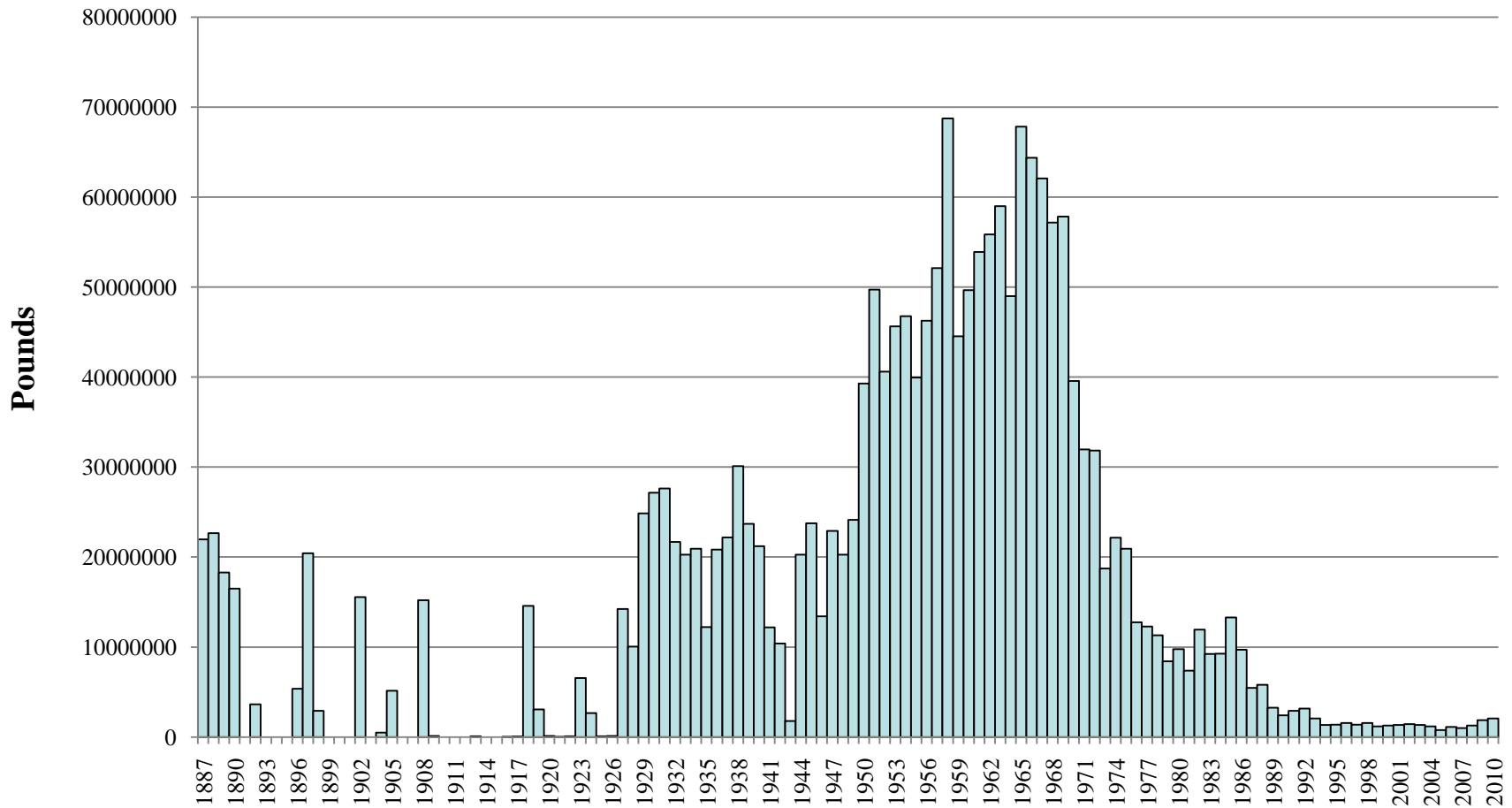


A large school of river herring swimming in clear water, viewed from above. The fish are densely packed and oriented in various directions, creating a complex pattern of movement. The water is a clear, light blue-green color.

Sustainable Fishery Plans for River Herring

River Herring Network, Wareham, 9-13-2012

US Commercial Landings of River Herring, 1887 – 2010 (millions of pounds)



MA 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 harvest for Mashpee Wampanoag Indian tribe on Cape Cod
- Renewed for 2009 - 2011. And again for 2012 - 2014.

Status of Herring Run Management

- 48 MA Towns have river herrings runs
- 78 river herring runs
- about 140 fishways

Coastal Towns with MOUs: 34 (61 runs)

Coastal Towns without MOUs: 14 (17 runs)

Process for State/Town Cooperative River Herring Management

- Town Governments petitions DMF Director
- DMF reviews and accepts petition and drafts formal Memorandum of Understanding
- Process worked well for decades. All MOUs were renewed in mid-1980s. Some towns did not renew.

Future MOUs ? -- will require more detail as fisheries cannot be opened without approved Sustainable Fishery Plans.

What is the deal with ASMFC?

Atlantic States Marine Fisheries Commission

--States are required to monitor river herring runs and report annually to ASMFC.

--States are required to develop sustainability targets based on the best available science.

--No approved plan? ASMFC closed fisheries on January 1, 2012.

Amendment 2 to the Interstate Fishery Mgt. Plan for Shad and River Herring

- Created framework in 2009 for developing Sustainable Fishery Plans and Recovery Plans.
- Sets Monitoring requirements for states.
- Gives general guidelines for developing sustainable fishery plans and recovery plans.
- Gives Mgt. Board with authority to approve state's regulatory programs. These are mandatory compliance elements.

ASMFC Sustainable Fishing Plans

- 1) Introduction – statement of purpose and targets
- 2) Current Regulations
- 3) Brief Description – landings, FD Indices, FI Indices
- 4) Fisheries to be Closed
- 5) Fisheries to be Opened
- 6) Sustainability Targets -- can be based on indices or models
- 7) Proposed Regulation Changes to Support Targets
- 8) Adaptive Management – benchmark consequences

Sustainability Targets

“may include but not limited to....”

- Spawning stock biomass
- Fish passage counts
- Mortality rates
- Repeat spawning ratio
- Juvenile abundance indices
- Hatchery contribution to stocks

Example: New Hampshire

Approved Sustainable Fishing Plan – Great Bay Indicator Stock

- Estuary-wide vs. river-specific
- Have good data on most rivers in Bay (>20 years)
- Two sustainability targets:
 - 1) Exploitation Rate -- harvest 20% of stock
 - 2) Escapement Target --350 adults per surface acre of habitat
- Also track mortality rates and repeat spawners

Sustainability Targets

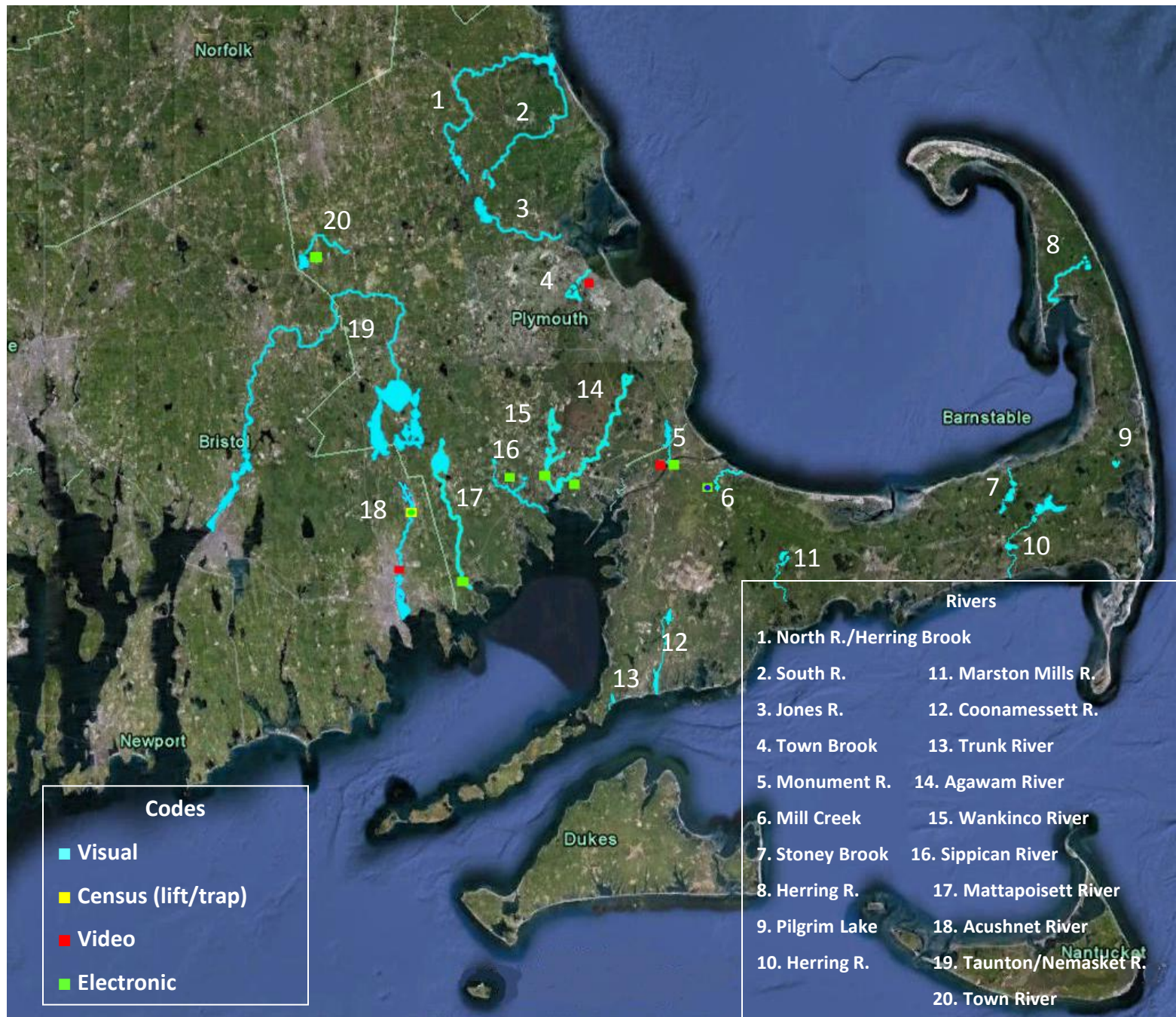
Great Bay Indicator Stock – total counts in 4 major runs

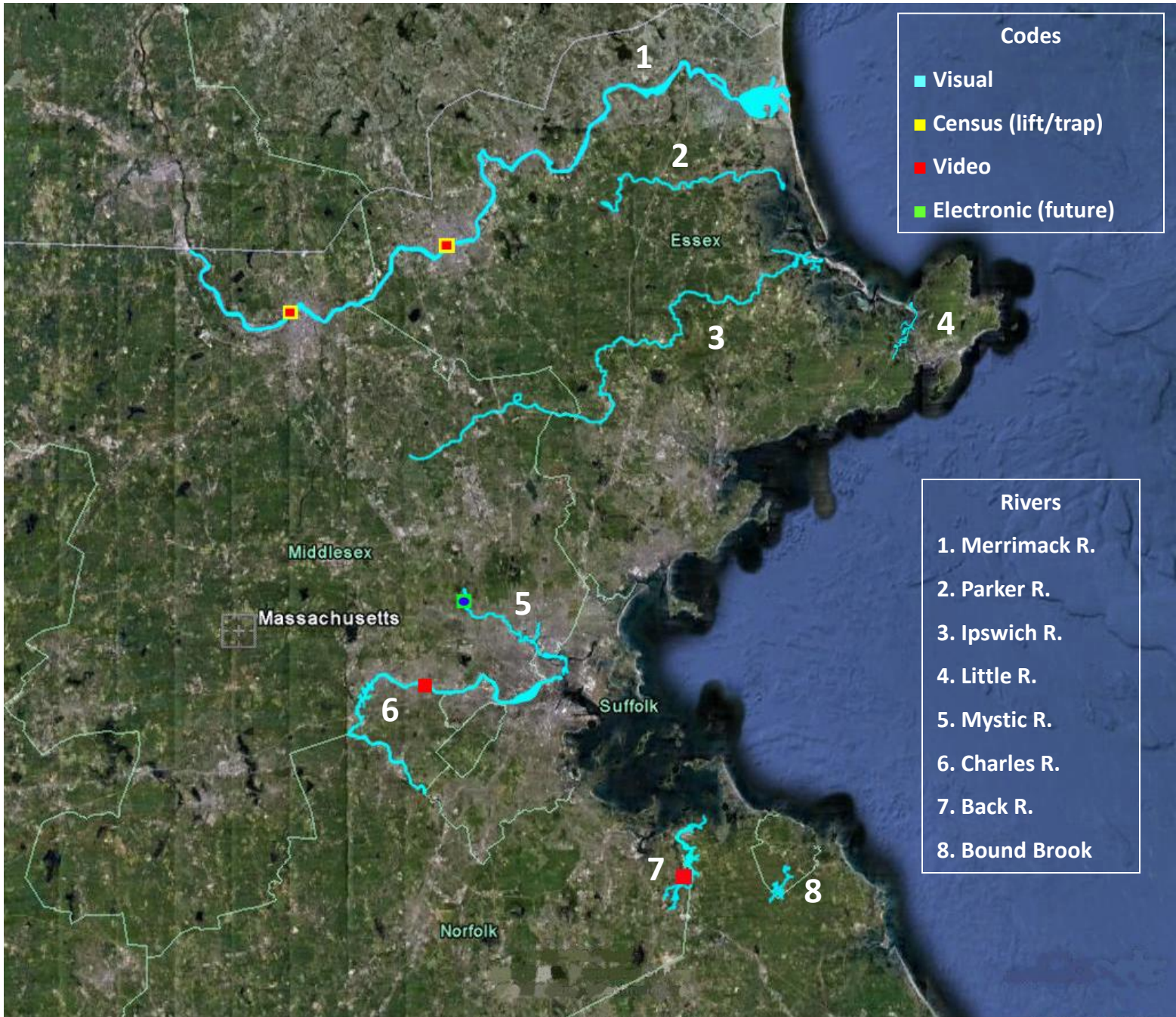
- Fishery Dependent: harvest \leq 20% of count
- Fishery Independent: escapement target of 350 fish per acre
 - 207 acres x 350 fish/acre = 72,450 adult herring
 - Roughly 50% of mean counts since 1990

Example: South Carolina

Approved Sustainable Fishing Plan – Santee-Cooper River Complex

- Solid data for river system: mark-recapture population stock estimate, Commercial CPUE, passage counts, and exploitation rate estimates.
- Sustainability target: maintain low exploitation rate
 - estimated exploitation rate = 18%.
 - compares this to literature and count data.





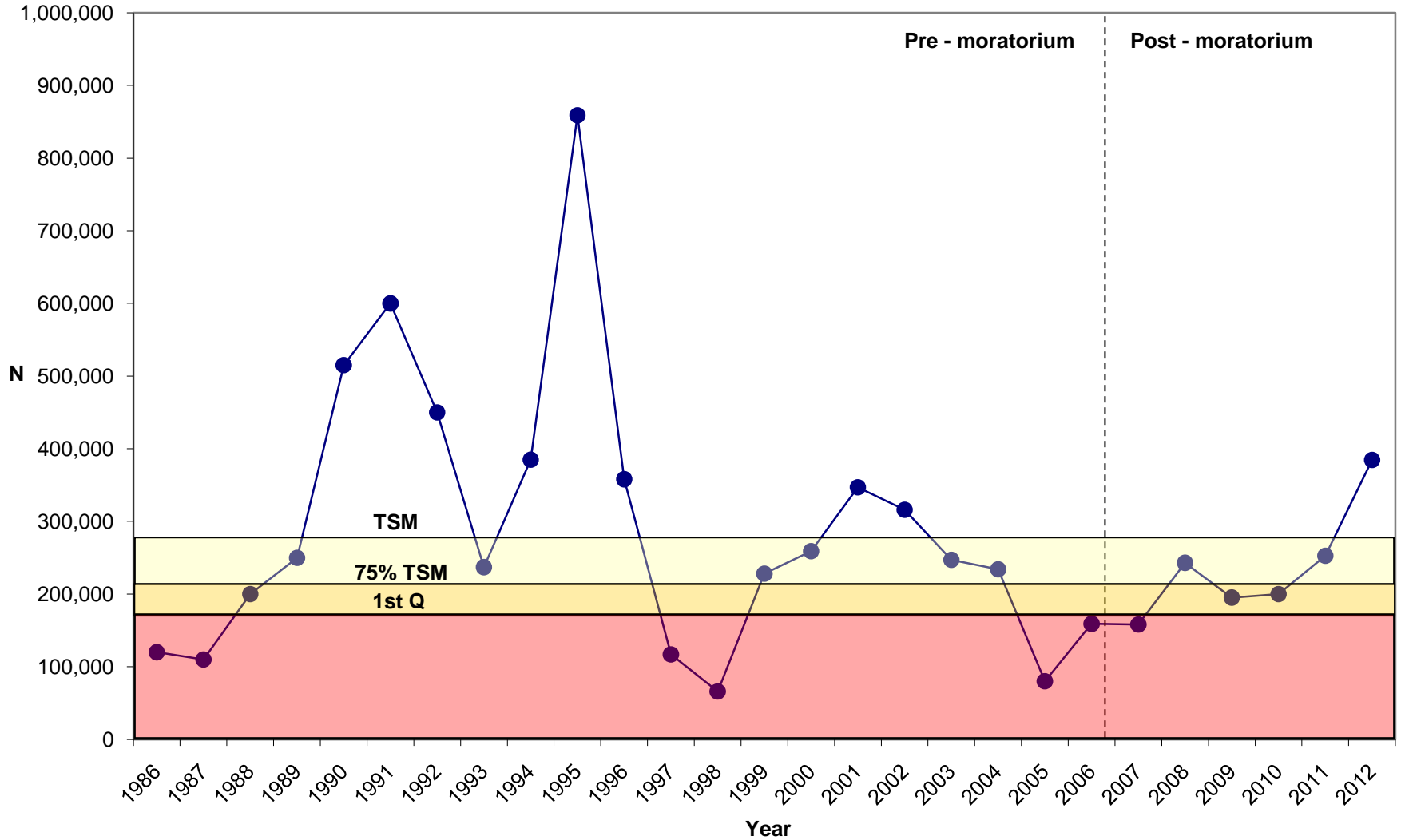
River with Biological Sampling

- Parker River, Newbury (2012)
- Mystic River, Medford
- Charles River, Watertown
- Town Brook, Plymouth
- Monument River, Bourne
- Nemasket River, Middleboro
- Mashpee River, Mashpee (2012)

Interesting 2012 Season



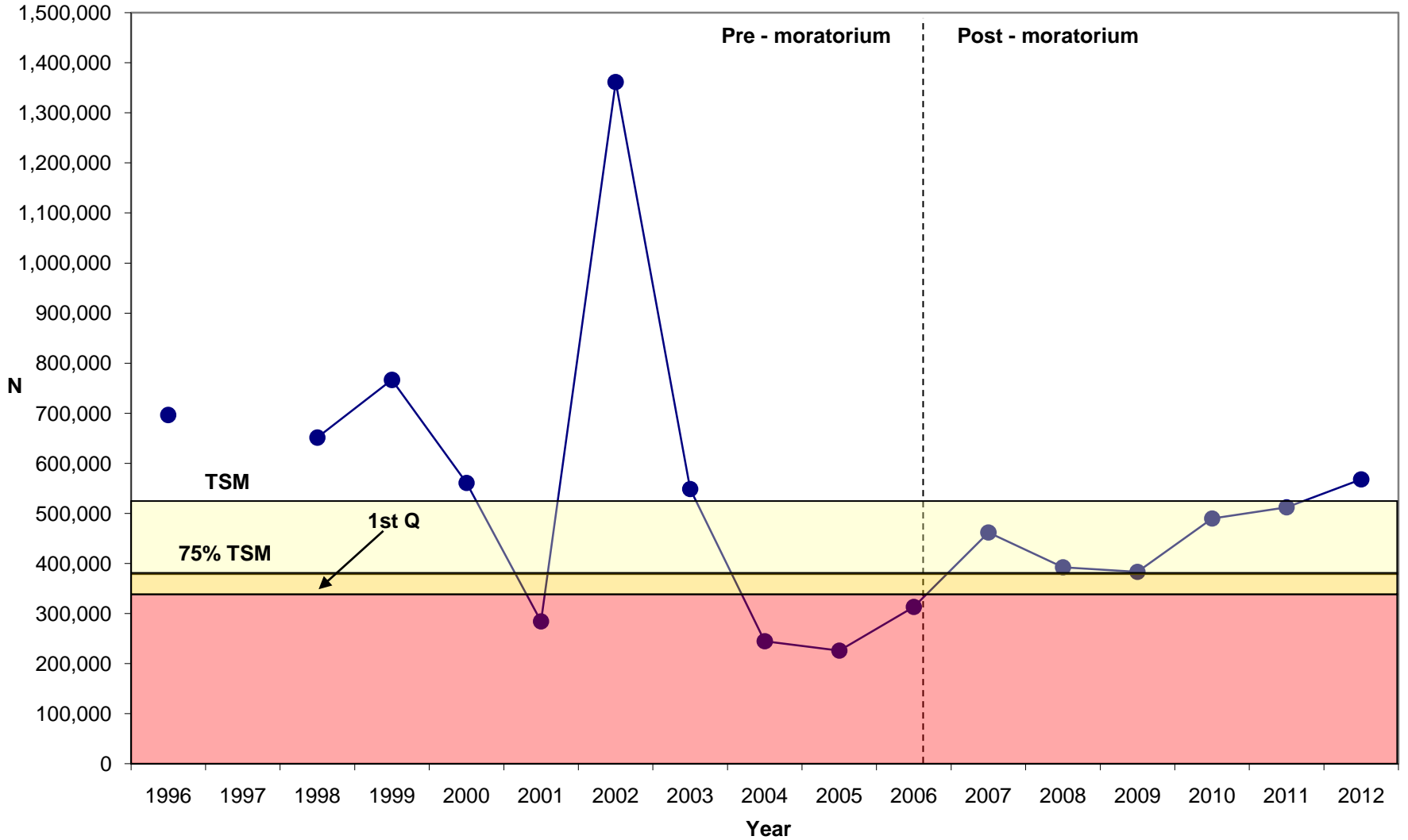
Back River (1-man Visual: 1986 - 2012)



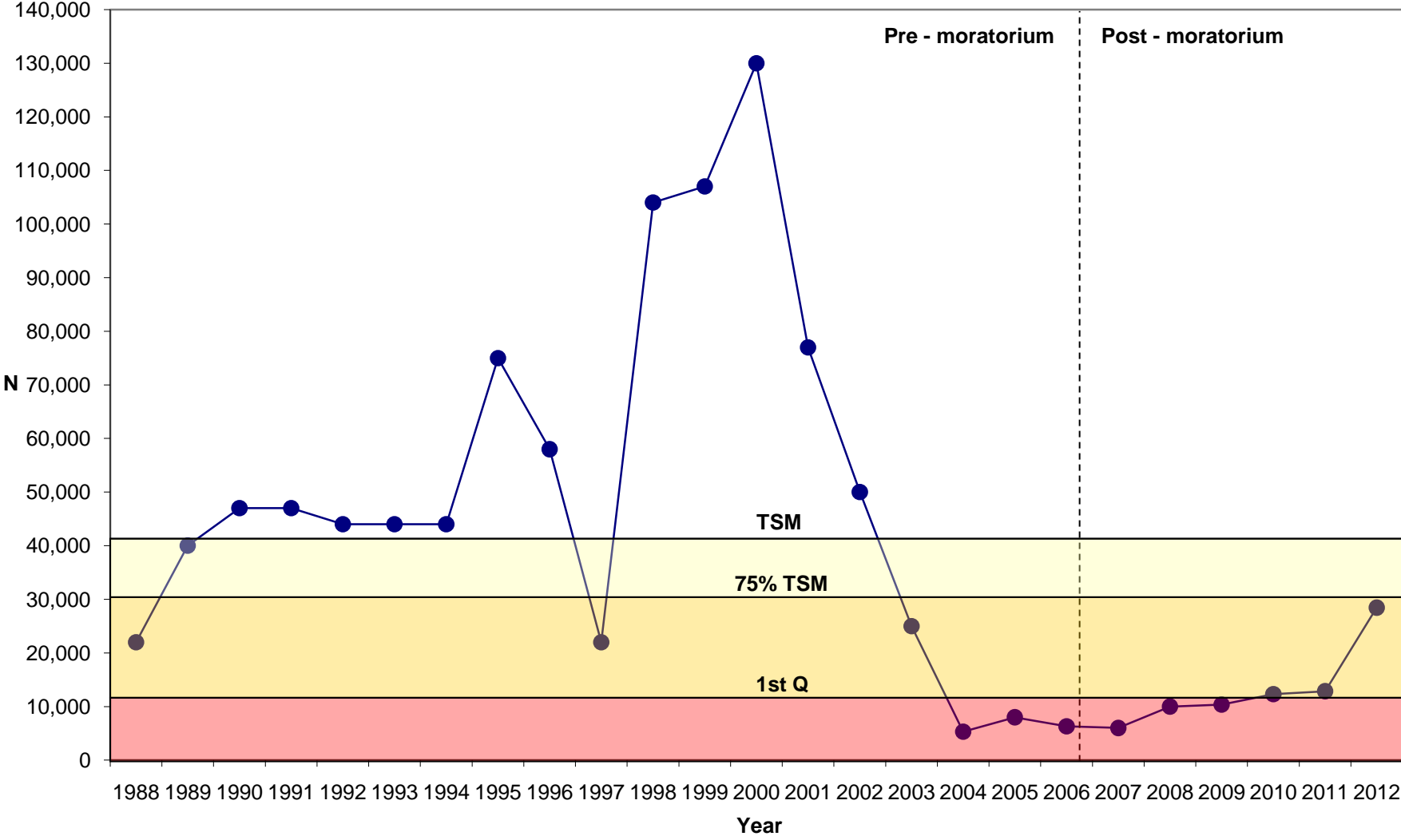
Back River, Weymouth



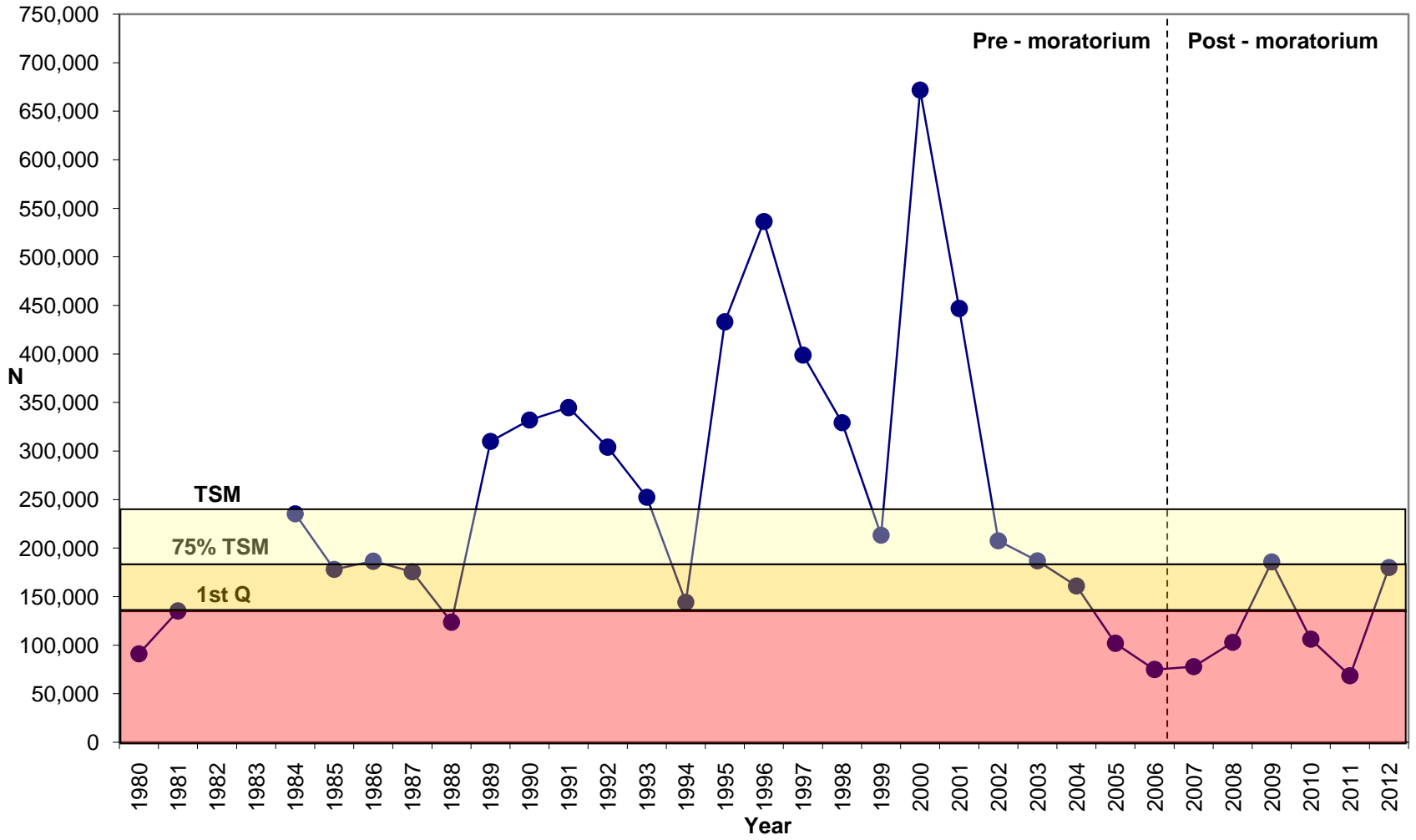
Nemasket River (Multi-man Visual: 1996 - 2012)



Mattapoissett River (Electronic: 1988 - 2012)



Monument River (Electronic: 1980 - 2012)



Next Steps.....

1. Towns should consider their harvest goals
2. Work with Marine Fisheries to design a Plan that will support these goals
3. Create or maintain a monitoring program to establish a run baseline

