

Connecticut River American Shad Sustainability Plan Update

September 2017



Connecticut Department of Energy and Environmental Protection

Introduction

- Update to Initial Connecticut Plan implemented beginning with the 2013 fishing season
- The Connecticut River supports the state's only commercial shad fishery.
- Currently there is a commercial drift gill net fishery that occurs south of River Kilometer (Rkm) 64 to the mouth of the CT River.
- The Connecticut River is also the only river in the state in which recreational harvest (via hook and line only) is currently permitted. The recreational fishery occurs in the range north of Hartford, Connecticut (Rkm 84) and south of the Holyoke Dam in Massachusetts (Rkm 139).





Monitoring Overview

- American shad fishery data is collected from mandatory annual reporting of commercial landings while recreational fisheries are monitored periodically by a roving creel survey.
- The Massachusetts Division of Fish and Wildlife monitors fish passage which includes adult American shad passage at the first main stem dam (Rkm 139) on the Connecticut River in Holyoke, Massachusetts.
- Since 1978, Juvenile shad are monitored by CT DEEP through an annual seine survey.



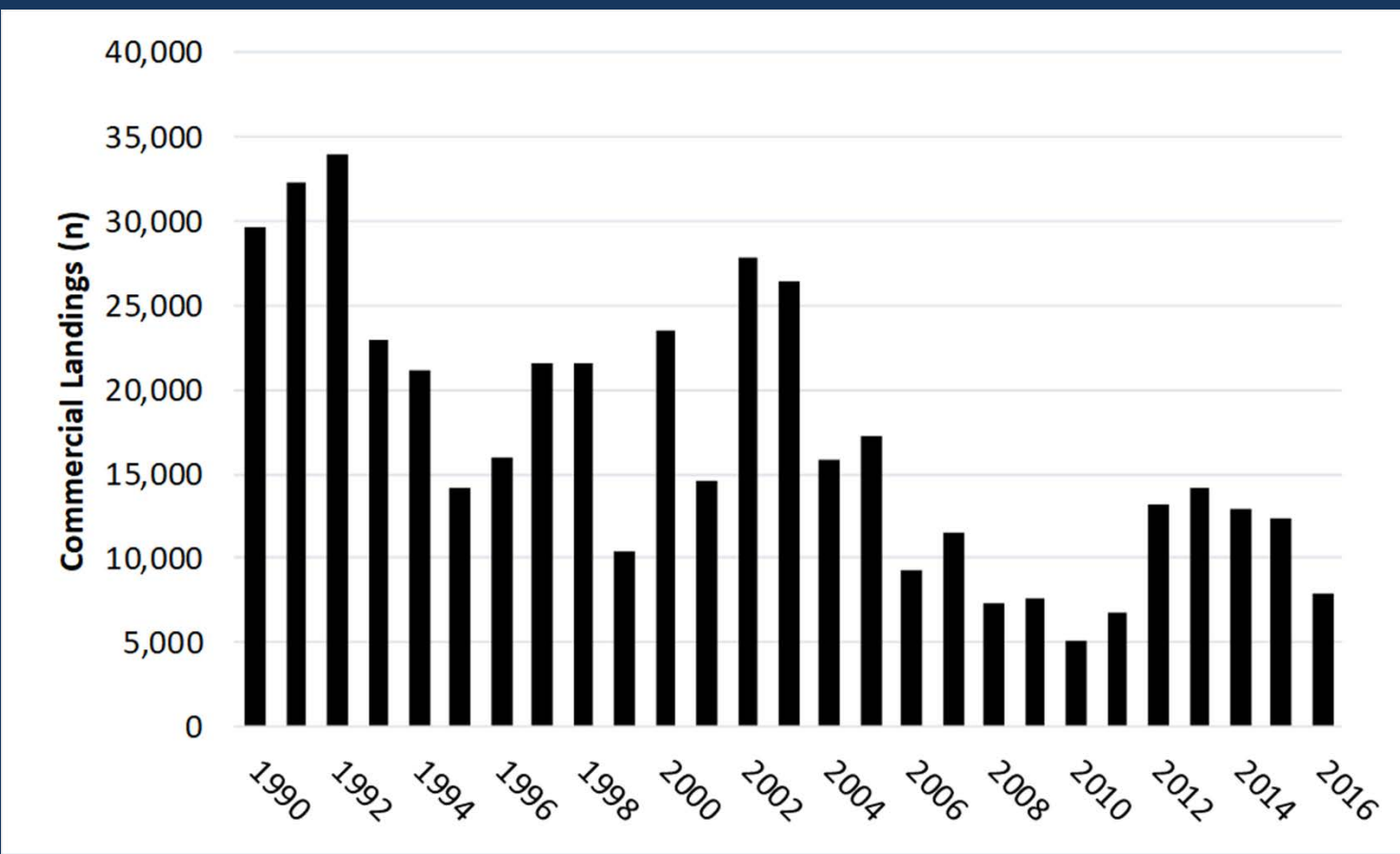


Commercial Fishery

- The shad fishery is managed through area, gear, and season restriction as well as rest days. The American shad gill net season runs from April 1 through June 15.
- A high proportion of license holders exceed age 55 as few new participants have entered the fishery in the last decade.
- Numbers of fishermen, effort, catch and harvest have all varied greatly over time.



Connecticut River American Shad Commercial Landings, 1990-2016



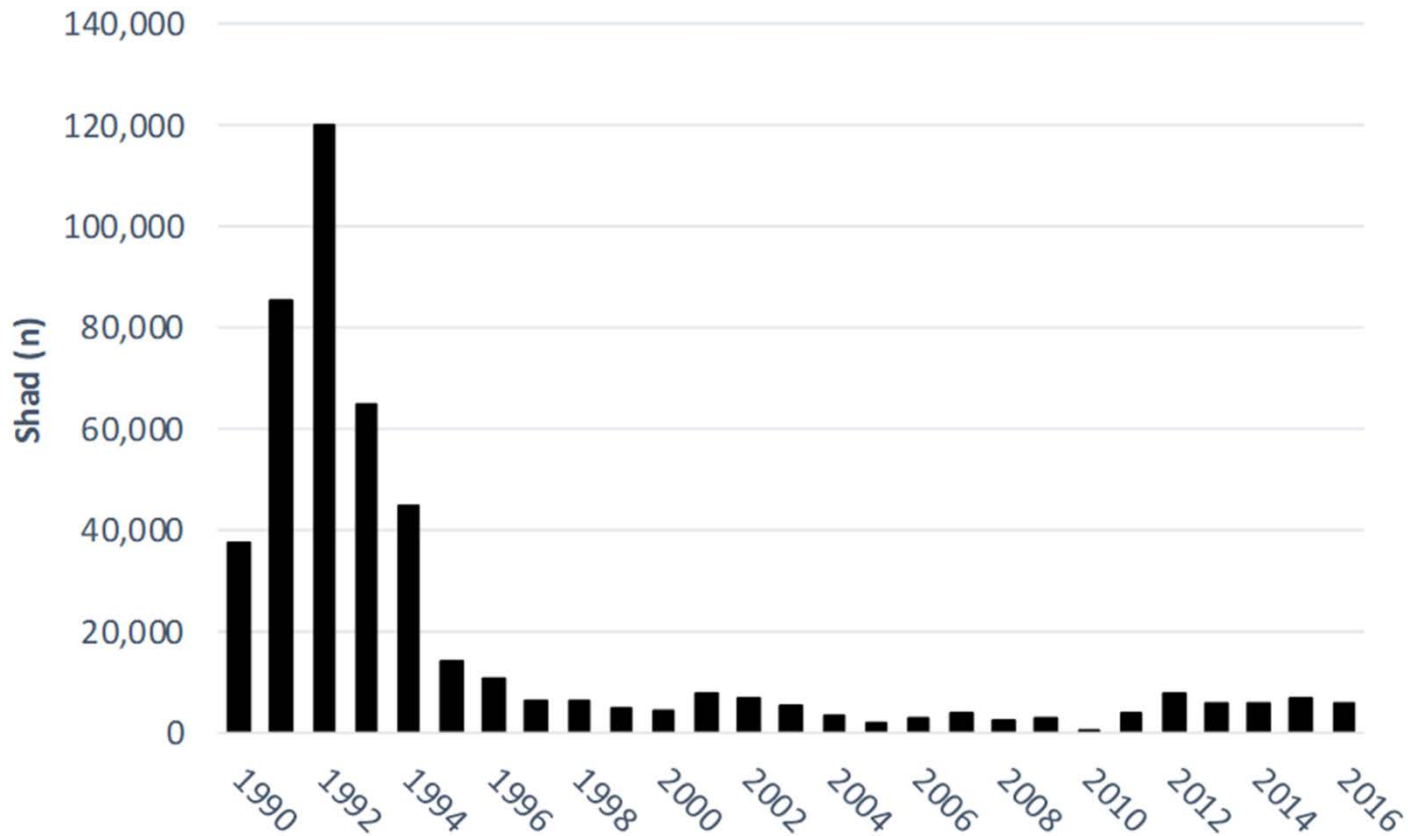


Recreational Fishery

- Angling for American shad is the only legal method of recreational take and may occur during the open season from April 1 through June 30.
- Permits are required and the daily possession limit is 6 American and hickory shad in the aggregate, per person, in both the inland and marine districts
- Similar to commercial fishing trends, recreational fishing for American shad has exhibited a general decline in recent decades.
- Anecdotal and creel information gathered in the last ten years shows that fewer fishermen are targeting American shad in the traditional shad fishing areas.



Connecticut River American Shad Recreational Landings, 1990-2016





Fishery Independent Monitoring

- Holyoke Lift Passage Counts-Information on the number of fish lifted daily, the number of lift days (days the lift is in operation) and the daily sex ratio at Holyoke are currently obtained from the Massachusetts Division of Fisheries.
- Juvenile Abundance Indices (JAI)-Annual American shad reproductive success has been monitored in the Connecticut River since 1978 by collecting juvenile American shad in a beach seine survey and calculating an annual index of relative abundance. Seining is conducted weekly from mid-July through mid-October at seven fixed stations located from Holyoke, MA to Essex, CT





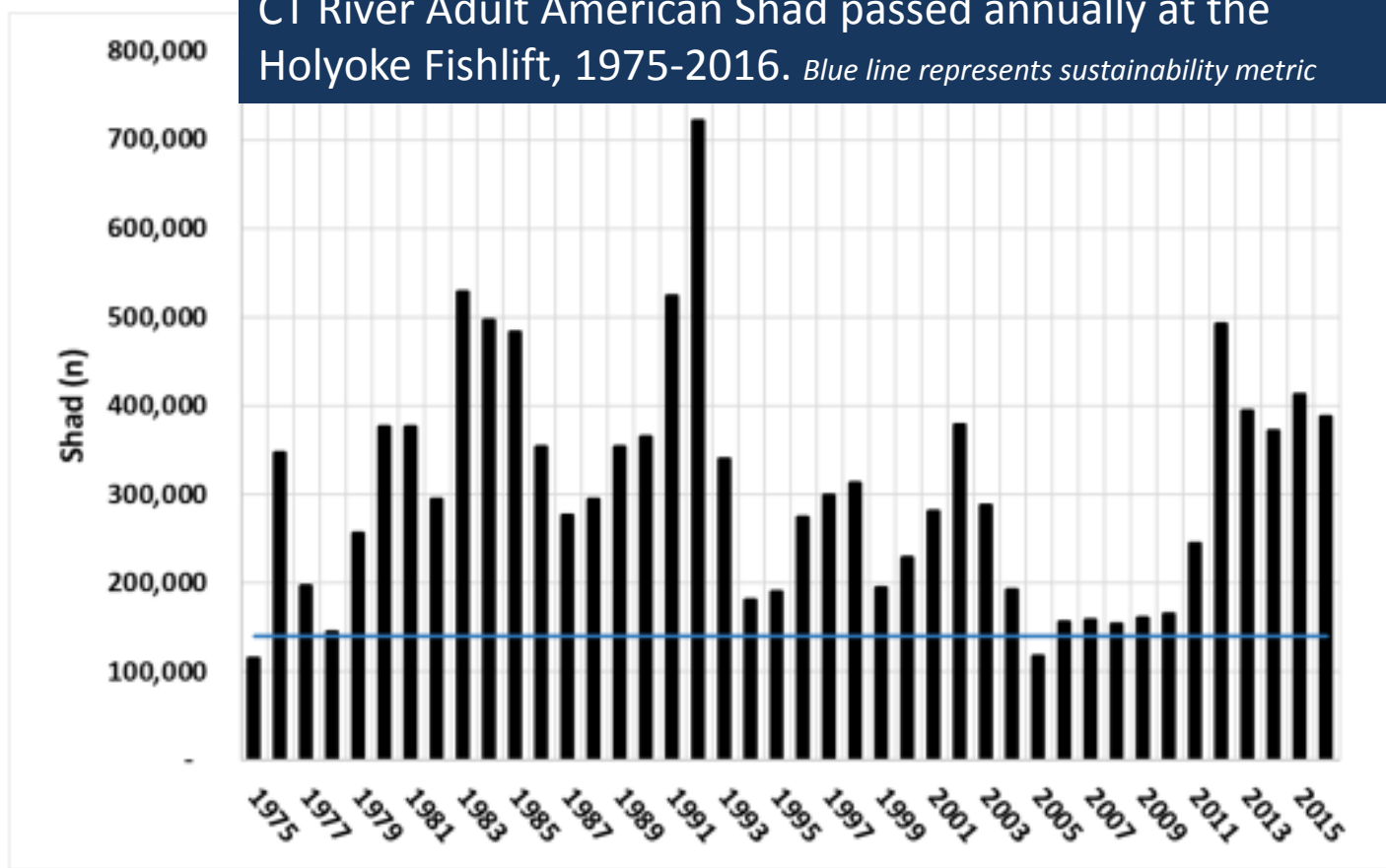
Sustainability Metrics

- 1) Response metric **PASSAGE**: the number of adult fish lifted at the first main stem dam in Holyoke MA. PASSAGE will be used as a proxy for total run size (i.e. adult stock). The trigger for PASSAGE is 140,000 fish.
- 2) Response metric **RECRUITMENT**: defined in Amendment 3 as three consecutive years of recruitment in the lower quartile of the time series. The American shad JAI seine survey will be used as the basis for the RECRUITMENT metric. This metric will provide an early warning of a recruitment failure or population decline due to poor stock reproduction.
- 3) Response metric **ESCAPEMENT**: a measure of fishing pressure on the stock expressed as the proportion of the total run “escaping” the fishery to spawn. A conservative trigger of 90% escapement was chosen to facilitate review of potential implications in the event of increasing fishery removals. Recent escapement has been in excess of 90% (1990-2016 median = 96%), but lower escapement rates were common through much of the time series with no evident diminishment in subsequent recruitment.

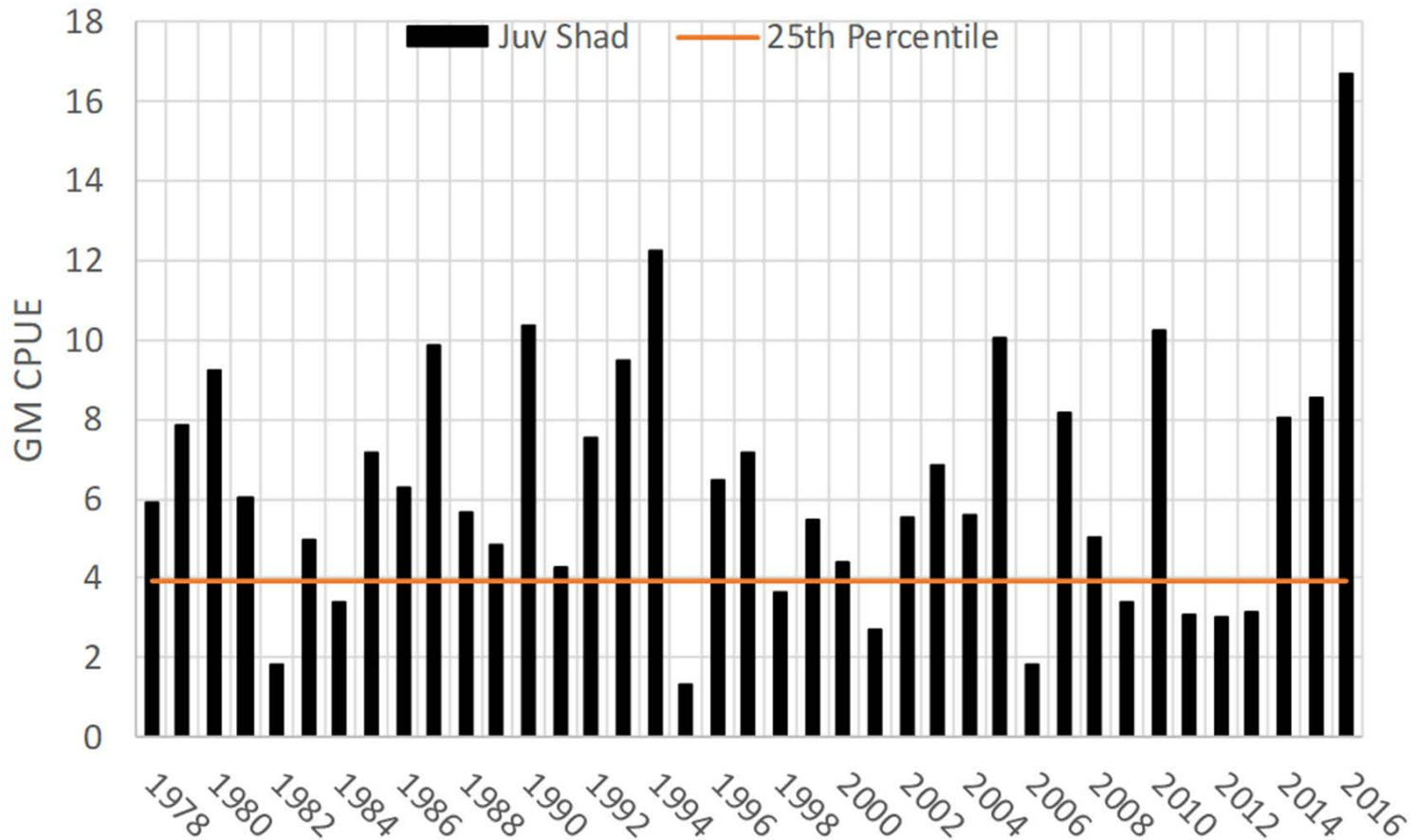




CT River Adult American Shad passed annually at the Holyoke Fishlift, 1975-2016. *Blue line represents sustainability metric*

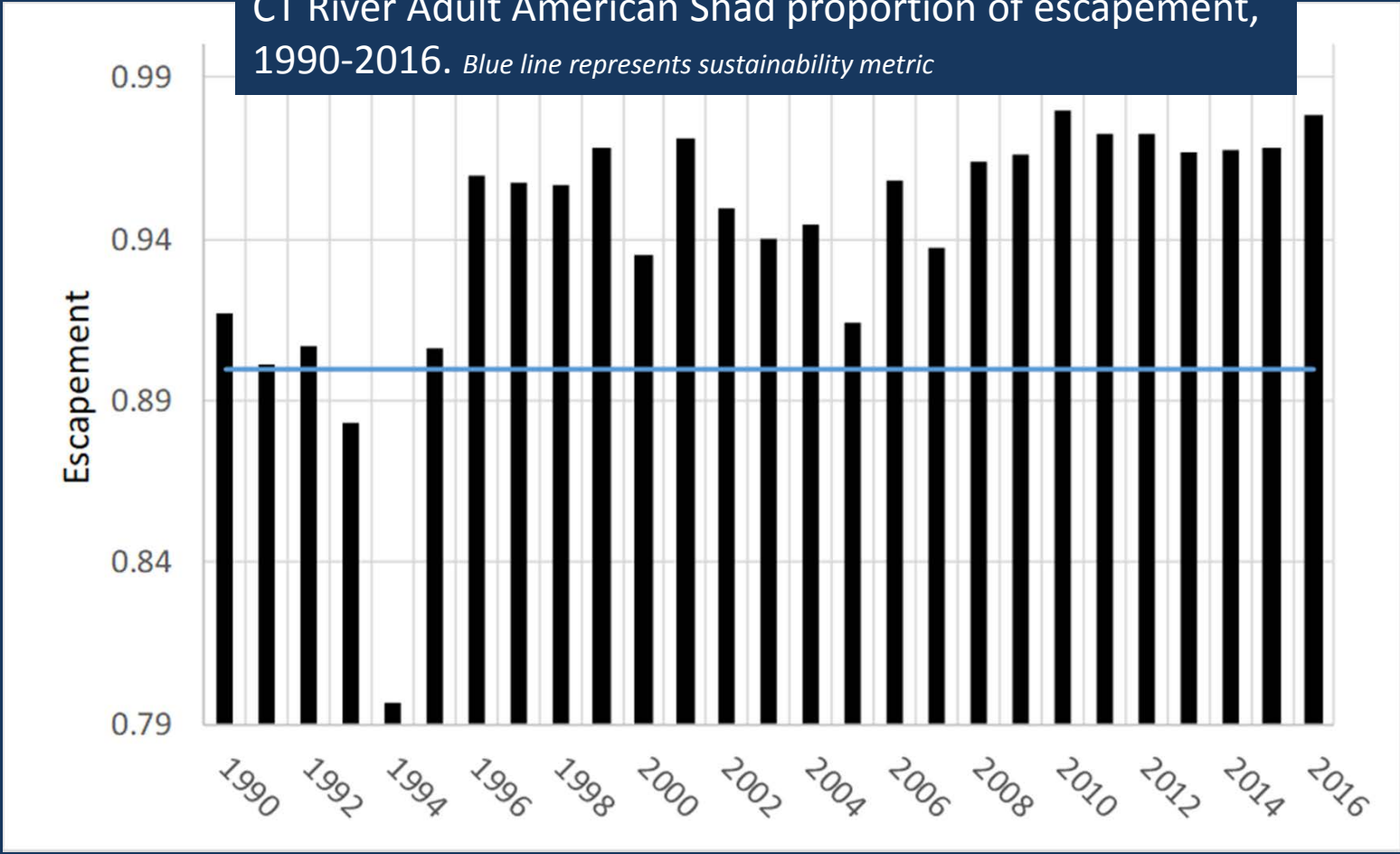


CT River juvenile American Shad annual index of abundance, 1978-2016. *Includes sustainability metric*





CT River Adult American Shad proportion of escapement, 1990-2016. *Blue line represents sustainability metric*



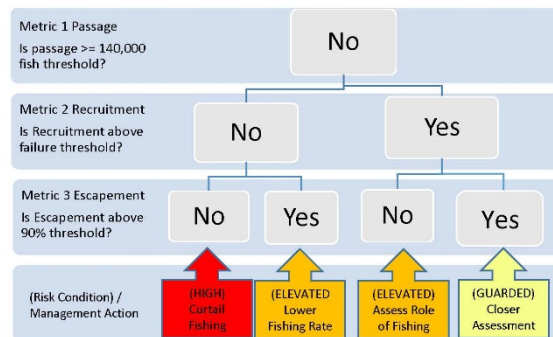
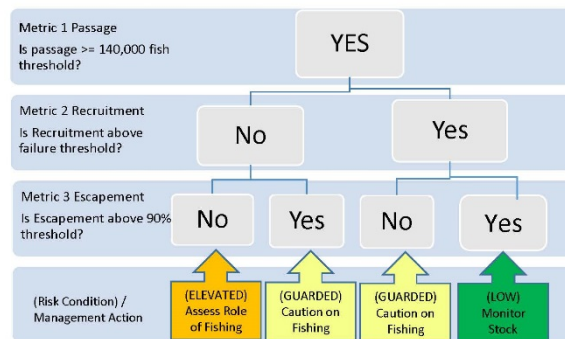


Figure 9. Sustainability Flow Chart for Connecticut River American shad stock monitoring.



Table 2. Summary of SFMP values in relation to triggers, 2013-2016.

Year	Passage	Passage Trigger	Sustainability target met?
2013	392,967	140,000	YES
2014	370,506	140,000	YES
2015	412,656	140,000	YES
2016	385,930	140,000	YES

Year	JAI	JAI Trigger	Sustainability target met?
2013	3.16	3.59	NO
2014	8.03	3.65	YES
2015	8.53	3.80	YES
2016	16.7	3.96	YES

Year	% Escapement	Escapement Trigger	Sustainability target met?
2013	97	90	YES
2014	97	90	YES
2015	97	90	YES
2016	98	90	YES



Summary

- CT proposed to continue using the three response metrics described here to determine sustainability of the CT River American shad fishery, as previously approved under Connecticut's initial Sustainable Fisheries Management Plan.
- The last four years of monitoring has produced positive metrics except for a single year when RECRUITMENT was negative
- Since the implementation of the CT SFMP, counts at the Holyoke fish lift and the JAI have increased, while landings have remained at modest levels resulting in adequate escapement.



ASMFC Shad and River Herring TC Recommendations

- Add table summarizing benchmarks and responses
- Improve language to define what management responses will occur if thresholds are reached
- Recommend approval to the Board



North Carolina American Shad Sustainable Fishery Plan

Nothing Compares
NORTH CAROLINA

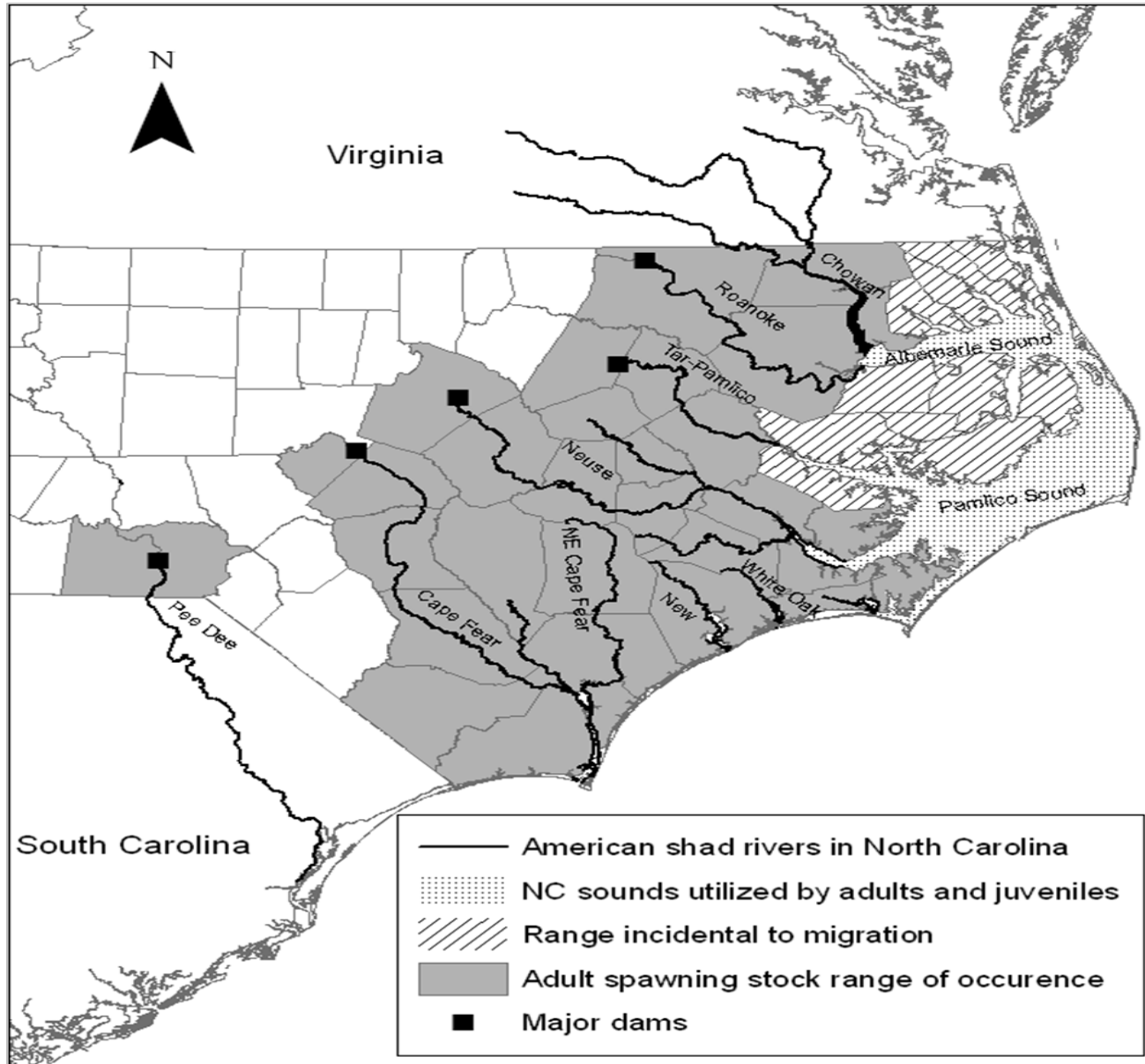
*DIVISION OF MARINE FISHERIES
WILDLIFE RESOURCES COMMISSION*

ASMFC Shad and River Herring TC| Holly White| September 11, 2017



American Shad

Area of Occurrence



Current Stock Status

The 2007 ASMFC stock assessment stated American Shad stocks in the Albemarle Sound and Roanoke River were low but stable and suggested a benchmark total mortality rate (Z30) of 1.01. Annual estimates of mortality (Z) from the assessment indicate that values have fluctuated around the benchmark since 2000.

- Stock status for the other systems could not be determined due to no definitive trends in abundance.
- Even though stock status remains unknown out side of the Albemarle Sound the 2007 ASMFC stock assessment recommended a Z30 of 1.01 state wide.



2012 Plan Recap

Indices

North Carolina DMF and WRC conduct adult dependent and independent surveys to develop yearly indices of abundance for American Shad. These indices are used to establish management thresholds to maintain sustainable levels of harvest as approved in the 2012 Sustainable Fishery Plan.

Albemarle/Roanoke System

- **Female Relative Abundance (CPUE) Electrofishing Survey** – Roanoke River
- **Female CPUE Independent Gill Net Survey (IGNS)** – Albemarle Sound
- **Relative Fishing Mortality (F)** - Albemarle Sound – Annual roe commercial landings divided by a 3-year centered average of IGNS female CPUE
 - Used independent data consistent with months and gear (5.0, 5.5, 6.0 ISM) used in commercial fishery.

Tar-Pam, Neuse, Cape Fear Rivers

- **Female CPUE Electrofishing Survey**
- **Relative F** – Annual roe commercial landings divided by a 3-year centered average of female CPUE
 - Only used commercial and independent data from March-April.

2012 Plan

Management Measures Implemented

In 2013, Albemarle Sound female CPUE (IGNS) and the female relative F parameters exceeded the threshold for the third consecutive year.

- Management action required reductions in commercial landings:
 - 37.9% reduction in Roe landings
 - 50.2% reduction for Total landings
- Reduction was met through a modified commercial season in the Albemarle Sound, March 3-24, that has remained since 2014.
 - 2014 – 41% reduction in Roe; 42% reduction in Total
 - 2015 – 68% reduction in Roe; 68% reduction in Total
 - 2016 – 78% reduction in Roe; 79% reduction in Total
 - 2017 – 67% reduction in Roe; 67% reduction in Total
- Management actions were not required in other systems during the tenure of the 2012 Plan.

2018 Management Measures

Recreational Creel Limits

Joint, Coastal, and Inland Waters

Albemarle Sound/Roanoke River, Neuse River

- 10-fish American and Hickory Shad in the aggregate, per person per day taken by hook-and-line, and only **1-fish** may be an American Shad.

Tar-Pamlico River

- 10-fish American and Hickory Shad in the aggregate, per person per day taken by hook-and-line.

Cape Fear River

- 10-fish American and Hickory Shad in the aggregate, per person per day taken by hook-and-line, and only **5-fish** may be an American Shad.

All Other Areas

- 10-fish American and Hickory Shad in the aggregate, per person per day taken by hook-and-line.

2018 Management Measures

Commercial Seasons

Albemarle Sound

- March 3 to March 24.

Tar-Pamlico River, Neuse River

- February 15-April 14.

Cape Fear River

- February 20 to April 11.

All Other Areas

- February 15 to April 14.

2017 Plan Summary

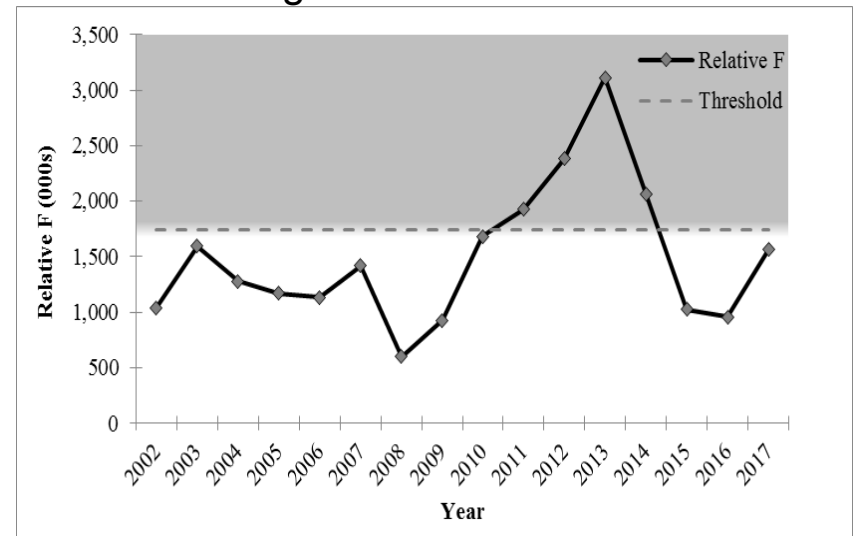
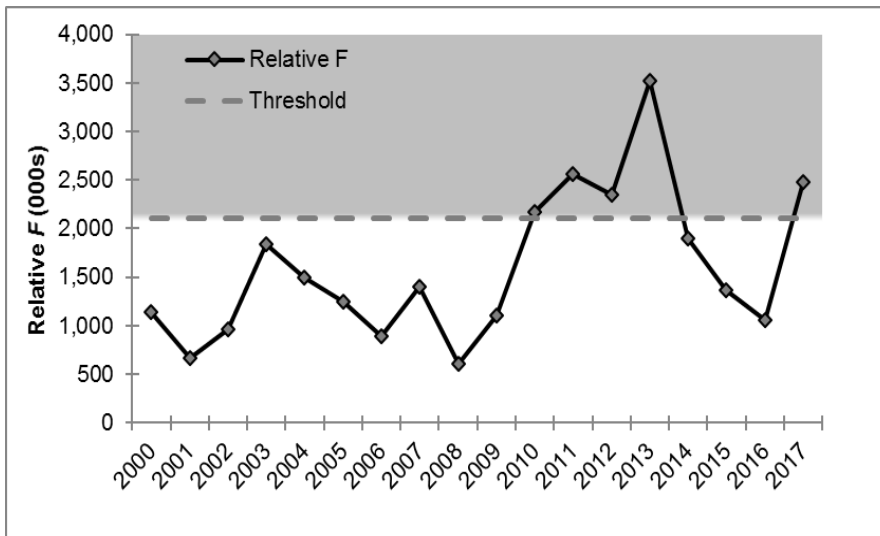
- The 2017 plan represents the 5-year update to the original North Carolina Sustainable Fishery Plan (2013-2017) approved in 2012 by the ASMFC Shad and River Herring Management Board with two changes:
 1. Relative F will now be computed by dividing commercial landings by a hind cast 3-year average of a survey index whereas the previous plan used a centered 3-year average
 2. Thresholds (75th and 25th percentiles) for sustainability parameters are fixed using available survey data through 2017 and will remain fixed during the next 5-year management period.
- North Carolina requests recreational and commercial fisheries in all coastal rivers, and will use the management measures listed in this plan to ensure sustainability of these fisheries.



Female Relative F *Centered v. Hind Cast*

- The 2012 Plan relative F was computed by using a centered 3-year average, due to the short time series of data available.
 - First and last year of the time series based only on two years of data.

- The hind cast 3-year average is determined to be more appropriate in the plan update, with an additional 5-years of data.
 - The value of the final year in the time series (which can trigger management action) remains unchanged once calculated.



Management Thresholds and Triggers

System	Index	Threshold Value	Time Series	Threshold Level	Management Trigger
Albemarle/ Roanoke	Roanoke River Female CPUE	0.131	2001-2017	25 th percentile	3 consecutive years below the threshold; does not trigger management by itself
Albemarle/ Roanoke	Albemarle Sound Female CPUE	0.02773	2000-2017	25 th percentile	3 consecutive years below the threshold
Albemarle/ Roanoke	Female Relative <i>F</i>	1,740,876	2002-2017	75 th percentile	3 consecutive years above the threshold
Tar/Pamlico River	Female CPUE	0.384	2000-2017	25 th percentile	3 consecutive years below the threshold
Tar/Pamlico River	Female Relative <i>F</i>	20,243	2002-2017	75 th percentile	3 consecutive years above the threshold
Neuse River	Female CPUE	0.1275	2000-2017	25 th percentile	3 consecutive years below the threshold
Neuse River	Female Relative <i>F</i>	198,625	2002-2017	75 th percentile	3 consecutive years above the threshold
Cape Fear River	Female CPUE	0.1115	2001-2017	25 th percentile	3 consecutive years below the threshold
Cape Fear River	Female Relative <i>F</i>	186,354	2003-2017	75 th percentile	3 consecutive years above the threshold



Potential Management Measures

The environmental circumstances under which a sustainability threshold may be reached can vary among systems. Therefore, different management measures may be used for each system in addressing the triggers. A suite of potential measures to be implemented is presented here and may be used singly or in combination:

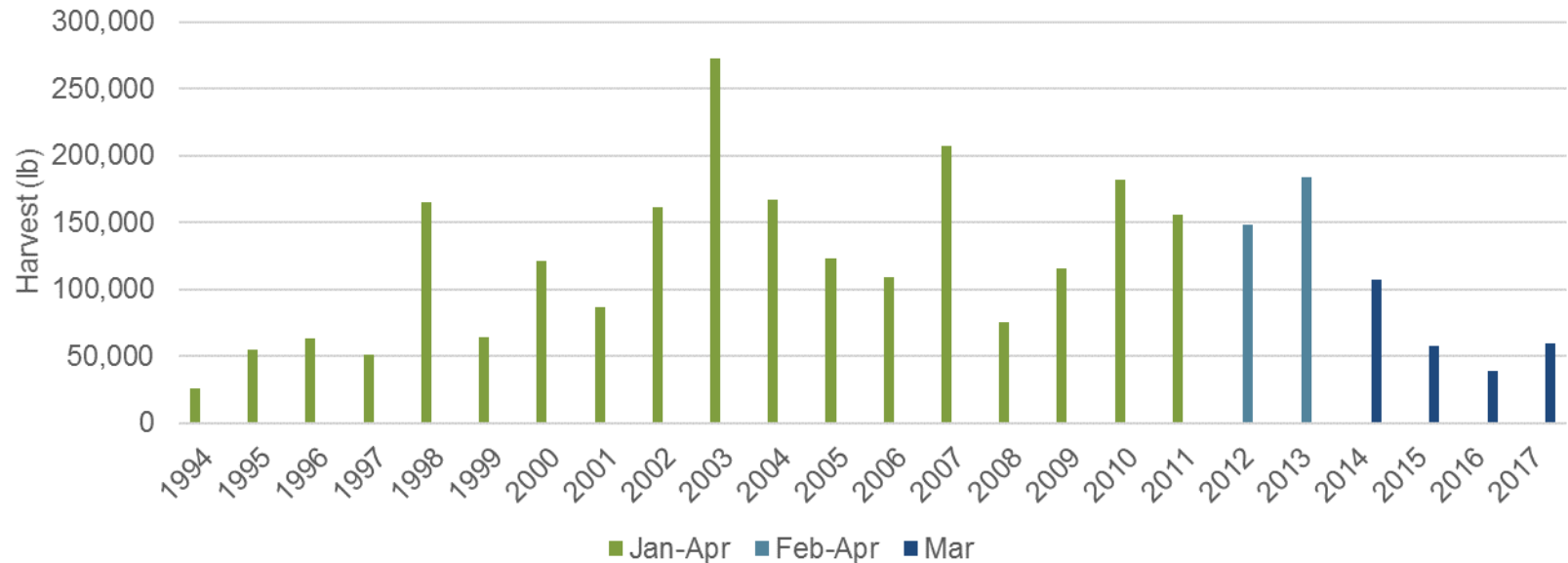
- Restrictions on length of season to reduce effort (e.g., March 1–April 14) not to extend beyond the estuarine striped bass quotas being filled (avoids waste of striped bass and shad)
- Trip limits (this may result in discards)
- Reduce allowable number of yards (the 1,000-yard limit in Albemarle Sound could be considered in other areas)
- Area/season closure (e.g., area closure at mouth of Roanoke River from February–mid-November since 1988)
- Only allow fishing certain days of the week (lift days)
- Recreational creel reduction
- Commercial harvest quota (although possible, this could be difficult to implement given existing resources)

If two years of sustainability parameters exceeding thresholds are observed, a suite of management measures could be proactively developed and presented to Finfish and Regional Advisory Committees for implementation.



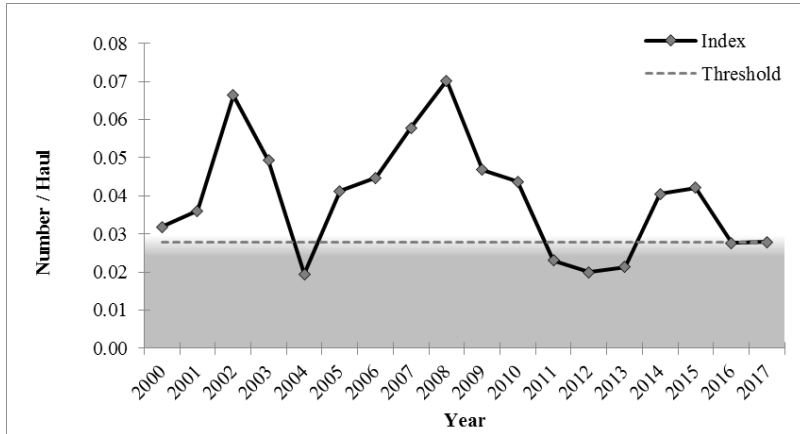
Albemarle/Roanoke System

Commercial Harvest, All Gears (lb)					Season
Year	Buck	Roe	Unclassified	Total	
2012	19,457	129,005	7	148,469	Feb 1 - Apr 14
2013	11,642	170,646	1,210	183,498	Feb 15 - Apr 14
2014	6,909	100,222	0	107,131	Mar 3 - Mar 24
2015	4,143	53,866	0	58,009	Mar 3 - Mar 24
2016	1,618	37,563	5	39,186	Mar 3 - Mar 24
2017	4,087	55,580	0	59,667	Mar 3 – Mar 24

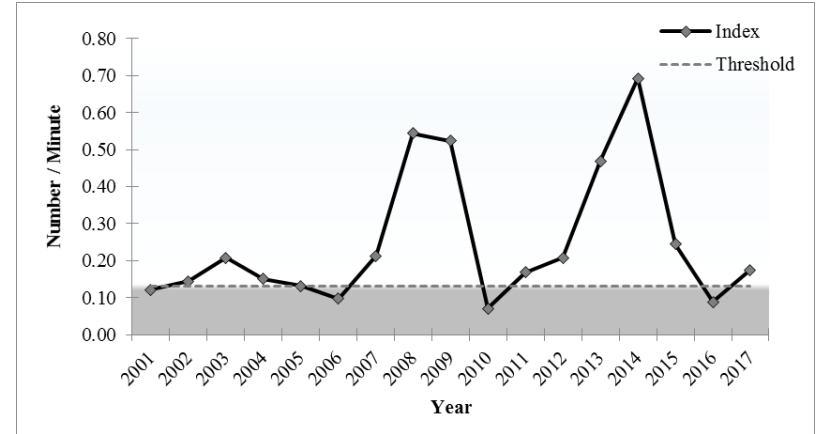


Albemarle/Roanoke System

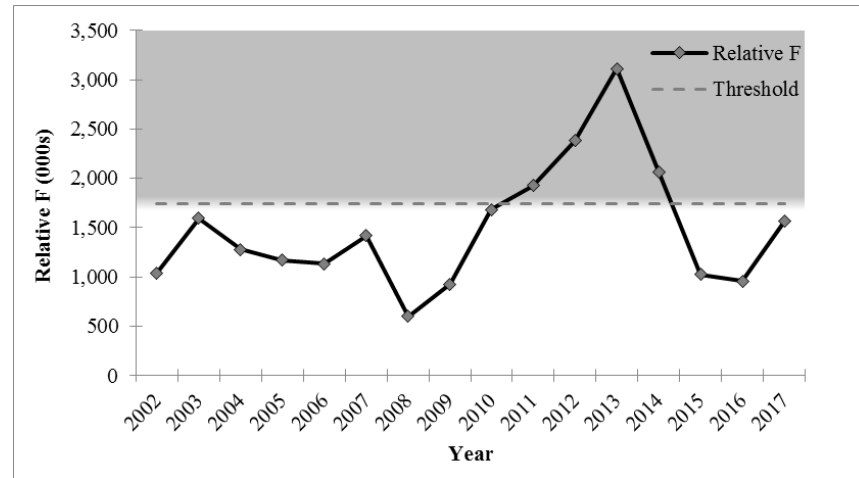
Female Catch Per Unit Effort
Independent Gill Net Survey



Female Catch Per Unit Effort
Electrofishing Survey



Female Relative F Independent Gill
Net Survey

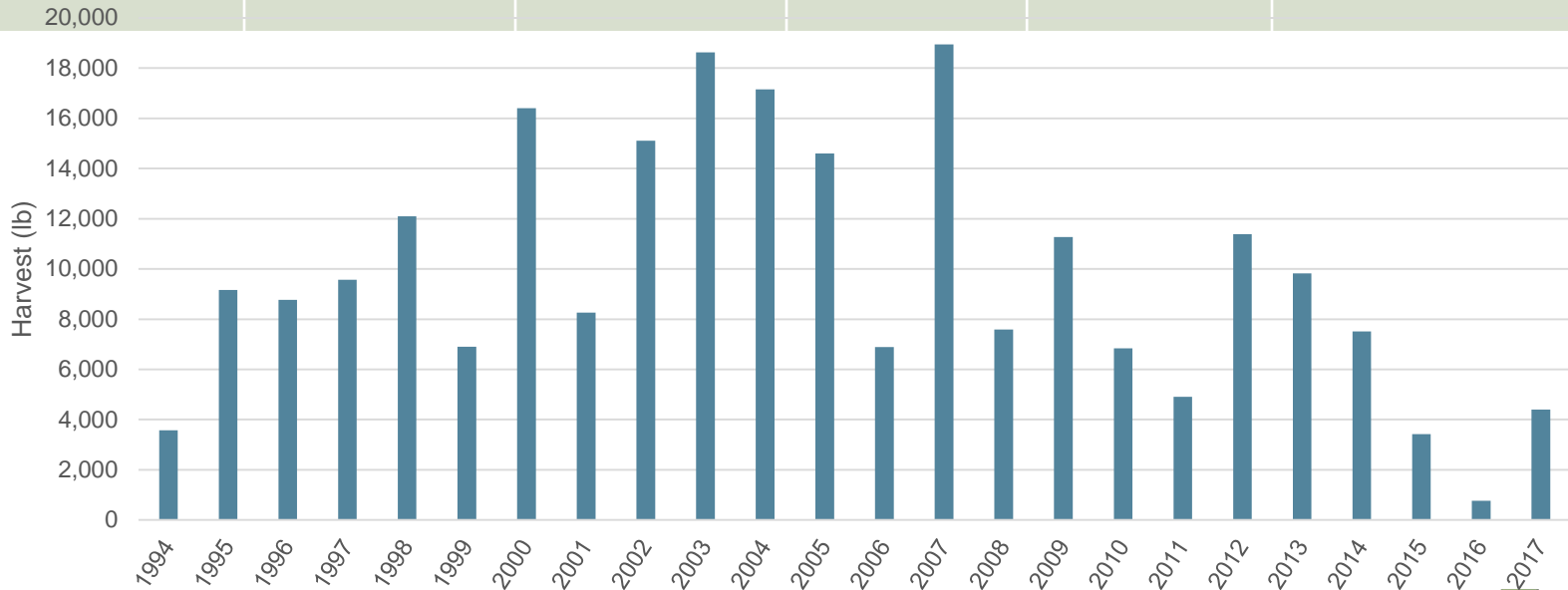


Exceeding the threshold

Not exceeding the threshold

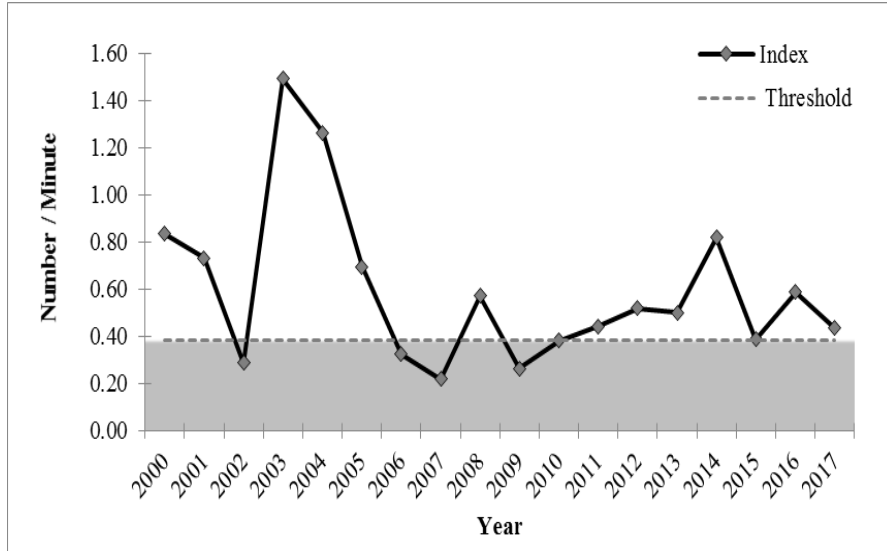
Tar/Pamlico River

Year	Commercial Harvest, All Gears (lb)				Season
	Buck	Roe	Unclassified	Total	
2012	451	12,523	9	12,982	Feb 1 - Apr 14
2013	106	9,685	38	9,828	Feb 15 - Apr 14
2014	129	7,414	0	7,543	Feb 15 - Apr 14
2015	63	3,358	0	3,421	Feb 15 - Apr 14
2016	17	745	3	765	Feb 15 - Apr 14
2017	46	4,338	10	4,394	Feb 15 - Apr 14

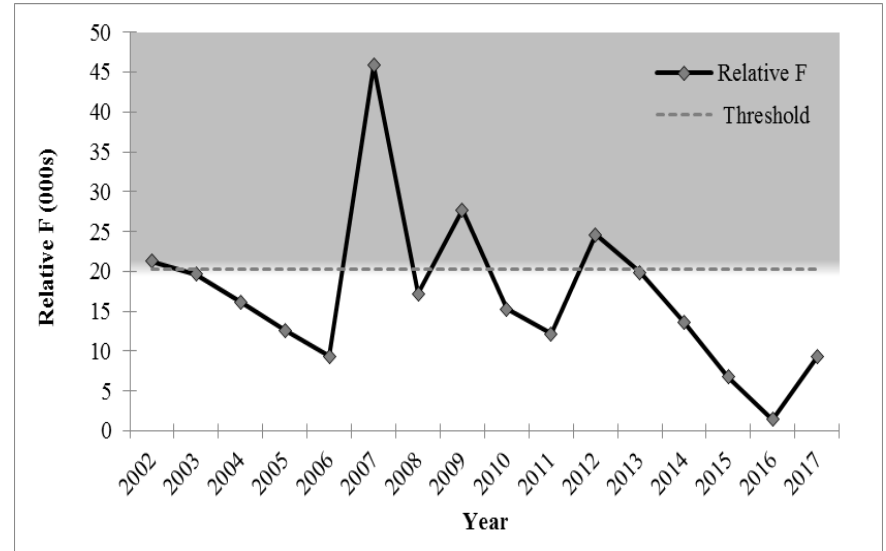


Tar/Pamlico River

Female Catch Per Unit Effort
Electrofishing Survey



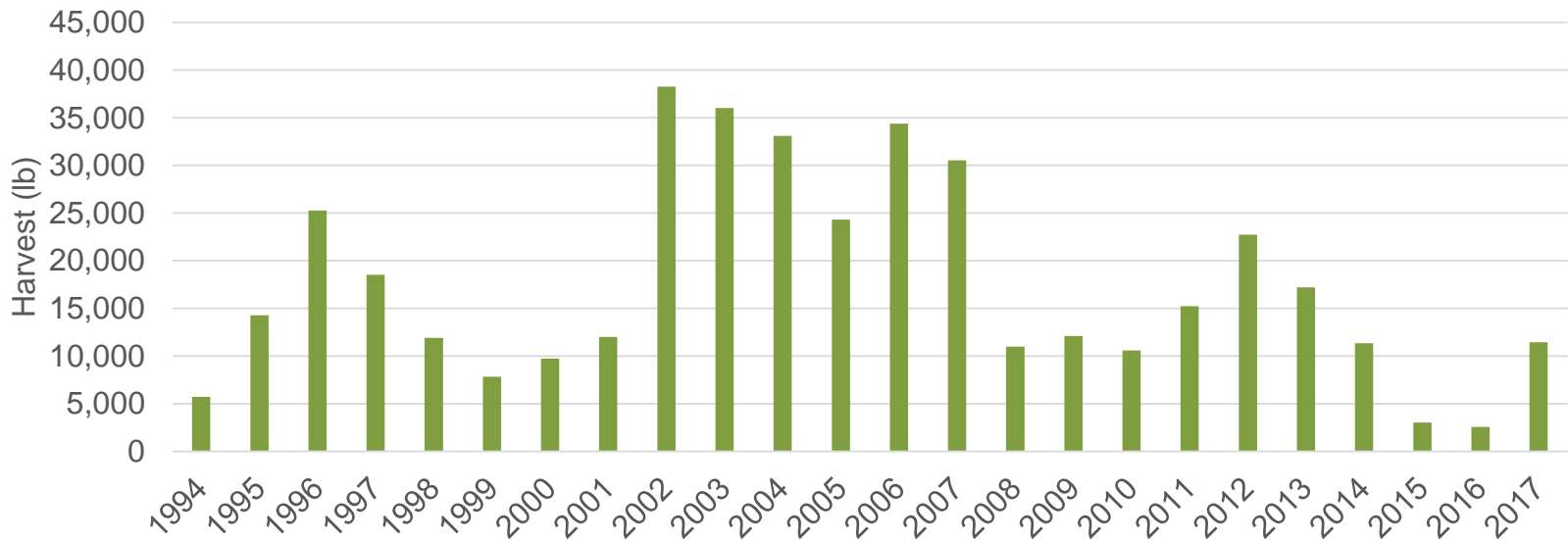
Female Relative *F* Electrofishing
Survey



Exceeding the threshold
 Not exceeding the threshold

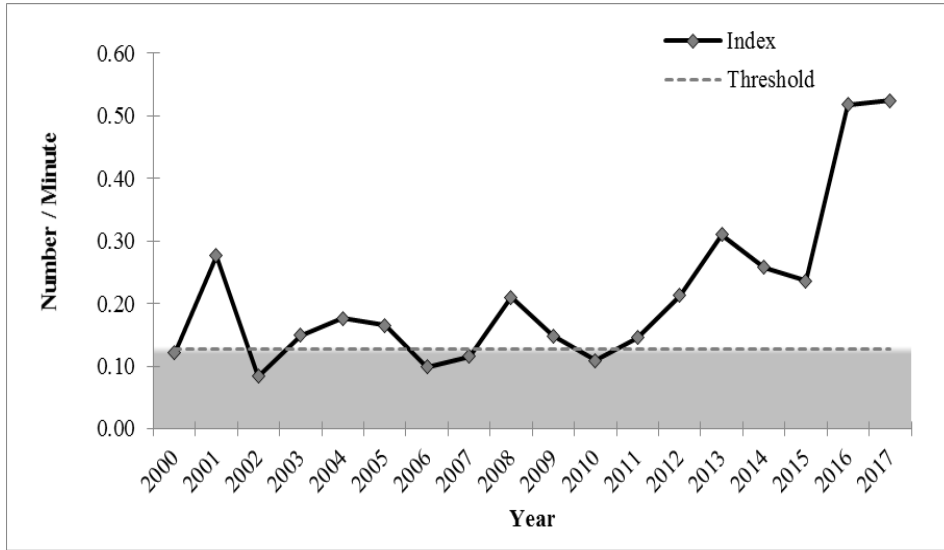
Neuse River

Year	Commercial Harvest, All Gears (lb)				Season
	Buck	Roe	Unclassified	Total	
2012	1,653	22,224	108	23,985	Feb 1 - Apr 14
2013	765	16,311	244	17,320	Feb 15 - Apr 14
2014	1,243	9,935	193	11,371	Feb 15 - Apr 14
2015	276	2,634	112	3,022	Feb 15 - Apr 14
2016	216	2,232	120	2,568	Feb 15 - Apr 14
2017	636	10,815		11,451	Feb 15 - Apr 14

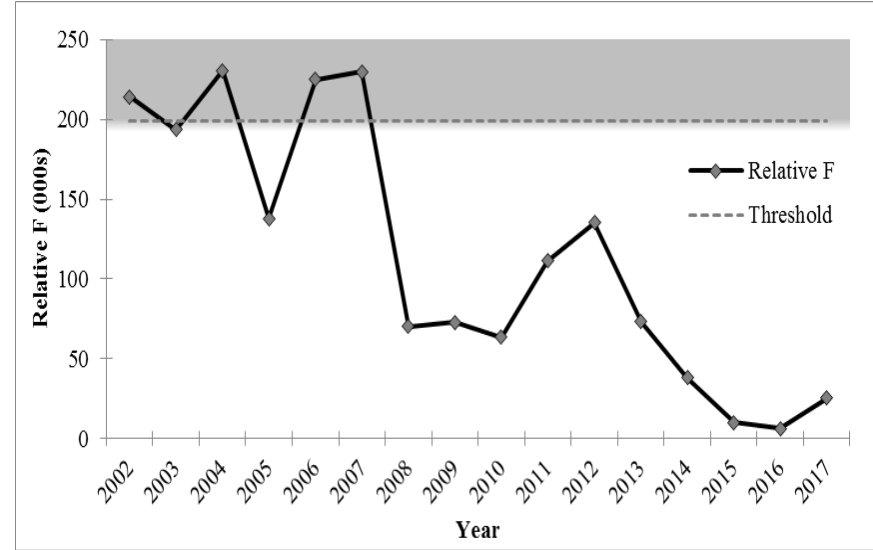


Neuse River

Female Catch Per Unit Effort Electrofishing Survey



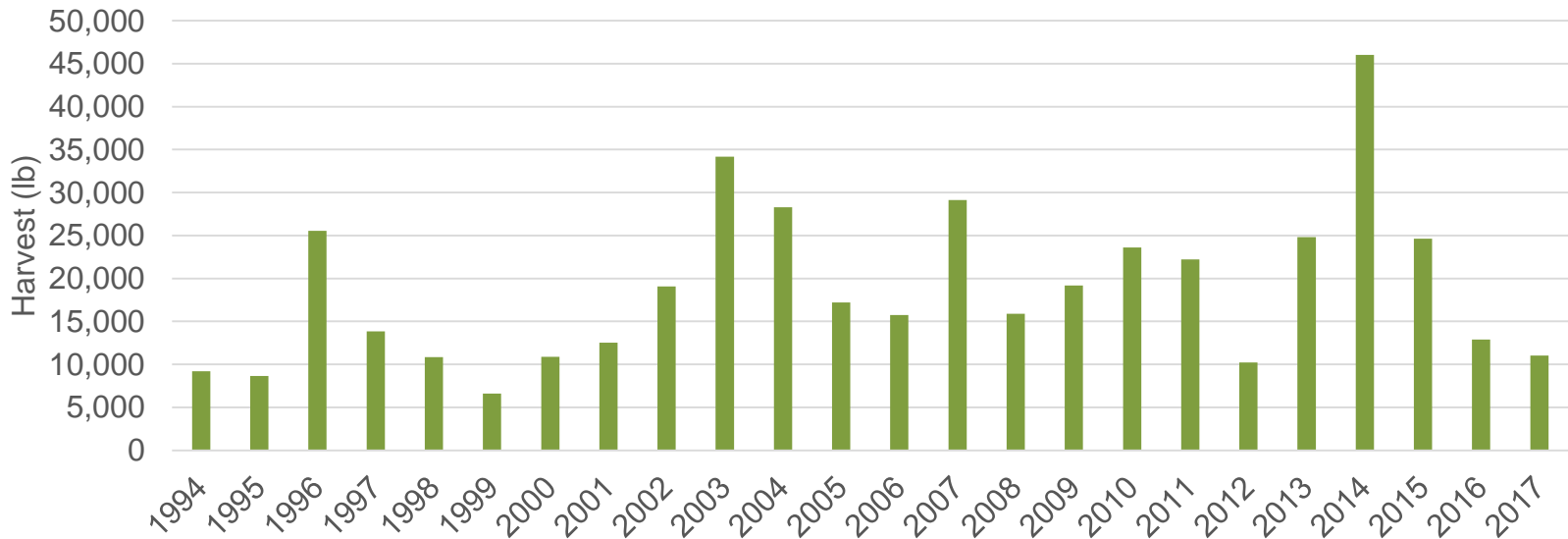
Female Relative F Electrofishing Survey



Exceeding the threshold
 Not exceeding the threshold

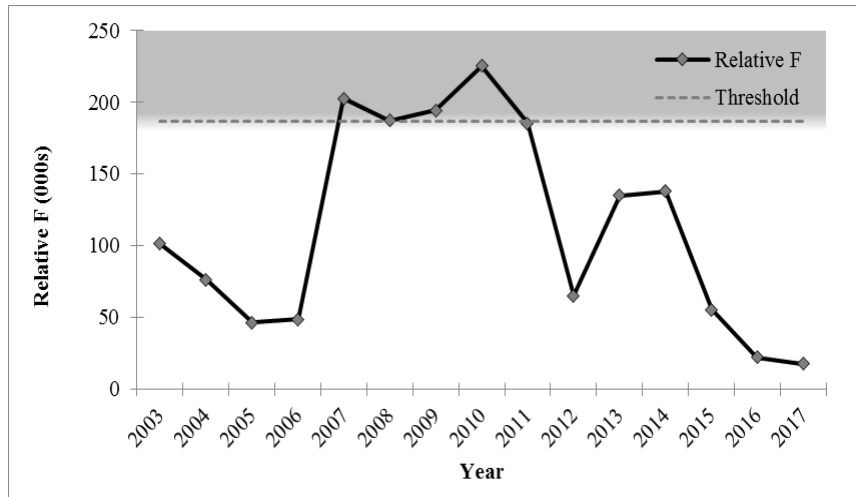
Cape Fear River

Year	Commercial Harvest, All Gears (lb)				Season
	Buck	Roe	Unclassified	Total	
2012	1,957	8,384		10,341	Feb 1 - Apr 14
2013	2,352	22,536		24,888	Feb 20 - Apr 11
2014	4,609	41,540		46,148	Feb 20 - Apr 11
2015	2,089	22,950		25,039	Feb 20 - Apr 11
2016	901	9,783	34	10,717	Feb 20 - Apr 11
2017	1,475	9,303	254	11,032	Feb 20 - Apr 11

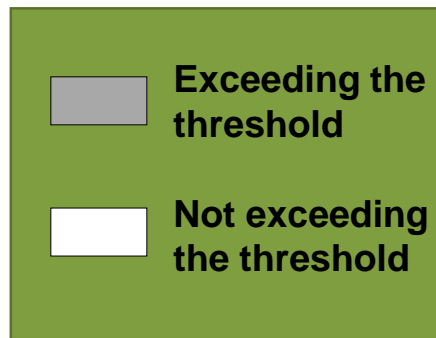
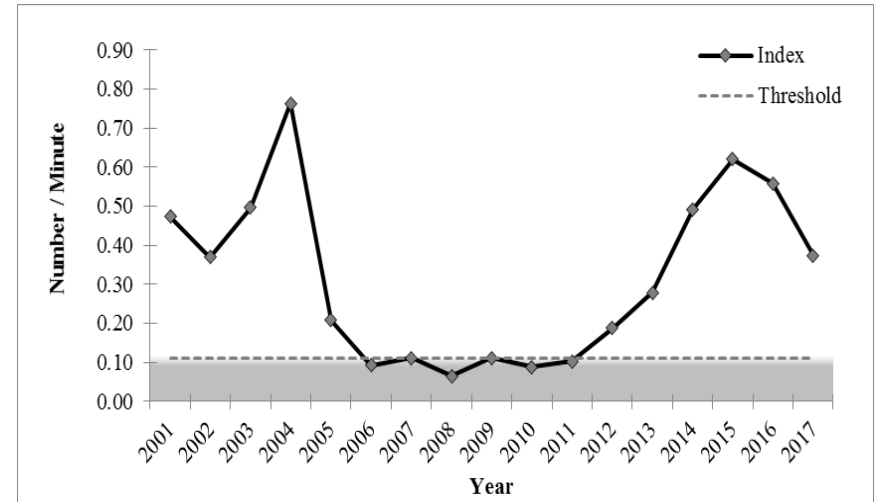


Cape Fear River

Female Catch Per Unit Effort Electrofishing Survey



Female Relative *F* Electrofishing Survey



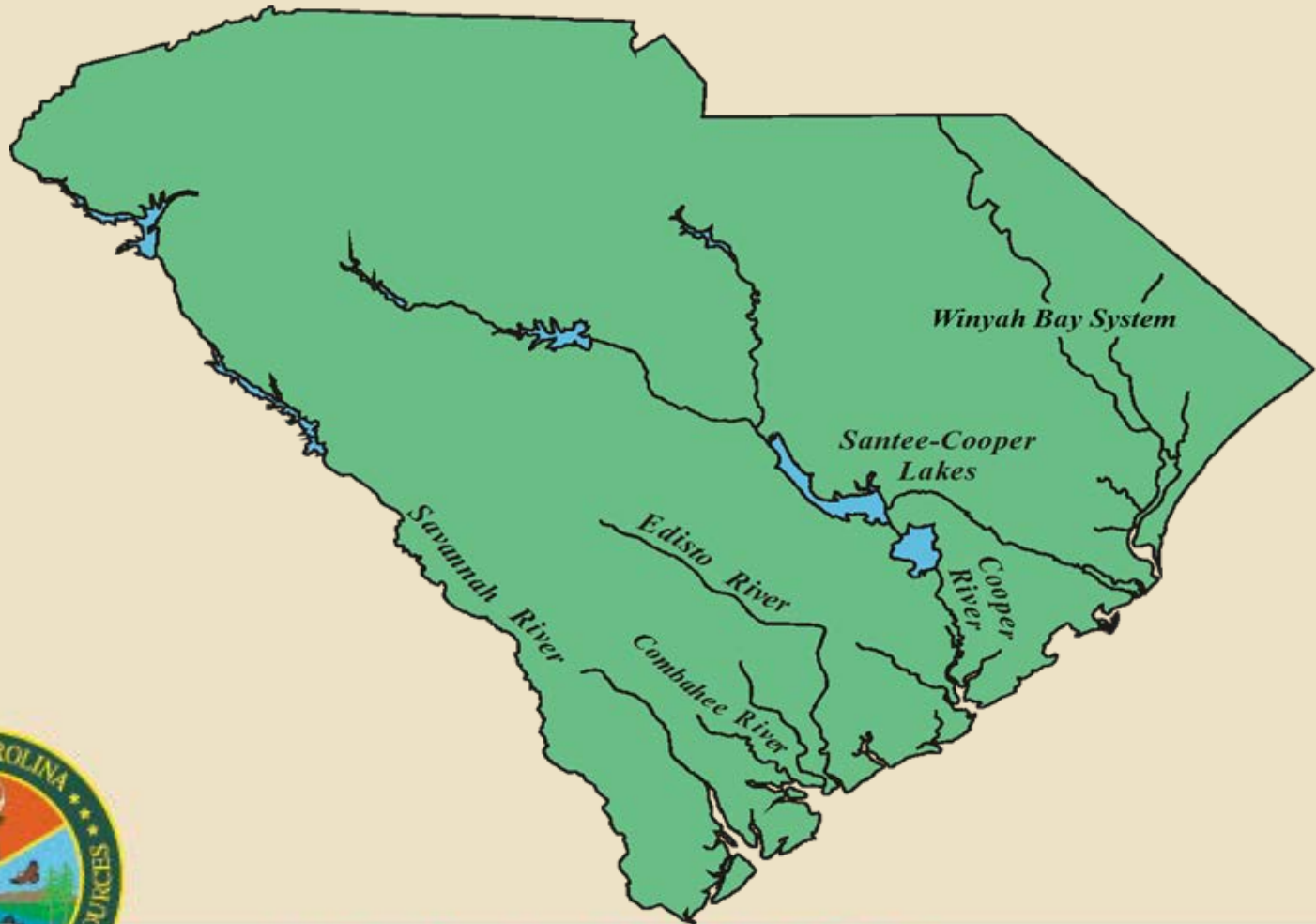
Future Considerations

- Consider alternate means of calculating effort from the IGNS and possible incorporation of IGNS from Tar-Pamlico and Neuse Rivers as parameters.
- Consider incorporating uncertainty in relative F estimates.
- Consider use of alternative modeling approaches that can incorporate environmental parameters as model factors.
- Consider alternative ways to calculate Relative F including using recreational catch estimates and total catch from the independent surveys.

ASMFC Shad and River Herring TC Recommendations

- Add table summarizing benchmarks and responses
- Improve language in Section 3.1 on the application of management responses that will occur when thresholds are reached
- Add language to show that there are not significant fisheries occurring in unmonitored rivers
- Recommend approval to the Board

American Shad Sustainable Fishing Plan Update – South Carolina



DNR

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- ❖ Review Open and Closed Fisheries
- ❖ Review sustainability index and benchmark values for all Open fisheries
- ❖ Review conservation measures and gear restrictions put in place in 2013 to reduce the bycatch of sturgeon in the American Shad fishery



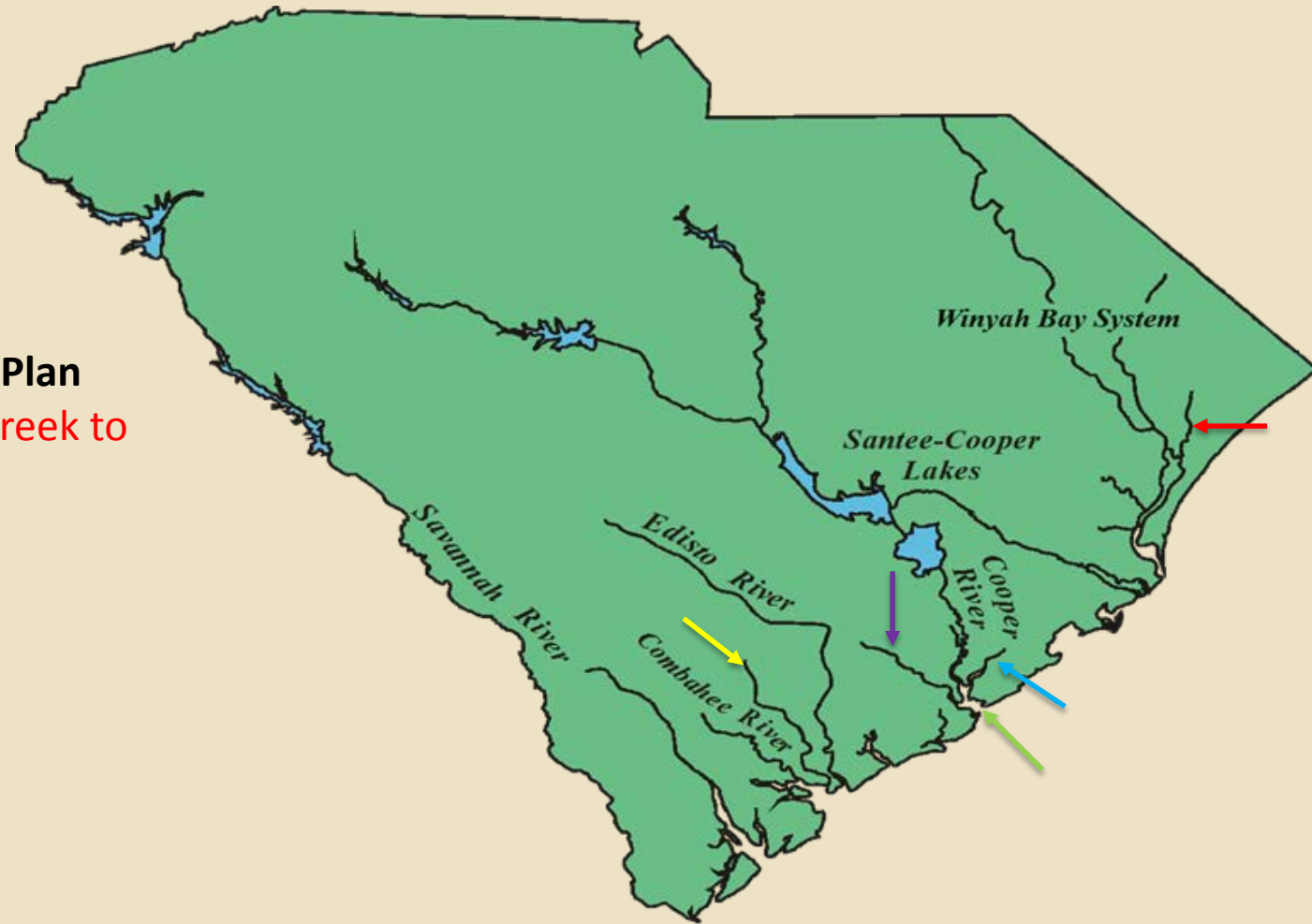
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Fisheries Closed in 2012 Plan

- Waccamaw River (Bull Creek to North Carolina Border)
- Ashley River
- Charleston Harbor
- Wando River
- Ashepoo River



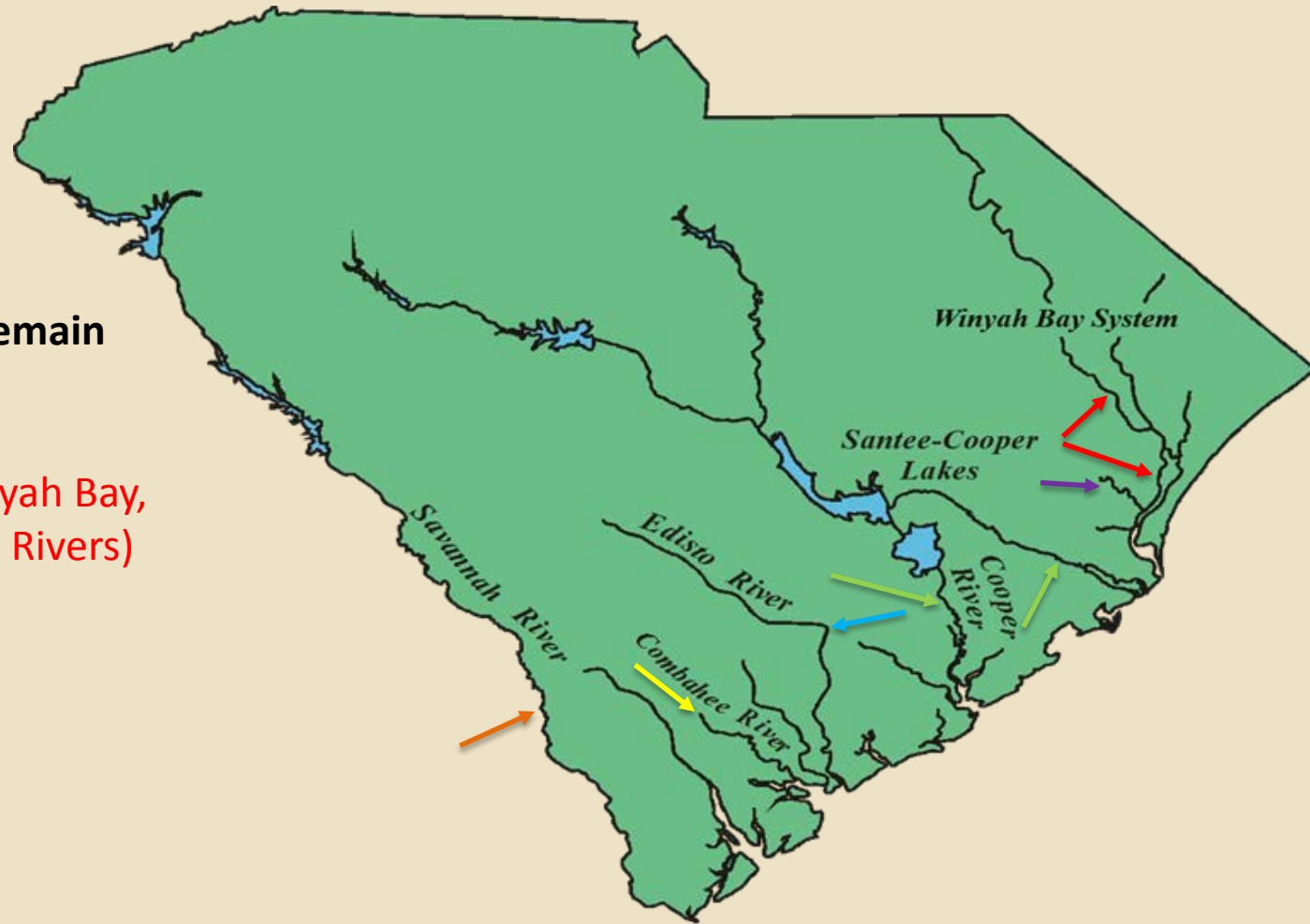
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**Fisheries requested to remain
Open (Recreational and
Commercial)**

- Pee Dee River Run (Winyah Bay, Waccamaw and Pee Dee Rivers)
- Black River
- Santee Cooper System
- Edisto River
- Combahee River
- Savannah River

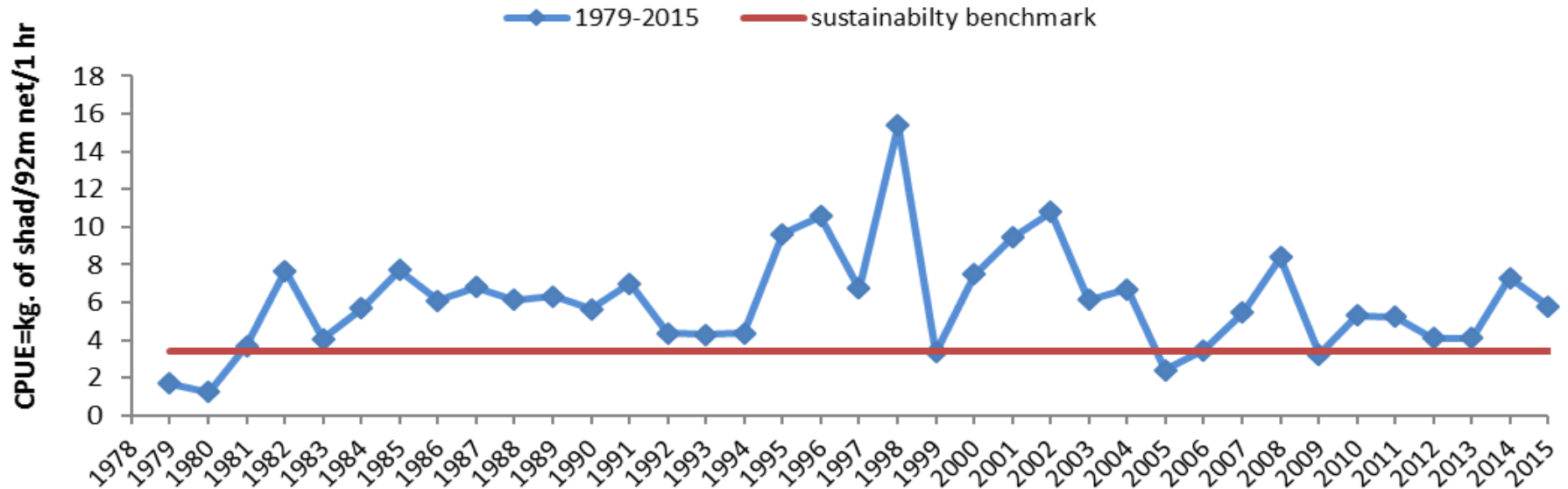


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Life's Better **OUTDOORS**

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Pee Dee Run



- ❖ **Recreational** – no closed season, creel limit of 10 per day
- ❖ **Commercial** – January 15 - April 15 or January 15 - April 1, Monday-Saturday, set and drift gillnets, no harvest limit
- ❖ **Sustainability Benchmark** - 25th percentile of the annual mean CPUE for the last ten years - 3.41 kg shad/92 m net/hr

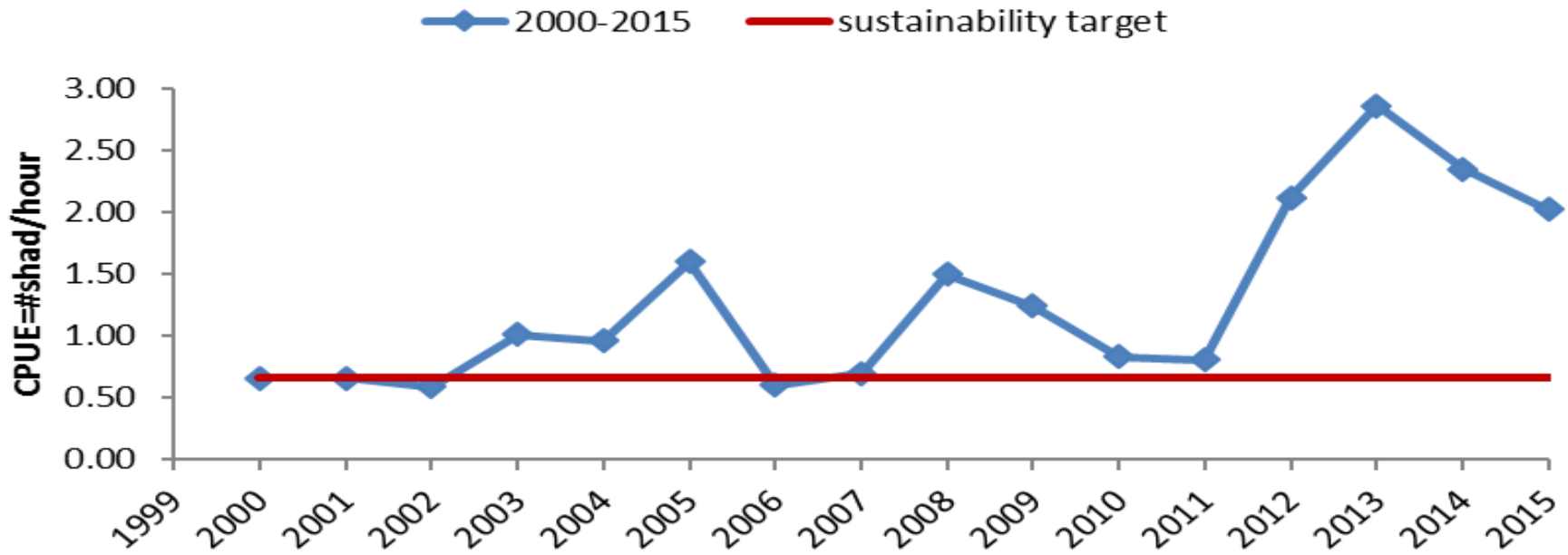


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Cooper River



- ❖ **Recreational** – no closed season, creel limit of 10 per day
- ❖ **Commercial** – no commercial fishery exists in the Cooper River by South Carolina regulation
- ❖ **Sustainability Benchmark** - 25th percentile of the annual mean CPUE from the recreational fisheries , 2000 - 2015 – 0.66 shad/angling hour

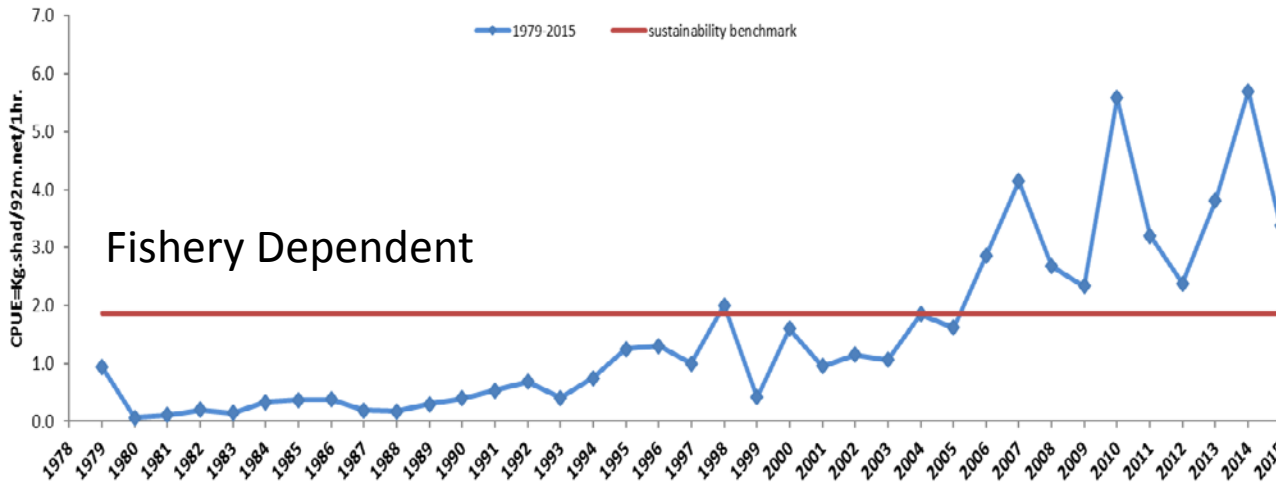


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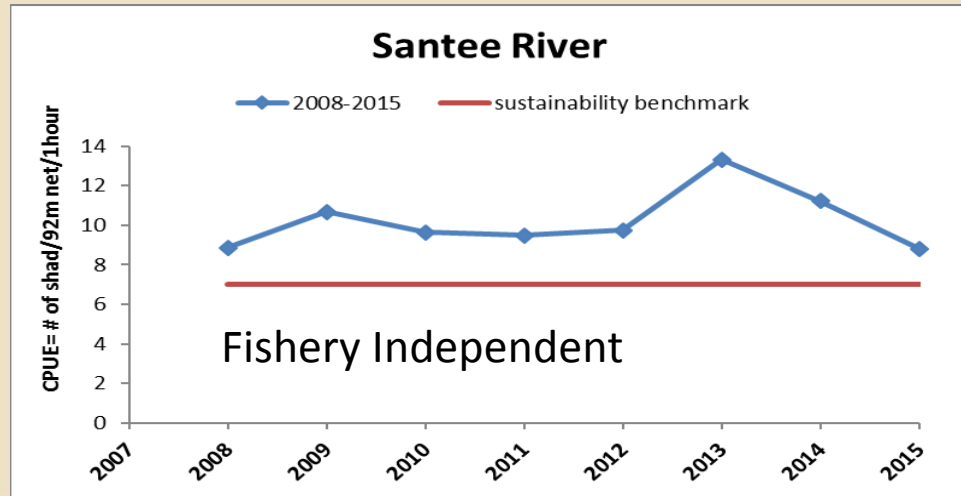
Santee River



- ❖ **Recreational** – no closed season, creel limit of 20 per day
- ❖ **Commercial** - January 15-March 15 or January 15 – April 15, Monday - Saturday or Tuesday -Thursday, set and drift gillnets, no harvest limit

❖ **Fishery Dependent Benchmark** - 25th percentile of the annual mean CPUE for the last ten years – 1.8 kg of shad/92m net/hour

❖ **Fishery Independent Benchmark** - 25th percentile of the annual mean CPUE from 2008-2015 – 7 shad/92m net/1 hour

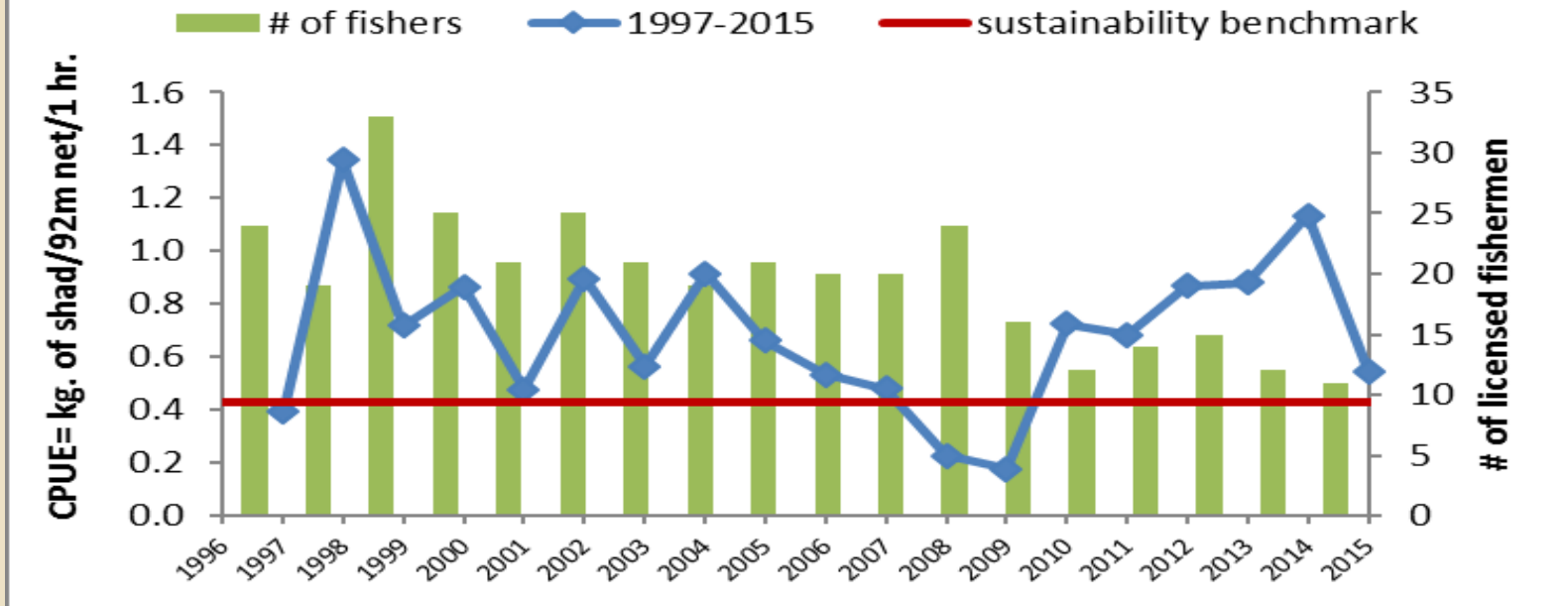


DNR

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Edisto River



- ❖ **Recreational** – no closed season, creel limit of 10 per day (2017 proposal to reduce to 5)
- ❖ **Commercial** – February 1- March 30, Tuesday-Saturday or Wednesday -Friday, set and drift gillnets, no harvest limit
- ❖ **Sustainability benchmark** - 25th percentile of the annual CPUE mean for the last ten years of 0.43 kg of shad/92 m net/hour
 - ❖ Request to maintain this fishery at a reduced level (2013 sturgeon bycatch restrictions), and will amend regulations if catch rates fall below the sustainability benchmark for three consecutive years

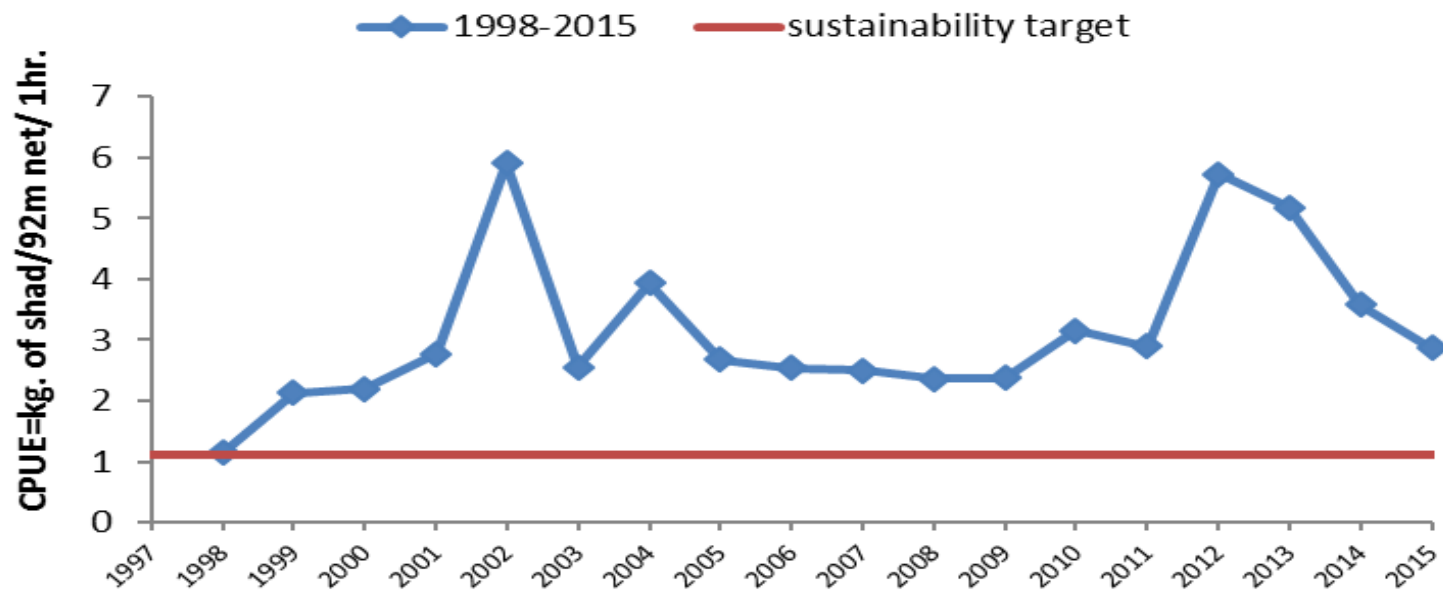


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Savannah River (SC)



- ❖ Recreational – no closed season, creel limit of 10 per day
- ❖ Commercial – January 1-April 15 or January 1-March 31, Wednesday (7am)-Saturday (7pm) or Tuesday (7am)-Friday (7pm), set and drift gillnets, no harvest limit
- ❖ Sustainability benchmark was developed using the 25th percentile of the annual mean CPUE for the last ten years - 1.1 kg shad/92 m net/1 hour
 - ❖ The fishery remained above the sustainability benchmark



DNR

Life's Better OUTDOORS

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Black River

Confidential data due to 2 or fewer participants in the fishery

- ❖ **Recreational** – no closed season, creel limit of 10 per day (current proposal to reduce to 5)
- ❖ **Commercial** – January 15-April 15, Monday -Saturday, set and drift gillnets, no harvest limit
- ❖ **Sustainability Benchmark** - 25th percentile of the annual mean CPUE for the last ten years – 0.97 kg shad/92 m net/1 hour

- ❖ The fishery consists of only 2 fisherman and neither fisherman depends on their catch for commercial purposes. During the update period the fishery has remained above the sustainability benchmark



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Combahee River

Confidential data due to 2 or fewer participants in the fishery

- ❖ **Recreational** – no closed season, creel limit of 10 per day (current proposal to reduce to 5)
- ❖ **Commercial** – February 1- March 15, Tuesday-Friday , anchored gillnets, Monday-Saturday, drift gillnets, no harvest limit
- ❖ **Sustainability Benchmark** - 25th percentile of the annual mean CPUE for the last ten years – 0.53 kg shad/92 m net/1 hour
- ❖ Requests to maintain fishery at a reduced level (2013 sturgeon bycatch restrictions), and will amend regulations if catch rates fall below the benchmark for three consecutive years
- ❖ The fishery has remained above the sustainability benchmark for 5 of the previous 6 years



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- ❖ South Carolina considers all Open fisheries to be sustainable
- ❖ 95% of the commercial harvest occurs in the Winyah Bay and Santee Cooper system, and those stocks have been increasing over the last 40 years and have been relatively stable over the last 10 years
- ❖ Commercial fisheries in the Black, Edisto, and Combahee Rivers are small and the stocks in these rivers have remained stable but reduced from historic estimates. SCDNR has proposed additional protections for these stocks in the form of restricting commercial and recreational fisheries



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Conservation Measures

Recreational Fishery

A proposal to reduce the creel limit from 10 to 5 fish/day in the Black, Edisto, and Combahee Rivers was completed and will be submitted to the South Carolina General Assembly for ratification

Commercial Fishery

The number of gillnets was restricted (via permit condition) beginning in 2013 to reduce the bycatch of sturgeon in the commercial fishery. This restriction was also included in a proposal to the South Carolina General Assembly for ratification. Additionally, the fishing area in the Savannah River was restricted to protect ~110 rkm of potential sturgeon spawning habitat

Waterbodies	# nets/fisherman prior to 2013	# nets/fisherman currently
Winyah Bay, Lower Waccamaw, Great Pee Dee, Santee and Savannah Rivers	10	5
Edisto River	10	2
Black, and Combahee Rivers	10	1



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ASMFC Shad and River Herring TC Recommendations

- Add table summarizing benchmarks and responses
- Improve language to define what management responses will occur if thresholds are reached
- For the next plan, evaluate additional biological and JAI metrics to use as plan benchmarks
- Consider joint coordination with NC on the Great Pee Dee River, and begin discussions with GA on common management responses for the Savannah River
- Recommend approval to the Board



DNR

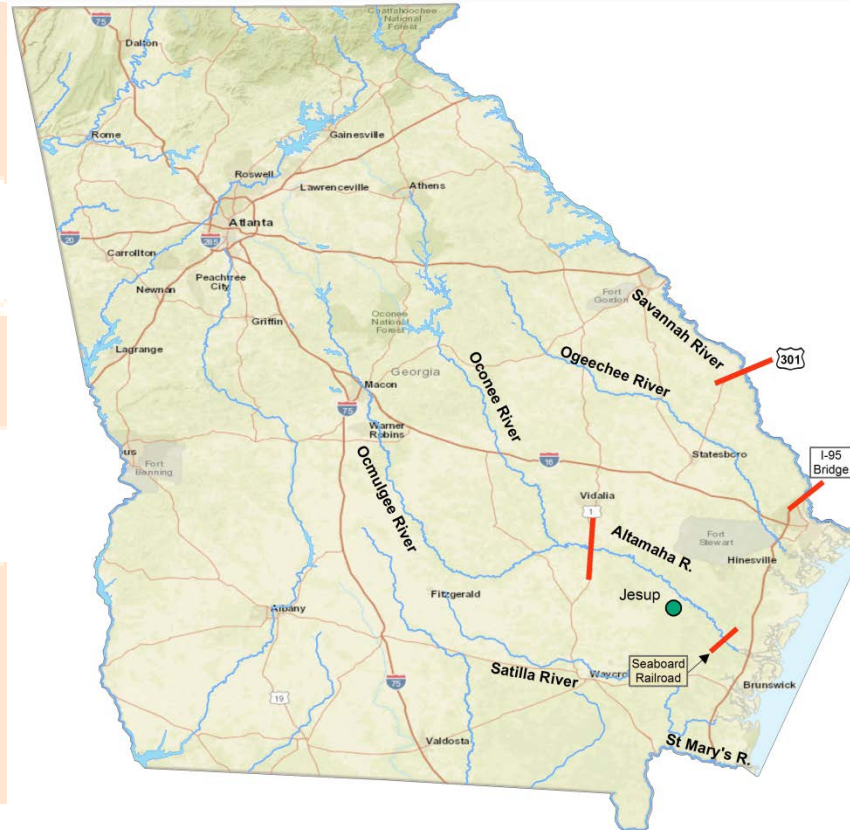
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GA Sustainable Fishery Management Plan

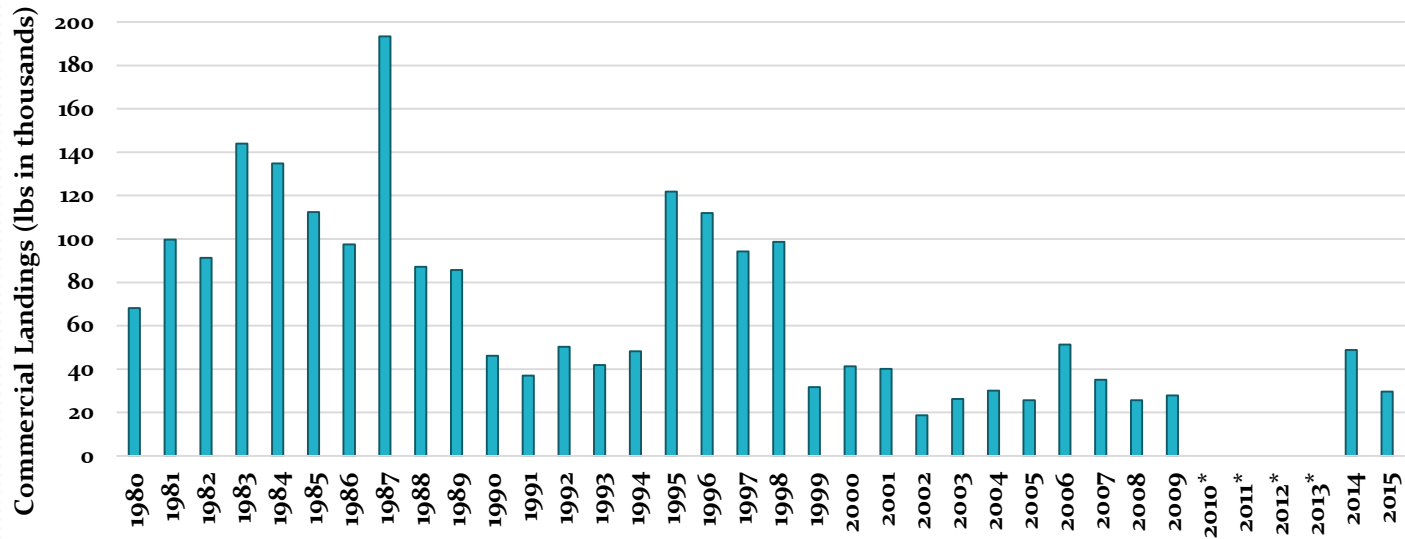


- **Five coastal rivers-**
 - **2 open to commercial fishing**
 - **All 5 legally open to recreational fishing**
- **Commercial fisheries open in Altamaha & Savannah rivers**
- **Recreational fisheries exist in two rivers-**
 - **Savannah & Ogeechee**
- **No recreational fisheries in two rivers-**
 - **Satilla & St. Marys**





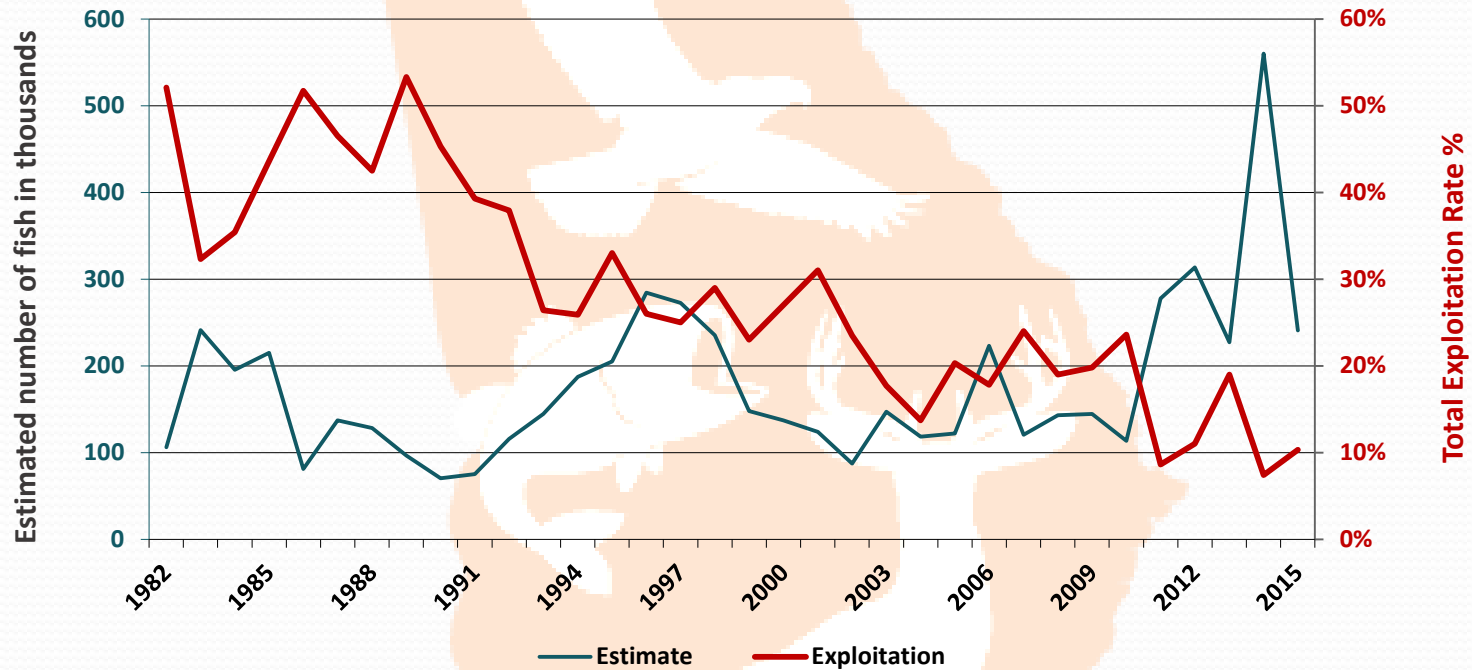
Altamaha River



Reported commercial landings, reported by pounds in thousands, of American shad from the Altamaha River, Georgia. Due to confidentiality agreements, data from 2010*-2013* have been excluded.



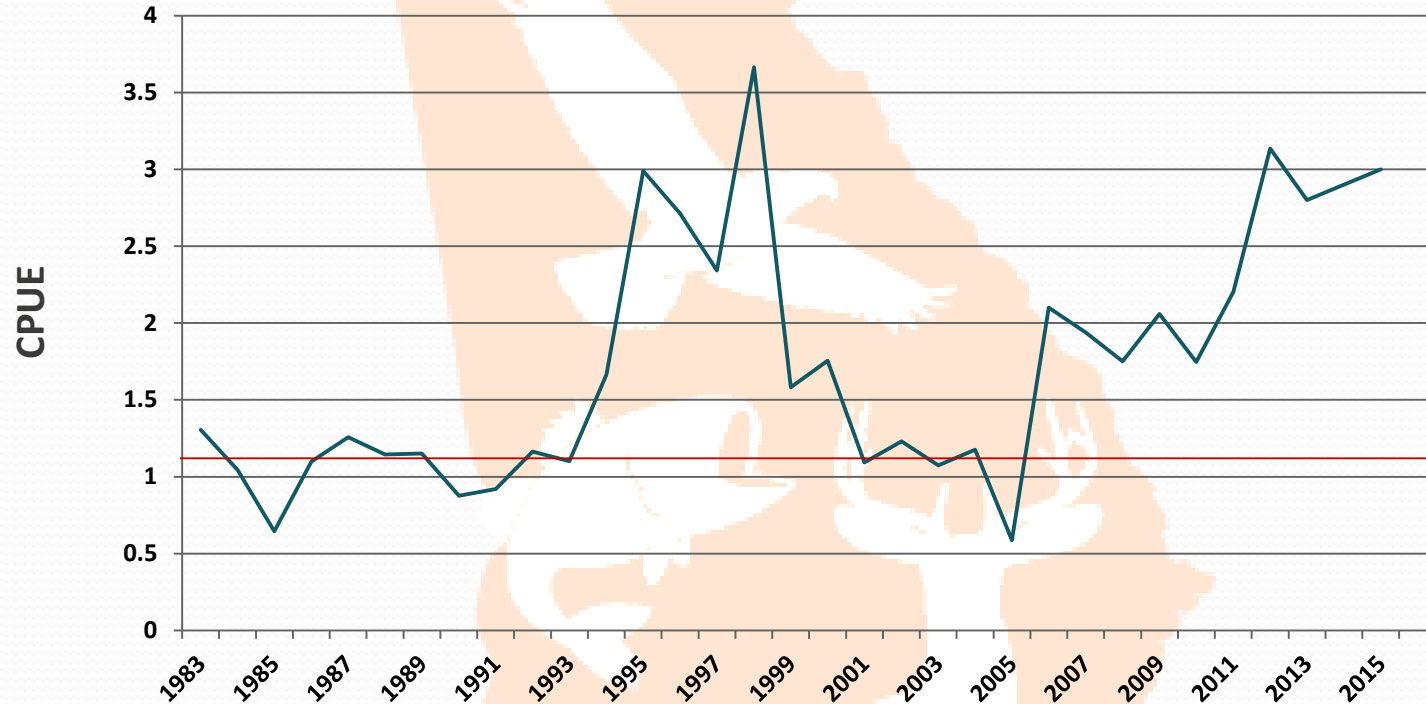
Altamaha River



Population estimates and exploitation rates from the Altamaha River American shad run.



Altamaha River



Altamaha River fishery-independent catch-per-unit-effort (CPUE-number caught per foot-hour) of American shad and the 1.11 shad/ft-hr benchmark developed from GADNR gill-net tagging data.



Altamaha Summary

Landings have remained relatively stable over last 15 years.

Population estimate has remained above 200,000 fish and exploitation below 20% since 2010.

Independent gill netting CPUE has remained above the established benchmark of 1.11 shad/ft-hr.

Propose maintaining the current benchmark and utilizing it for both commercial and recreational fisheries.

No regulatory changes.



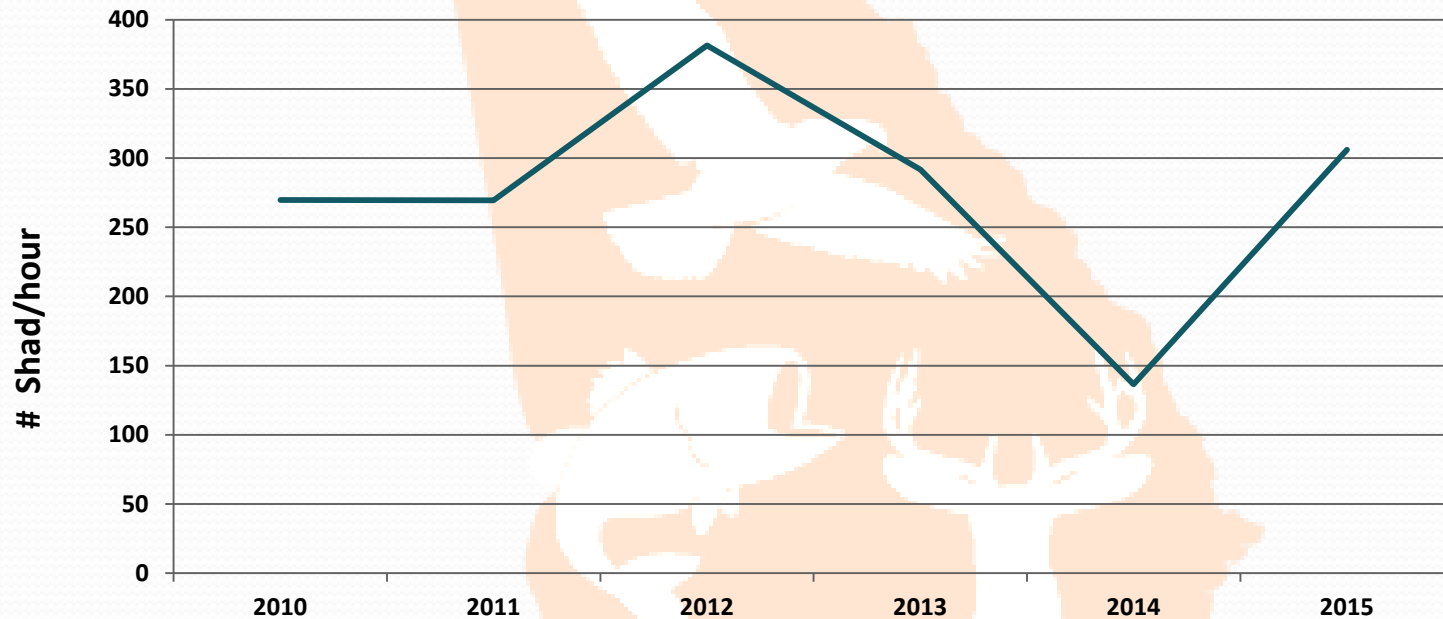
Savannah River is the only system for which GADNR utilized fishery dependent data to establish a sustainability benchmark. GADNR established a sustainability benchmark for CPUE (kg. shad/trip) of 25.5 be used to manage the Savannah River shad fishery.

Year	CPUE	5 yr. avg.
2005	52.68	40.18
2006	41.61	40.54
2007	30.24	40.36
2008	29.36	39.70
2009	25.50	38.76
2010	35.90	33.72
2011	33.69	30.79
2012	20.39	29.77
2013	58.78	36.53
2014	36.06	38.66
2015	37.74	39.07
2016	36.75	34.97

***red values indicate data is confidential**



Savannah River



Savannah River adult American shad electrofishing CPUE's collected below the New Savannah Bluff Lock and Dam.

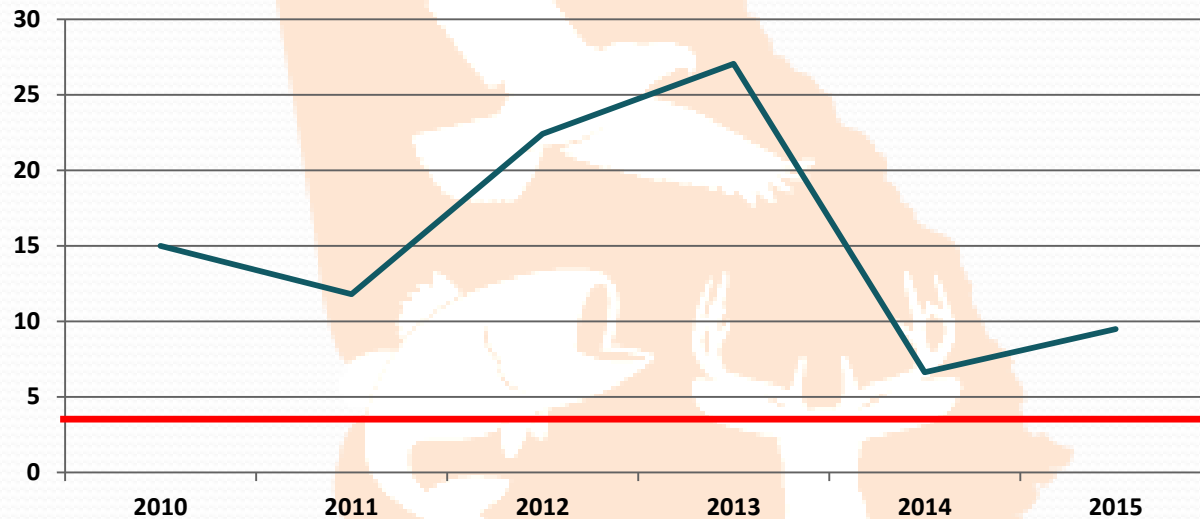


Savannah Summary

- **Commercial CPUE of American shad has remained above current benchmark**
- **Adult electrofishing CPUE has remained high at New Savannah Bluff Lock and Dam. Potential future FI metric for benchmark.**
- **Propose changing the current benchmark to the 25th percentile to be consistent with SC: from 25.5 kg/trip to 9.03 kg shad/trip**
- **Utilize benchmark for both commercial and recreational fisheries**
- **No regulatory changes.**



Ogeechee River



Ogeechee River adult American shad electrofishing CPUE's and the proposed 3.7 shad/hr sustainability benchmark developed by GADNR.



Ogeechee River Summary

- **Only open to recreational fishing**
- **No fishery independent data prior to 2010**
- **Adult electrofishing CPUE ranged from 6.63-27.04 shad/hr from 2010-2015**
- **Propose utilizing adult electrofishing data to establish a recreational fishery benchmark at the 25th percentile**
 - **Proposed benchmark is CPUE=3.7 shad/hr**
- **No regulatory changes.**



Satilla and St. Marys Rivers

Closed to commercial fishing

Technically open to recreational fishing under a statewide regulation

No evidence of any recreational fishery from creel survey data

Shad are rarely found in spring electrofishing samples

Do not see need to create regulations for non-existent fisheries.



ASMFC Shad and River Herring TC Review / Recommendations

- TC discussed the status of open fisheries with no monitoring or sustainability metrics
- Improve language on adaptive management for cases where benchmarks are exceeded
- Add section on future objectives including the development of biological metrics related to length, age, and JAI
- Recommend approval to the Board



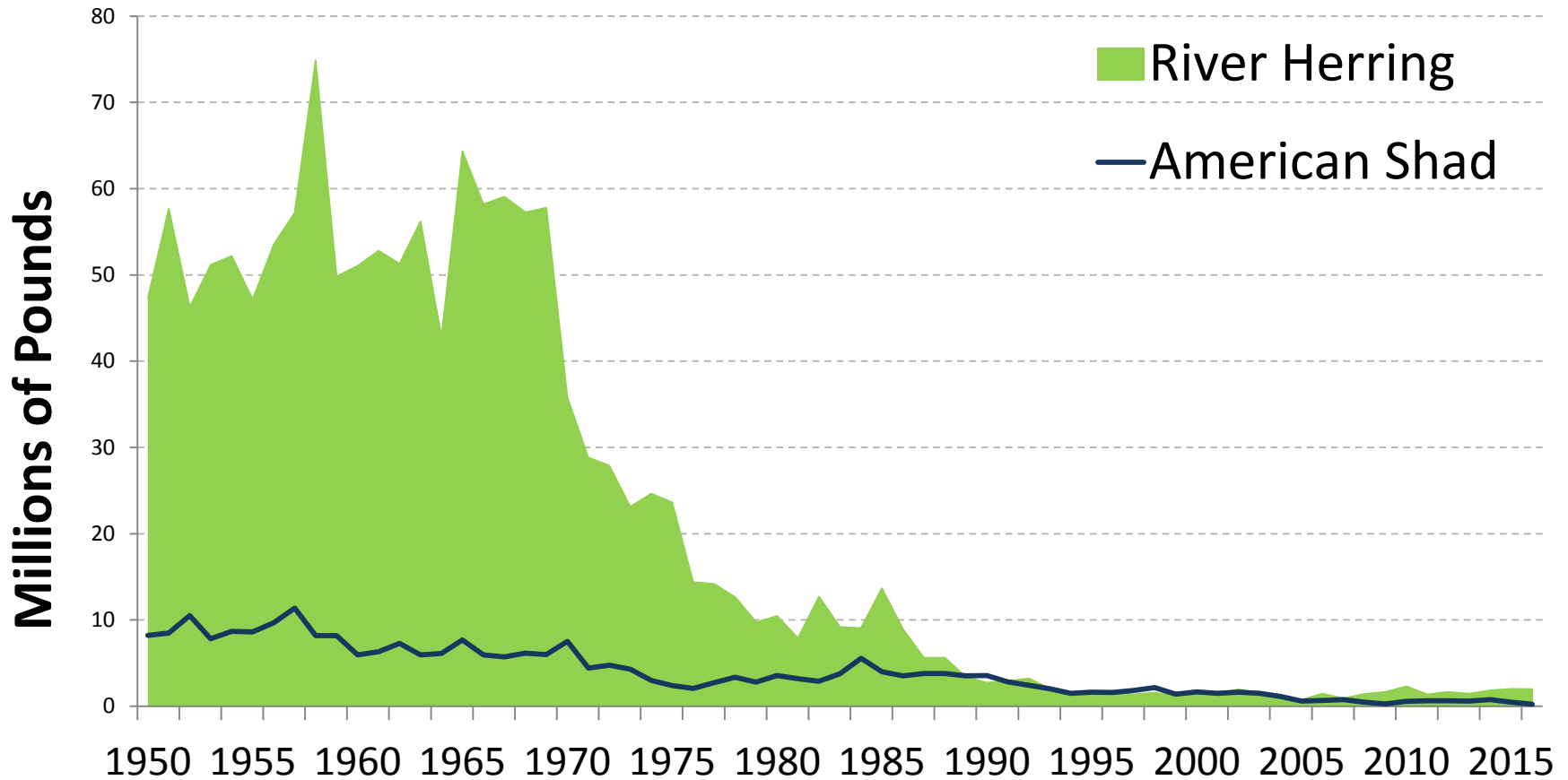
2016 Shad and River Herring FMP Review and Compliance

Presented to Shad and River Herring
Management Board
October 17, 2017



Shad & River Herring Commercial Landings 1950 - 2016

Source: ASMFC Compliance Reports



Required Passage Counts

- ME, NH, MA, RI, CT, PA, MD, and SC
- Coastwide: 5.51 million river herring
- Coastwide: 540,917 shad



Coastwide Stocking

- Occurring in ME, MA, RI, PA, DE, MD, VA, NC, SC, & GA
- American shad: 23,535,342
- Alewife: 974,728



Sturgeon Interactions

- 147 interactions were reported
- RI, CT, NJ, Delaware Bay, PRFC, VA, NC, SC, GA
- All released alive, with the exception of two fatalities.



De minimis Requests

Shad

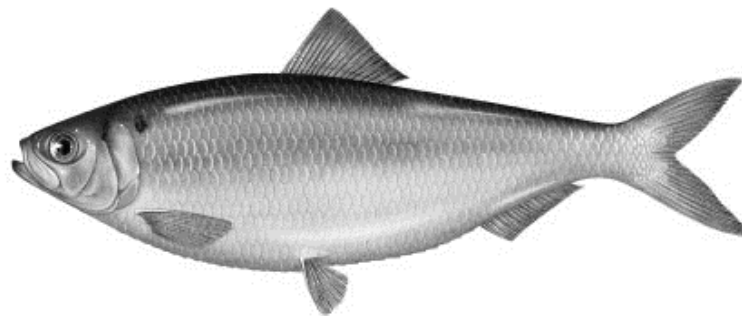
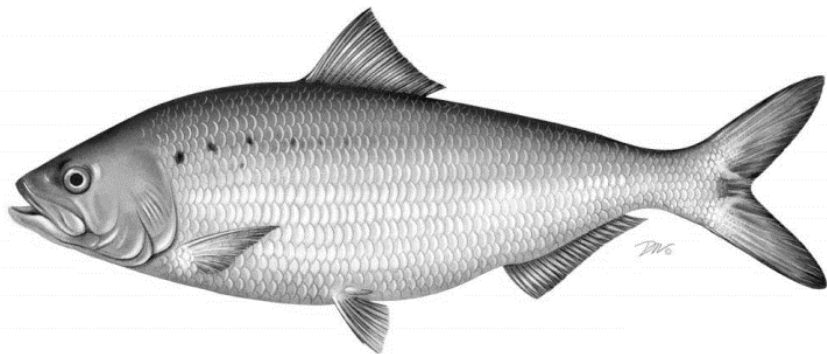
- ME, NH, MA, FL

River herring

- NH, FL

- All of these states meet the requirements for *de minimis*.





Questions?