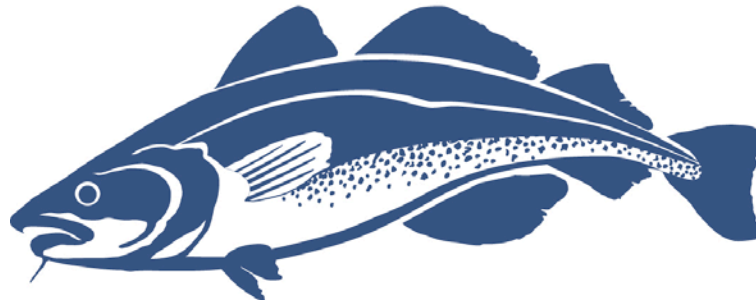


Diadromous Fish Management and Restoration in Massachusetts

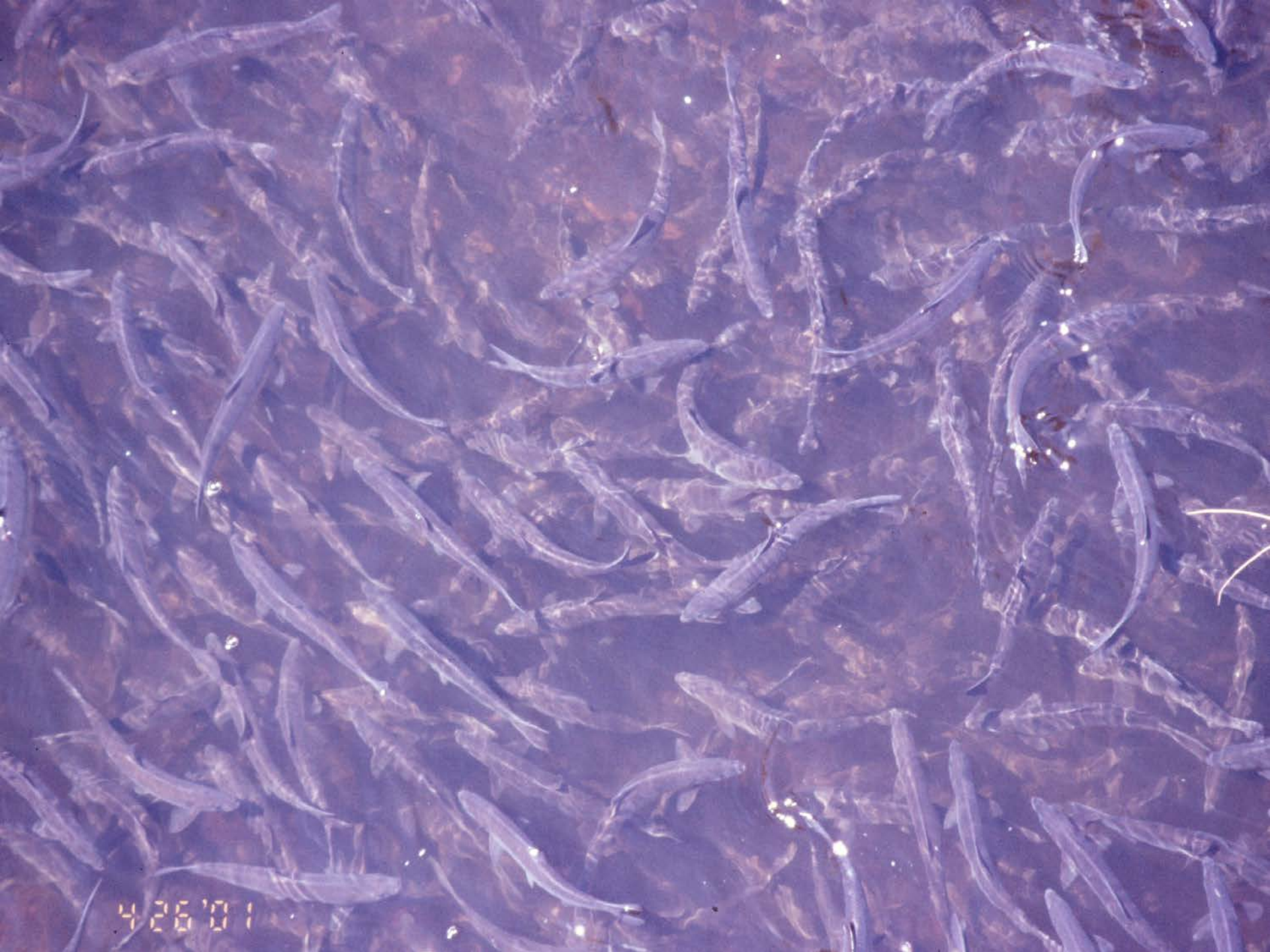
Marine Fisheries
Commonwealth of Massachusetts



River Herring Network, Wareham, October 19, 2011



Herring Packers
North Harwich, Mass



426'01

DMF Responsibilities with Diadromous Fish

1. **Manage Fish Populations and Harvest**

- Working with Towns
- Atlantic States Marine Fisheries Commission
- Population and habitat monitoring

2. **Maintain Fish Passage**

- Working with Towns
- Collaborative projects

3. **Protect and Restore Fish Habitat**

- Wetlands Protection Act
- Collaborative projects
- Working with Towns

Anadromous Fish Mgt. History in MA

- **1623** – Plymouth Colony Fish Law, 1st US fisheries law was aimed at alewife.
- **1709/1727** – Colonial laws prohibit obstructions to fish passage.
- **1741** – Colonial law repeals previous laws but requires passageways.
- **1745** – Colonial law overturns 1741 law: no passage requirements with framework for private water and land rights.

- **1750s to 19th century** – Dam construction and operations meet milling and hydroelectric needs with little consideration for fish passage. Fish passage is managed by on a Town-by-Town basis with common privatization.

- **20th Century** – Increased State involvement as public rights diminish.
- **1934** – DMF Fishway Crew established.
- **1941** – MGL Chapter 130 sets state control with directive to work with Towns.

- **1985** – ASMFC 1st coast-wide management plan for Shad and river herring.
- **1989** – DMF prohibits direct harvest in state waters except dipnet.
- **2006** – DMF prohibits harvest and possession of river herring.

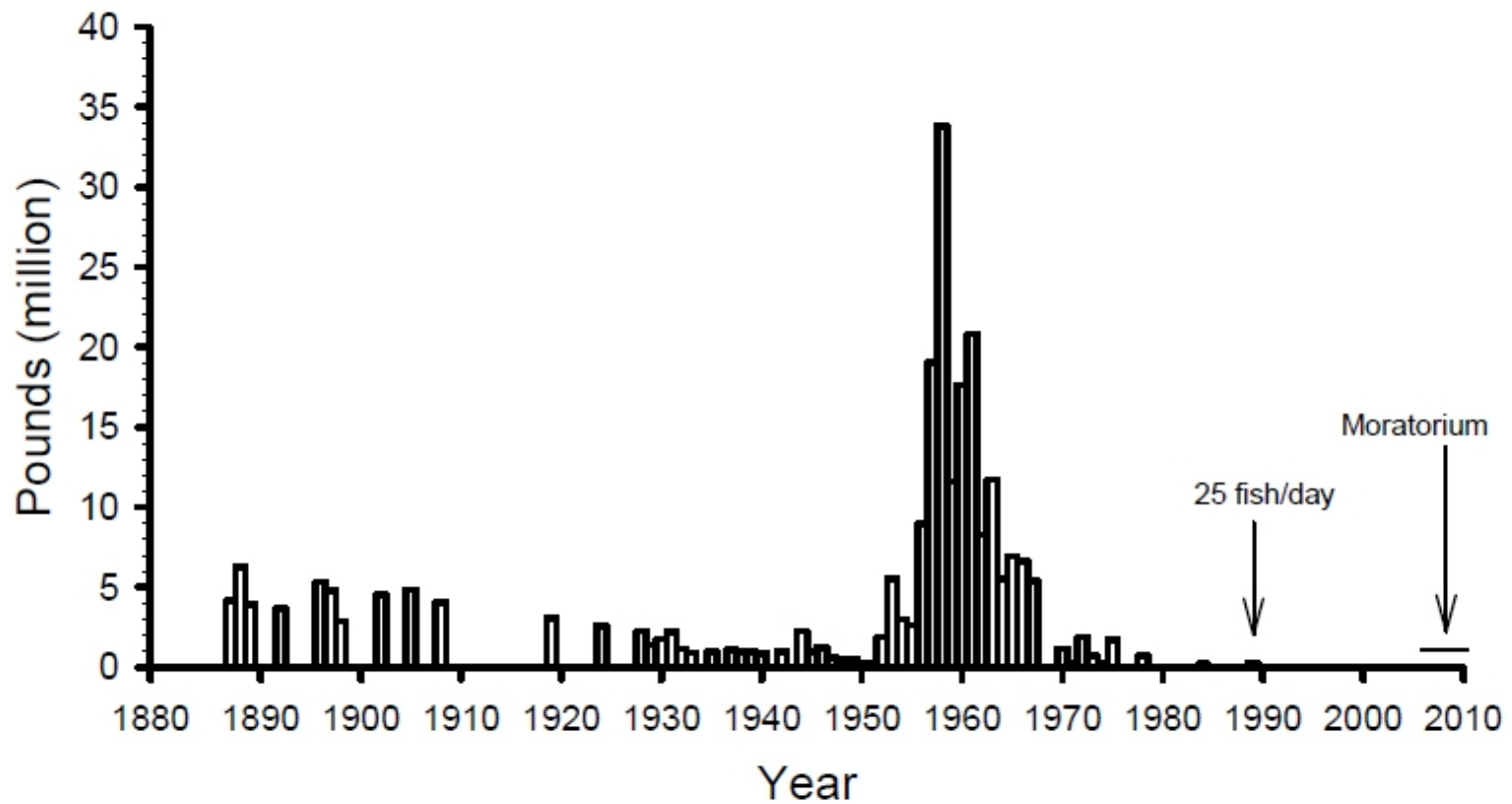


Figure 1. Massachusetts commercial landings of river herring, 1887-2010.

Mass. General Laws Chapter 130, Section 19

- Seize and remove illegal obstructions.
- Examine all obstructions in waters flowing to the coast.
- Determine where, how, and when fishways are built and repaired.
- In regard to delinquent owners, can prescribe written orders enforceable by Superior Court of MA. Sets up mechanisms for cost recovery.
- Determine Operations and Maintenance of all fishways.

Mass. General Laws Chapter 130,

Sections 93 - 95

- Section 93: opening of waterways to create fish runs and lease harvest.
- Section 94: local control to regulate herring runs.
- Section 95: fines for killing or obstructing sea-run fish.

River Herring Prohibition

- Established for 2006-2008 out of statewide concerns for river herring populations
- No harvest, possession, or sale of river herring in MA.
- Allowance small bycatch (5% of total landings) in sea herring fishery and subsistence for Mashpee Wampanoag Indian tribe on Cape Cod
- Renewed for 2009-2011. To expire on January 1, 2012.

MA Fishway Permit

- Regulations of the Division of Marine Fisheries:
322 CMR Sections 7.01 4(f) and 14(m)
- Requires authorization to conduct any activity designed to construct, reconstruct, rebuild, repair, or alter any anadromous fish passageway
- Simple process of approving project plans and O&M plan

Fishway Operation & Maintenance Plan

- Prescribed by Section 19 and codified in permit
- Renewed effort presently to draft O&M plans for all new and reconstructed fishways
- **Documentation:** for the next crew
- **Operation:** time of year, manipulation of flow
- **Maintenance:** mostly debris removal and vegetation/sediment management

Atlantic States Marine Fisheries Commission: MA participation

- Vice-Chairman: Paul Diodati
- RH and Shad Mgt. Board: Mike Armstrong
- Striped Bass TC,
River Herring SASC: Gary Nelson
- Sturgeon TC: Matt Ayer
- Eel, RH/Shad,
and Fish Passage TC: Brad Chase

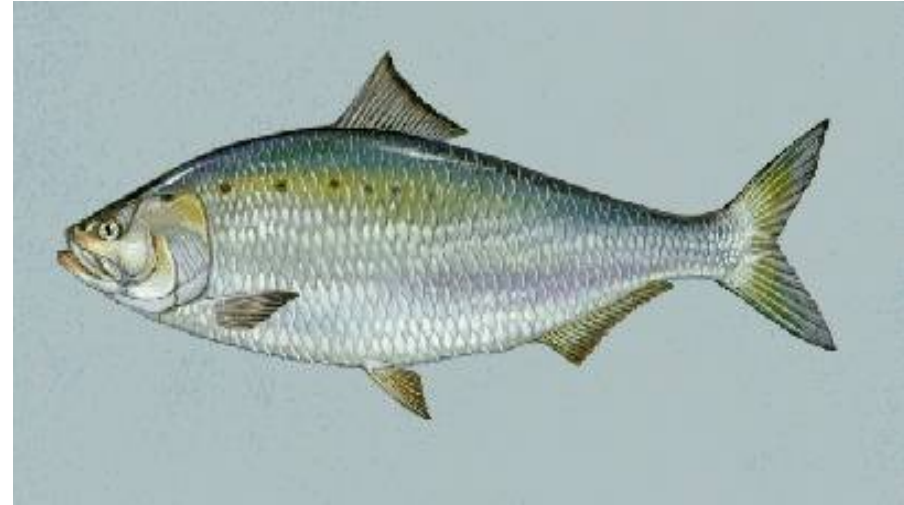
ASMFC: Sustainable Fishery Plans

- Needed for river herring and shad harvest from 2012 on
- Dramatic change to traditional local management of herring runs
- DMF will have to submit harvest plans based on population thresholds to ASMFC



American Shad Regulations in MA

- Net ban in 1987
- Recreational harvest only by hook and line
- Recreational limit of 6 shad/day
- Few rivers have shad runs



Shad Sustainable Fishing Plan

1. Close all recreational harvest in MA except for Merrimack and Connecticut rivers
2. Catch and release only at small rivers
3. Use 25th percentile of fish lift data as threshold for management action (3 consecutive years)
4. Begin regulatory process to make above changes and reduce recreational bag limit

How Do We Meet this Challenge?

- Faced with declining budgets, increased regulatory process, and range wide declines in most diadromous species
- More than ever, we have to work together
- Focus on priorities and gaining public support

Habitat and Population Restoration

- *Remarkable changes in one human generation:*
 1. Management
 2. Restoration
 3. Constituency
 4. Population Threats



DMF Restoration Efforts

	2010	2011
DMF Fishway Crew	2	2
DMF Lead	0	1
Collaborative	3	2
Eel Passage	1	1
Total	6	6



Partnership Projects

Pilgrim Lake, Orleans



Cockeast Pond, Westport



Leonard's Pond, Rochester

Herring Brook, Pembroke

- 2011 Completion
- Two years with no fish ladder
- DMF funding with engineering support from PAB and Town of Pembroke lead



Mystic Lakes Dam, Medford

- Denil ladder and eel pass completed 2010
- Access to 165 acres of spawning habitat
- Low flow channel completed 2011



Pilgrim Lake, Eel Passage

- Innovative design installed in 2010
- Over 42,000 glass eels in 2011
- Have installed 1 eel pass per year since 2007





Photo by B. Michelson