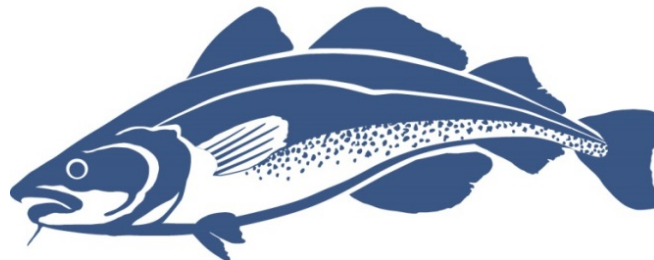


Massachusetts

American Shad Sustainable Fishery Management Plan

2018 SFMP Update for the
Atlantic States Marine Fisheries Commission

Marine Fisheries
Commonwealth of Massachusetts



American Shad MA regulations: pre-2012 SFMP

1. Commercial harvest net ban in 1987
2. Recreational harvest only: by hook and line
3. Recreational limit of 6 shad/day

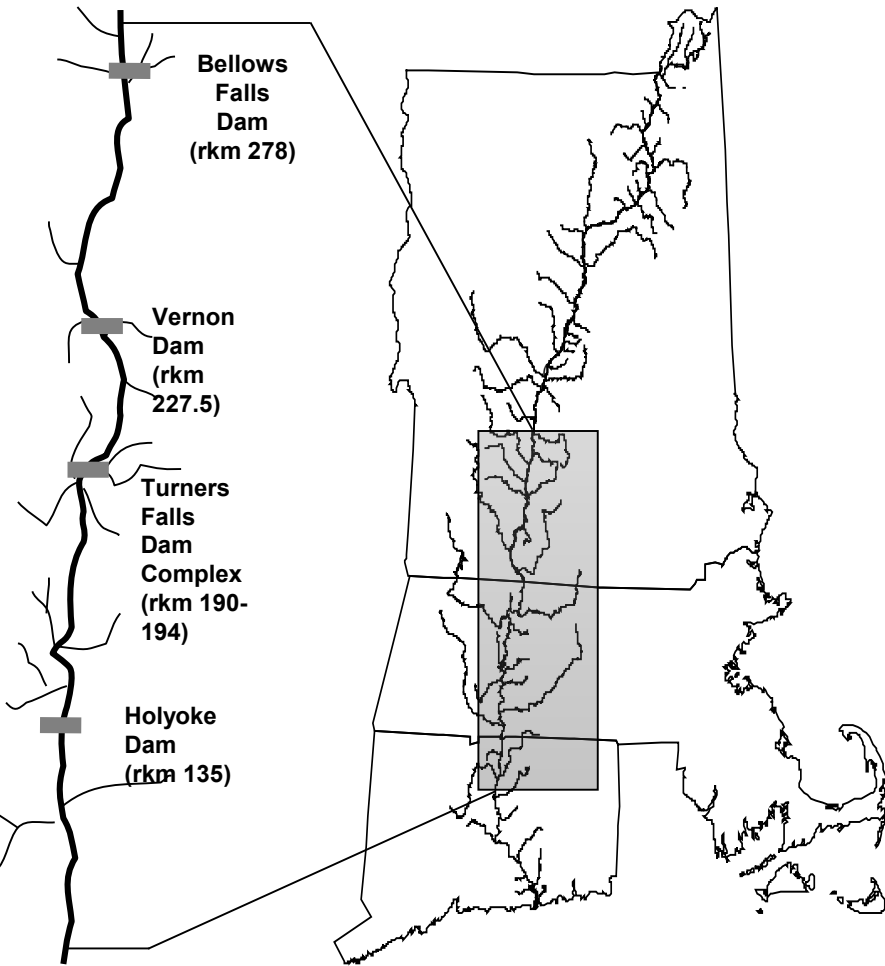
American Shad MA regulations: post-2012 SFMP

1. Close all recreational harvest in MA except for Merrimack and Connecticut rivers. Reduce bag limit from 6 to 3 fish
2. Catch and release only at small rivers
3. Use 25th percentile of fish lift data as threshold for management action (3 consecutive years)

American Shad runs in Massachusetts

	<u>Drainage Area (mi²)</u>	<u>Discharge (cfs)</u>
Connecticut River	8,332	22,900
Merrimack River	4,635	11,800
Neponset River	101	392
Charles River	227	370
Palmer River	26	50
North River	30	69
South River	56	24
Jones River	20	43

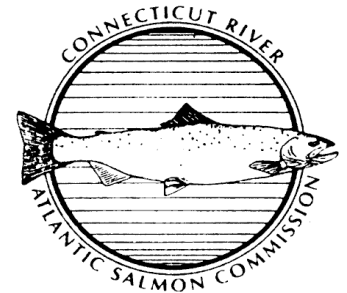
Connecticut River



- Largest river in New England
- Shad managed by CT River Atlantic Salmon Commission (CRASC)
- Angling only harvest in MA since 1987: 3 fish bag limit
- Holyoke Dam at rkm 138; fish lift passage since 1955. Second lift added in 1976

Connecticut River Fisheries Independent Data

American Shad restoration goals and objectives are coordinated among States, USFWS and NOAA through the CRASC and its Technical Committee

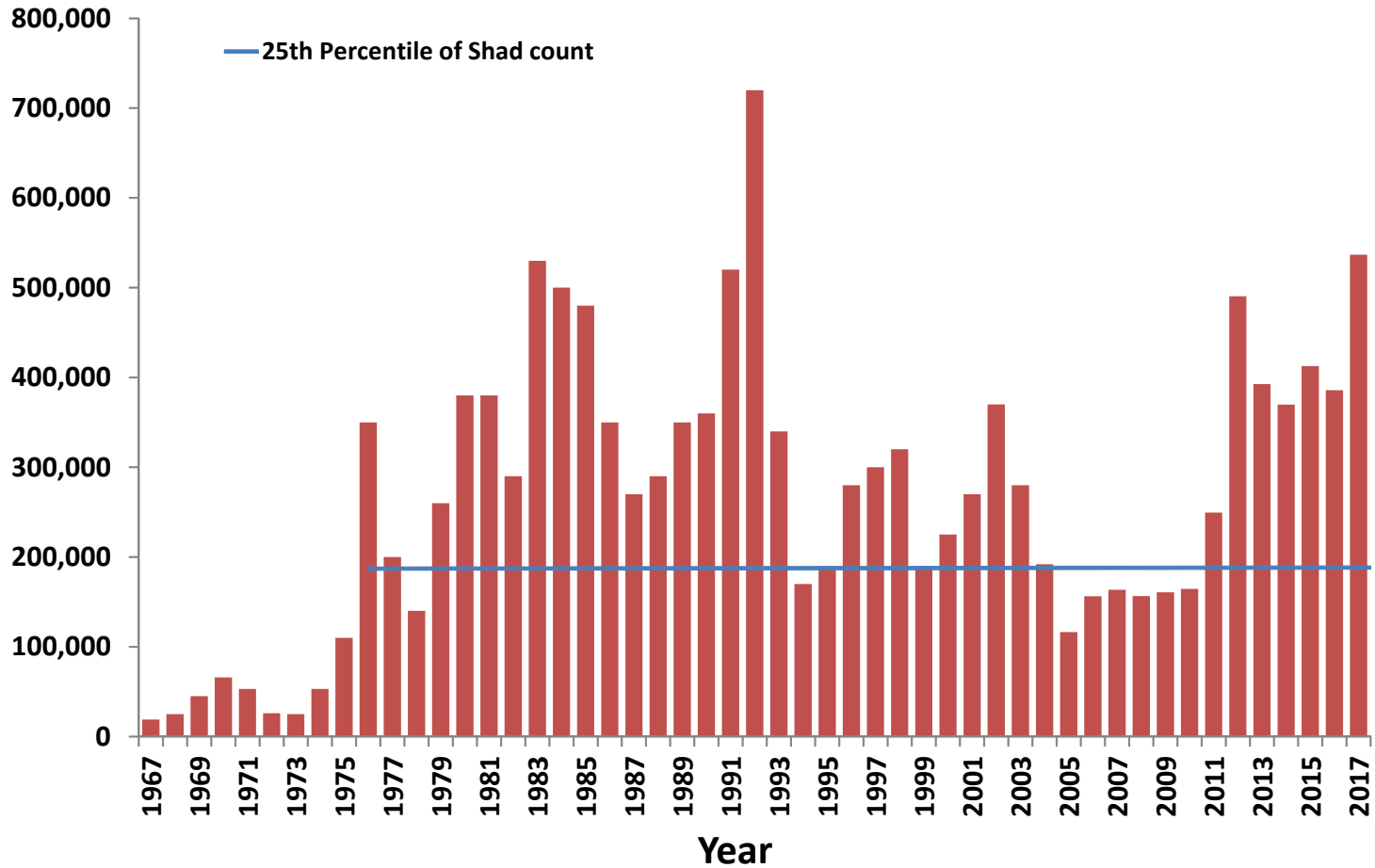


- Juvenile Abundance Index – managed by CT Dept. of Energy and Environmental Protection CTDEEP, since 1978
- Holyoke Dam Lift Counts – daily/annual counts
- Connecticut River shad biological data – managed by CTDEEP

Connecticut River – Holyoke Dam Fish Lift

Shad Count

2nd fish lift install in 1976



Merrimack River

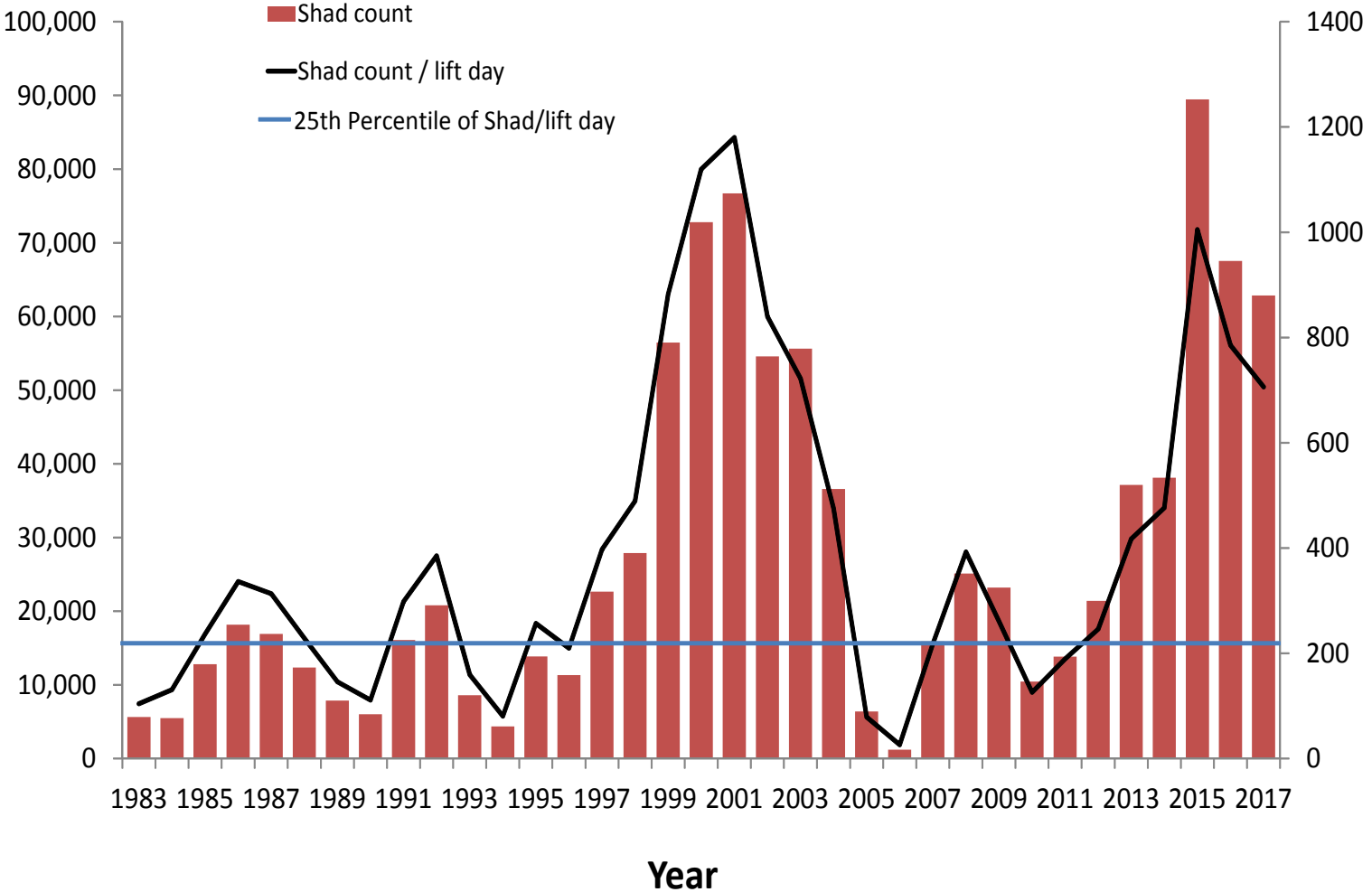


- Shad managed cooperatively by the Merrimack River Anadromous Fish Restoration Program (NH, MA, USFWS, NOAA)
- Angling only harvest in MA since 1987: 3 fish bag limit
- Essex Dam at rkm 48

Merrimack River – Essex Dam Fish Lift

Shad Count

Shad / Lift Day



Merrimack River Fishery Independent Data

- Biological data on shad size, age, sex collected since 1990s
- Repeat spawner data since 2004
- Mortality rates (repeat data) are presented in SFMP but short time-series length (1991-2017)
- Mortality rates will be used as warning threshold metric by MADMF

Sustainability Targets

Percentile Distribution Threshold

Total Counts	Median	25th Percentile
Merrimack River, 1983-2011	16,098	10,882
Merrimack River, 1983-2017	20,796	12,359
Lift Days		
Merrimack River, 1983-2011	261	174
Merrimack River, 1983-2017	313	210
Total Counts		
Connecticut River, 1967-2011	244,189	155,000
Connecticut River, 1976-2017	295,000	194,000

SFMP Update Summary

- Primary target for both open harvest rivers is the fish lift count data distribution
- Warning thresholds of Z for the Merrimack River and JAI for the Connecticut River
- Fish lift effectiveness is influenced by water temperature, discharge, spill operations and other operational actions
- Increasing passage counts for 2012-2017 are well above the benchmark. The 25th percentile benchmarks are increased for both rivers.

Summary of Massachusetts American Shad SFMP metrics and thresholds for 2018 plan update

River	Index Site	Time Series	SFMP Metric	Threshold Level	Threshold Value	Threshold Status	Management Trigger
Merrimack River	Essex Dam Fish Lift	1983 - 2017	Benchmark	25 th percentile	210 shad / lift day	Above	3 years below benchmark triggers mgt discussion on reducing rec. harvest
	Essex Dam Fish Lift	2001 - 2017	Warning	Z ₃₀ = 0.98	Z > 0.98	Fail 2013-2017	Annual review of biological data and documentation in compliance report
Connecticut River	Holyoke Dam Fish Lift	1976 - 2017	Benchmark	25 th percentile	194,000 annual count	Above	3 years below benchmark triggers mgt discussion on reducing rec. harvest
	CT DEEP Juvenile Shad Index	1978 - 2016	Warning	25 th percentile	3.96 geometric mean	Above	3 years below benchmark triggers mgt discussion on reducing rec. harvest



Update on Technical Committee Review of Inconsistencies with Harvest and Monitoring Requirements

Presented by Ken Sprankle (TC Chair, USFWS)
ASMFC Shad and River Herring Management Board

February 6, 2019

TC Task



October 2017: Board tasked TC to develop proposed improvements to Amendments 2 and 3 with regard to the following items:

1. Management and monitoring of rivers with low abundance and harvest of shad and river herring
2. Standardization of Sustainable Fishery Management Plan (SFMP) requirements: content, metrics, and management responses to triggers
3. Incorporation of stock assessment information into SFMPs and discussion on the timeline for renewing plans
4. Clarification of *de minimis* requirements as they pertain to SFMPs
5. Review of the number of years of data are required before developing a SFMP

Background



- In October 2017, TC identified several inconsistencies between state SFMPs and the requirements of Amendments 2 and 3
- Amendments 2 and 3 require all states and jurisdictions to submit SFMPs for all systems that remain open to river herring and shad harvest
- SFMPs must demonstrate fisheries are sustainable, with quantifiable sustainability target(s) and annually monitoring

TC Task Group



- Subset of the TC formed to address task by gathering state information on harvest, monitoring, SFMPs
- Inconsistencies with Amendments' requirements:
 - Tributaries of river systems that do have SFMPs and monitoring, but the tributaries are not explicitly addressed in the SFMP
 - Rivers legally open to harvest without a SFMP and/or monitoring, but where no harvest of shad or river herring is suspected
 - Rivers with harvest addressed by a SFMP, but without monitoring to support sustainability

Harvest and Monitoring Database



System	Rivers/ Tributaries	Do regs allow any shad Harvest? (Y/N)	Is any shad harvest confirmed or suspected? (C/S/N)	Describe any suspected Shad harvest	What are the harvest regs for <u>shad</u> ? (Review and edit commercial/rec summary tab)
	Great Egg Harbor River	N	N		Harvest/Possession Prohibited
Delaware	Green Creek	Y	N		Rec: 6 shad, no more than 3 American Shad
	Hackensack	N	N		Harvest/Possession Prohibited
Delaware	Maurice	Y	C	Minimal rec shad harvest	Rec: 6 shad, no more than 3 American Shad
	Mullica	N	N		Harvest/Possession Prohibited
Delaware	Oldmans Creek	Y	N		Rec: 6 shad, no more than 3 American Shad

Harvest and Monitoring Database



System	Rivers/ Tributaries	Does any monitoring occur? (Y/N)	Describe monitoring	Shad SFMP? (Y/N)	Confirmed Shad Spawning	Known Commercial Fishery in Present or Past	Known Recreational Fishery in Present or Past
	Great Egg Harbor River	Y	Spawners: Gill netting & E-fishing; Juveniles: Seining	N	Y	N	N
Delaware	Green Creek	N		N	N	N	N
	Hackensack	N		N	Y	N	N
Delaware	Maurice	Y	Spawners: Gill netting & E-fishing; Juveniles: Seining	N	Y	Y	Y
	Mullica	N		N	N	N	N
Delaware	Oldmans Creek	N		N	N	N	N

Summary Table



	RH	Shad
No SFMP; No monitoring	12	8
No SFMP; No monitoring; Not a spawning river	3	3
No SFMP; Irregular monitoring	2	1
No SFMP; Monitoring	3	0
No SFMP; No monitoring; Could be included in existing System SFMP	9	31
SFMP; Irregular monitoring	1	3
Total	30	46

Next Steps



1. Complete the database
2. For each conflict, follow up with the state TC representative to obtain more details
3. Develop several potential options for resolving each type of conflict
4. Present all conflicts and potential solutions to the full TC for further discussion and development of recommendations to the Board
5. Report to Board (possibly Summer 2019)



Questions?