	43	49
Minimum 30,000 fully accessible and suitable HUs	6820	7035	<b>23216</b>

2010 data: 1496 total, 178 NR.

2011 data: 3438 total, 342 NR.

# What is "Accessible" habitat?



# Barrier standards for accessible habitat

- Dams:
  - Upstream and downstream standards
- Culverts and Bridges:
  - Upstream standard
  - If an Atlantic salmon can get to it can get through it
  - Stream smart basics
    - Don't pinch stream
    - Set culvert at the right elevation
    - Natural stream bottom
  - How to determine actual culvert size:
    - Watershed area. Compare to regional curve to get idea of bankfull. 1.2x bankfull for culvert

# Take home message

- We need your help.
  - In many cases putting in stream smart culverts is voluntary. We strongly support this.
- We want to recognize your efforts.
  - Many areas are “connected above a barrier”.
- Your efforts are helping to recover Atlantic salmon
  - The more habitat that is classified as “accessible” the better for the streams, for brook trout, for Atlantic salmon, other diadromous species.