



Atlantic States Marine Fisheries Commission

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Shad and River Herring Technical Committee Task: Technical Committee Report on Inconsistencies with Amendments 2 and 3

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Introduction

In the fall of 2017, the Shad and River Herring Technical Committee (TC) identified several inconsistencies between state SFMPs and the requirements of Amendments 2 and 3. The Amendments require all states and jurisdictions to submit Sustainable Fishery Management Plans (SFMPs) for all systems that remain open to river herring and shad harvest. SFMPs must quantitatively demonstrate that fisheries will not have a negative impact on the stock. Additionally, the Amendments specify required fisheries dependent and independent monitoring for a number of rivers. However, in several states there are cases where rivers are legally open to recreational harvest of shad or river herring, but the management and/or monitoring of these rivers is not consistent with the requirements of the FMP.

The Board tasked the TC with developing proposed improvements to Amendments 2 and 3 with regard to this issue. The TC has taken the first step in this process by identifying and documenting each case of regulatory inconsistency. Section 1 of this document provides a description of each case identified by the TC, including information on the regulations and monitoring in place for a particular area that conflict with the Amendments' requirements. The TC's recommendations for resolving these inconsistencies are also provided on a case by case basis, and summarized in Table 1. Proposed changes to state SFMPs and Alternative Management Plans would be evaluated by the TC. Section 2 of the document includes some potential changes to Amendments 2 and 3 discussed by the TC that could address some areas of inconsistency and/or provide clearer guidance to the states on SFMP and monitoring requirements, as well as *de minimis* criteria and exemptions.

Section 1. Case Descriptions

River Herring Cases

Maine

- **Statewide: SFMP; 25 fish recreational creel limit.**
Current state law allows recreational anglers to take 25 fish per day for personal use statewide, though few locations in Maine permit recreational anglers to regularly catch 25 fish per day. Gear restrictions limit anglers to hook and line and dip net only. These gear types are permitted only in areas outside of a municipally-managed watershed and downstream of the municipal harvest location where exclusive rights are granted by the State. The recreational fisheries do not affect escapement of spawning fish passed at commercial fishing operations.
 - **TC recommends that Maine address cases where recreational harvest occurs in rivers not currently monitored under the river herring SFMP with a relevant monitoring threshold from other watersheds that relates to a defined management response. For**

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the Salmon Falls River (shared waterbody with NH), ME currently prohibits recreational harvest.

New Hampshire

- **Salmon Falls River: Irregular monitoring.**

This river is included in the approved NH SFMP. Harvest is allowed, as there are currently no regulations establishing a length limit or daily bag limit for recreational anglers on either alewives or blueback herring within any water body of the state. Additionally, there are no closed seasons to the taking of river herring by recreational anglers, except that they are prohibited from harvesting river herring on Wednesdays. However, monitoring for this river is irregular, with fishery independent monitoring only occurring every 3-5 years. Fishery dependent reporting captures only about 20 herring per year. Salmon Falls River does not flow directly into another monitored waterbody, so downstream monitoring would not directly capture river herring in this river. The Maine side of the river has a park at the head of tide dam and a fishing wharf. Harvest of river herring is much more likely there.

→ **TC recommends no changes to monitoring, and making the NH SFMP clear as to how monitoring in the Great Bay system is sufficient to inform sustainability and management of Salmon Falls.**

→ Rationale: The Atlantic States Marine Fisheries Commission Shad and River Herring FMP states that “Definitions of sustainable fisheries and restoration goals can be index-based or model-based” and that “Member states or jurisdictions could potentially develop different sustainability target(s) for river herring based on the unique ecosystem interactions and...Targets can be applied state-wide or can be river and species specific.” (Amendment 2, pg. 92). Therefore New Hampshire will use the stocks of river herring returning to the Great Bay Estuary system as an indicator of statewide river herring abundance and refer to them as the ‘Great Bay Indicator Stock’. Using an estuary-wide versus river-specific approach is the best suitable method due to the physical/geographical characteristics of the Great Bay Estuary.

Great Bay Estuary’s unique geographical characteristics lend itself to monitoring the systems resource as a whole rather than on a river-specific basis. The estuary includes seven small to moderate size rivers with most flowing into a large embayment (Great Bay and Little Bay) before draining into a narrow, 15 km long opening to the sea via the Piscataqua River.

If the fishery-dependent and independent targets for river herring are not met, the New Hampshire Fish and Game Department will implement a prohibition on harvest of river herring to all fisheries operating within state waters.

South Carolina

- **Little River: No SFMP; No monitoring.**

This river is not included in the SC SFMP. In SC, statewide regulations allow recreational harvest of river herring: 1 bushel (22.7 kg) fish aggregate daily creel limit for blueback herring in all rivers. Reporting is required for recreational harvest using gill nets, but not for cast nets or hook and line gears. Fishery independent (FI) monitoring does not occur for this river. SC has a regulations package written up to address some of the inconsistencies in managing diadromous

species, although it has not passed through legislature. As part of this package, the river herring recreational fishery (cast nets) will have the same restrictions in locations, timing, and reporting as the respective commercial fisheries.

→ **TC recommends that Little River management relate to Great Pee Dee River sustainability metrics and management response, as it falls within the Great Pee Dee system.**

→ Rationale: the Little River does not have enough monitoring to support an individual sustainability metric, however, this intercoastal waterway ultimately connects with the Great Pee Dee River System through the Waccamaw River and is not known to have a separate spawning stock.

- **Winyah Bay system (Waccamaw, Little Pee Dee, Lynches, Black, Sampit, Bull Creek): tributaries not in SFMP; some monitoring.**

Only the Great Pee Dee River is included in the SFMP. A commercial fishery occurs in the Great Pee Dee River with required monthly catch reports for legal commercial and recreational fishers using nets. SCDNR conducts biological sampling of river herring in the Great Pee Dee River. Under the statewide regulations, recreational harvest is allowed in all of the additional rivers that feed into Winyah Bay, however monitoring does not occur on those rivers. River herring may be reported as bycatch in mandatory landings reports for commercial shad fishery, but reports of river herring bycatch are infrequent.

→ **TC recommends SC revise their river herring SFMP to apply sustainability metrics and management response for the Winyah Bay system to all tributaries in the system (Waccamaw, Little Pee Dee, Lynches, Black, Sampit, Bull Creek).**

→ Rationale: The Great Pee Dee River is the only portion of the Winyah Bay system with a known spawning run, and has adequate monitoring and data to apply to the whole system.

- **Santee-Cooper system (Wateree, Congaree, Broad): tributaries not in SFMP.**

The Wateree, Congaree, Broad are tributaries of the Santee and Cooper Rivers. They are not explicitly included in the SC SFMP. There is not monitoring occurring specifically within these tributaries, however, downstream monitoring in the Santee and Cooper Rivers would be representative of the tributaries. The Santee-Cooper is included in the SC SFMP.

→ **TC recommends SC revise the SFMP to include these tributaries in the Santee-Cooper system and apply sustainability metrics and management response for the Santee-Cooper to all unmonitored portions of the system.**

→ Rationale: Monitoring in Santee-Cooper system is representative of all tributaries.

- **Wando and Ashely Rivers: No SFMP; no monitoring.**

These rivers are not included in the SC SFMP. Under the statewide regulations, recreational harvest is allowed. Harvest is not suspected to occur in these rivers. However, monitoring does not occur on these rivers. These are not tributaries of another river, and are treated as separate stocks.

→ **TC recommends implementing one of the following:**

- **Catch and release only regulations**
- **An Alternative Management Regime (described under Section 5 of Amendment 2) with appropriate mechanisms for monitoring and responding to changes in fishery impacts to the river herring stock**

- **Relate management of unmonitored rivers statewide to the sustainability targets and management response for the Santee-Cooper river system.**
 - Rationale: These smaller rivers in the southern part of the state do not have data to support individual sustainability metrics, nor another “surrogate” system from which it would be appropriate to apply sustainability metrics.
- **ACE Basin system (Ashepoo, Combahee, Edisto, Salkehatchie): No SFMP; no monitoring.**

These four tributaries are considered to be part of the ACE Basin system. The Salkehatchie is a tributary of the Combahee. There is no SFMP for the system nor for any of the tributaries, though recreational harvest is allowed in all of them under the statewide regulations. Harvest is not suspected to occur in these tributaries, however monitoring does not occur in any of them.

 - **TC recommends implementing one of the following:**
 - **Catch and release only regulations**
 - **An Alternative Management Regime (under Section 5 of Amendment 2) with appropriate mechanisms for monitoring and responding to changes in fishery impacts to the river herring stock**
 - **Relate management of unmonitored rivers statewide to the sustainability targets and management response for the Santee-Cooper river system.**
 - Rationale: The ACE Basin and smaller rivers in the southern part of the state do not have data to support individual sustainability metrics, nor another “surrogate” system from which it would be appropriate to apply sustainability metrics.
- **Coosawhatchie River: No SFMP; no monitoring.**

Similar to the Wando and Ashely, this is not a tributary of another river, and is treated as a separate stock. It is not included in the SC SFMP. Under the statewide regulations, recreational harvest is allowed. Harvest is not suspected to occur in this river. However, monitoring does not occur here.

 - **TC recommends implementing one of the following:**
 - **Catch and release only regulations**
 - **An Alternative Management Regime (under Section 5 of Amendment 2) with appropriate mechanisms for monitoring and responding to changes in fishery impacts to the river herring stock**
 - **Relate management of unmonitored rivers statewide to the sustainability targets and management response for the Santee-Cooper river system.**
 - Rationale: This river is not part of a larger system and does not have data to support individual sustainability metrics, nor a “surrogate” system from which it would be appropriate to apply sustainability metrics.
- **Savannah: No SFMP; no monitoring.**

There is no SFMP for this river (SC or GA). SCDNR used to conduct creel surveys for the hook and line fishery at NSBLD before it was deemed an unsafe fishing area, and collected biological samples. SC also samples YOY shad with an electrofishing boat, which could potentially capture some river herring (likely not enough to produce reliable indices for river herring). GA conducts monthly shad electrofishing below NSBLD from February to June, which has not caught any herring in recent years. There are a few sporadic intercepts of blueback herring in the striped bass electrofishing survey. These surveys likely occur further upstream where river herring are less likely to be encountered. Both SC and GA allow recreational harvest in the Savannah. GA has

no regulations to prohibit it, and SC has a 1 bushel fish aggregate daily creel for blueback herring in all rivers.

→ **TC recommends implementing one of the following:**

- **Catch and release only regulations**
- **An Alternative Management Plan (under Section 5 of Amendment 2) with appropriate mechanisms for monitoring and responding to changes in fishery impacts to the river herring stock**
- **Relate management of unmonitored rivers statewide to the sustainability targets and management response for the Santee-Cooper river system.**

→ Rationale: SC and GA do not have data to support a sustainability metric for river herring, nor a “surrogate” system from which it would be appropriate to apply sustainability metrics. Existing data sources contain very low capture rates for river herring, so benchmarks developed from them would be close to zero. However, there is some seasonal monitoring that should capture changes in the fishery, so SC and GA may be able to use an alternative management plan to justify maintaining their current regulations.

Georgia

- **Savannah: see SC above.**
- **Altamaha system (Altamaha, Oconee, Ocmulgee): No SFMP.**

Georgia does not have an SFMP for river herring. The state does not have any regulations in place to prohibit the recreational harvest of river herring. No harvest is suspected in the Altamaha and its two main tributaries, which are all considered one system. Creel surveys occur on the mainstem of the Altamaha annually, on a monthly basis from April to November. This may capture river herring in the upstream tributaries if present, however the survey dates may be later than river herring remain in-river. River herring harvest has not been recorded in the creel surveys.

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying the absence of statewide harvest regulations by showing no significant river herring harvest is occurring under these regulations, and describing the metrics/monitoring the state would use to observe any increases in the fishery, and the management response that would be implemented if river herring abundance and/or harvest were to increase.**

→ Rationale: GA does not have sufficient data to support a sustainability metric for river herring. Existing data sources contain very low capture rates for river herring, so benchmarks developed from them would be close to zero. However, there is some seasonal monitoring that should capture changes in the fishery, so GA may be able to use an alternative management plan to justify maintaining their unregulated (harvest may occur) regulations.

- **Ogeechee River: No SFMP; irregular monitoring.**

Georgia does not have an SFMP for river herring. The state does not have any regulations in place to prohibit the recreational harvest of river herring. No harvest is suspected in the

Ogeechee. Creel surveys are conducted at access points every 5 years, and have not recorded river herring harvest.

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying the absence of statewide harvest regulations. See Altamaha system for additional details.**

- **Satilla River: No SFMP; no monitoring.**

Georgia does not have an SFMP for river herring. The state does not have any regulations in place to prohibit the recreational harvest of river herring. No harvest is suspected in the Satilla. There was a creel survey until 2014 but no RH were captured. Monitoring no longer occurs.

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying the absence of statewide harvest regulations. See Altamaha system for additional details.**

- **St. Marys River: No SFMP; no monitoring.**

Neither Georgia nor Florida has an SFMP for river herring. Georgia does not have any regulations in place to prohibit the recreational harvest of river herring. In Florida, recreational river herring harvest is regulated under the statewide 10 fish possession limit for aggregated shad species. Neither state performs monitoring for this river.

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying the absence of statewide harvest regulations. See Altamaha system for additional details.**

Florida

- **St. Marys River: see GA above.**

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying harvest regulations. Florida should take management consistency with Georgia into account.**

→ Rationale: FL does not have sufficient data to support a sustainability metric for river herring. Existing data sources contain very low capture rates for river herring, so benchmarks developed from them would be close to zero.

- **St. Johns system (St. Johns, Econlockhatchee, Wevika, Oklawaha): No SFMP; some monitoring.**

Florida does not have an SFMP for river herring. Statewide regulations allow harvest of river herring, which fall under the 10 fish possession limit for aggregated shad species. The St. Johns River system includes the three tributaries listed above. On the St. Johns and Econlockhatchee, there are American shad creel surveys that would also capture river herring catch/harvest. These creel surveys, as well as the FI spawning stock monitoring would not be representative of the Wevika and Oklawaha because they occur upstream of the tributaries. JAI sampling occurs downstream of all significant tributaries, and does encounter herring.

→ **TC recommends either 1) implement catch and release only regulations for river herring statewide, or 2) develop an alternative management plan justifying the statewide harvest regulations by showing no significant river herring harvest is occurring under these regulations, and describing the metrics/monitoring the state would use to observe any increases in the fishery, and the management response that would be implemented if river herring abundance and/or harvest were to increase.**

→ Rationale: There are some available data that could be used to monitor changes in river herring abundance or harvest, though existing data sources contain very low capture rates for river herring. FL may be able to use an alternative management plan to justify maintaining their harvest regulations by monitoring changes in the available data and implementing a statewide management response if there are changes in harvest or abundance.

- **Pellicer, Tomoka, and Nassau Rivers: No SFMP; no monitoring; no record of river herring presence**

Florida does not have an SFMP for river herring. Statewide regulations allow harvest of river herring, which fall under the 10 fish possession limit for aggregated shad species. No monitoring occurs on any of these rivers, which are separate systems. There is no record of river herring presence in these three rivers, but there is a small amount of suitable habitat located in the Pellicer and Tomoka, south of the southern-most confirmed runs. The Nassau River is a small watershed with a big tidal range, so it is unlikely to contain any suitable spawning habitat.

→ **TC recommends either 1) implement catch and release only regulations, or 2) describe in SFMP/or Alternative Management Plan that these systems are not part of the alosa range.**

→ Rationale: If second option is chosen, the state will provide evidence to demonstrate that these areas are not part of the species range.

Shad Cases

Maine

- **All rivers: No SFMP; some monitoring.**

Maine does not have a shad SFMP. Shad recreational harvest is allowed in all rivers in the state with a recreational possession limit of 2 fish per day; the only legal gear is hook and line. The commercial fishery is closed. Recreational harvest monitoring occurs through the Marine Recreational Information Program (MRIP), but only on the Saco River. There are also fishway counts on the Androscoggin, Saco, Kennebec, and Sebasticook Rivers, and some bycatch records from non-directed commercial fisheries. A juvenile alosine survey is carried out annually in the Kennebec/Androscoggin estuary.

→ **TC recommends Maine attempt to develop potential sustainability metrics using the JAIs and fishway counts from monitored systems to create a SFMP or Alternative Management Plan with a management response to a trigger (possibly a percentile approach) applied to unmonitored rivers. The TC would then evaluate the SFMP and make a recommendation to the Board.**

→ Rationale: Dependent on the data provided by MEDMR and the extent to which the proposed metrics, triggers, and responses are supportive of a statewide approach and a two fish limit. This case and some of the other examples may be best handled through an Alternative Management Approach, as TC may find the proposed management regime strays too far away from SFMP format/approach as described in Amendment 3.

New Jersey

- **Tributaries of the Delaware River: tidal stretches of tributaries not in SFMP.**

New Jersey portions of the Delaware River are managed under the Delaware River Basin Coop SFMP for American shad. There are 11 tributaries of the Delaware River that are not explicitly included in the SFMP, but on which harvest is allowed in the tidal stretches under New Jersey regulations. New Jersey allows recreational shad harvest with a 6 fish possession limit for shad species, and no more than 3 American shad. Harvest is only allowed in the mainstem of the Delaware River, the Delaware Bay, and the tidal portions of the lower tributaries. Though monitoring is not occurring in these smaller tributaries, monitoring occurs in the mainstem of the Delaware downstream from these smaller tributaries and would be representative of shad upstream.

- **TC recommends including tidal stretches of all tributaries in the DE COOP SFMP**
- Rationale: Monitoring programs in place for the Delaware River system are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.

Delaware

- **Delaware River Basin System (Brandywine and Broadkill): tributaries not in SFMP.**

The Brandywine and Broadkill Rivers are explicitly included in the Delaware Basin Coop SFMP, but monitoring does not occur directly in these tributaries. The Brandywine River enters the Delaware River near Wilmington, so fishery independent monitoring in the upper bay should be representative of this tributary. The Broadkill River enters the lower Delaware Bay near Lewes, thus monitoring upstream may not be representative of this tributary; commercial harvest monitoring in the lower bay should capture shad entering the Broadkill. Delaware imposes a recreational 10 fish aggregate limit combined American Shad and Hickory Shad possession per angler, with no closed season or minimum size within their jurisdictional waters. Harvest is suspected for both rivers but the quantity is unknown. Adult shad would be recorded in commercial harvest reports.

 - **TC recommends including all tributaries in the DE COOP SFMP**
 - Rationale: Monitoring programs in place for the Delaware River system are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.
- **Back Creek (C&D Canal): no SFMP; no monitoring.**

Back Creek is a waterway connecting the upper Elk River in Maryland to the Delaware River in Delaware. It is not included in an SFMP. Delaware allows harvest in their jurisdictional waters, Maryland does not. Delaware Bay commercial fishery sampling should be representative of this area, but independent sampling would not.

 - **TC recommends addressing in the DE COOP SFMP as a Delaware River tributary**
 - Rationale: Monitoring programs in place for the Delaware River system are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.
- **Chester River: no SFMP; no monitoring.**

The Chester River is a tributary of the upper Chesapeake Bay. There is no shad SFMP for this river, nor monitoring. Delaware's regulations allow harvest of up to 10 fish daily for combined shad species per angler, with no closed season or minimum size. Harvest is suspected but unquantified. It is unclear if any monitoring programs would be representative of this river.

- **TC recommends implementing catch and release only regulations**
- Rationale: The portion of this watershed in MD is managed under catch and release only regulations. DE has no monitoring of the population or fishery, and DE currently allows recreational harvest in areas upstream of MD's jurisdiction. Therefore, consistent regulations with MD are recommended for Delaware.
- **Choptank River: no SFMP; some monitoring.**

The upper reaches of the Choptank River barely stretch into Delaware. Delaware's regulations allow harvest of up to 10 fish daily for combined shad species per angler. Maryland performs a YOY seine survey in the Choptank, and a restoration group stocks larval shad, and monitors survival, hatchery vs. wild production, and spawning stock. No shad have been reported in the portion of the river that flows into Delaware or collected at the base of Mudmill Pond spill pool.

 - **TC task group recommends implementing catch and release only regulations**
 - Rationale: The portion of this watershed in MD is managed under catch and release only regulations. DE has no monitoring of the population or fishery, and DE currently allows recreational harvest in areas upstream of MD's jurisdiction. Therefore, consistent regulations with MD are recommended for Delaware.

North Carolina

- **Albemarle Sound system (Meherrin, Cashie): tributaries not in SFMP.**

The Meherrin River is a tributary of the Chowan River, which feeds into Albemarle Sound. The Cashie River feeds directly into the Albemarle Sound at its upper end. The NC SFMP for shad includes the Chowan River, Roanoke River and the Albemarle Sound itself. The recreational bag limit for American and Hickory Shad in the Albemarle Sound, the Roanoke River basin and the Neuse River basin is a 10-fish aggregate (Hickory and American combined) per person, per day, of which only one American Shad can be taken. Monitoring is primarily carried out in the Sound; a juvenile seine survey is used to develop juvenile abundance indices and the FI gill net survey gathers size, age, and sex data. These surveys are downstream and representative of the two tributaries listed above.

 - **TC recommends include all tributaries of the Albemarle Sound system in the SFMP**
 - Rationale: Monitoring in the Albemarle Sound are representative of both the Meherrin and Cashie Rivers.
- **Currituck Sound (Northwest River, North Landing River): SFMP*; some monitoring.**

The NC SFMP considers Currituck Sound and its tributaries to be part of the greater Albemarle Sound system. NC allows harvest of no more than 10 fish per day aggregate bag limit (only 1 American shad) in the Albemarle Sound (there is a 10 American and/or Hickory Shad aggregate possession limit per person, per day in the Tar-Pamlico River, Pungo River, Pamlico Sound, and all other inland, coastal and joint waters). Currituck Sound connects to the Albemarle Sound near the coast. Monitoring is performed throughout the Albermarle Sound, including Currituck Sound (e.g. trawls and seine surveys, juvenile surveys) but the stations used to inform management in the SFMP are not those in Currituck Sound. The SFMP uses information from other areas further upstream in the Albemarle Sound. Department of Game and Inland fisheries does not have any shad data for the Northwest and North Landing Rivers. There is no targeted effort for shad in these two rivers.

- **TC recommends including Currituck Sound as part of the Albemarle Sound system in the SFMP, and adding language to specify how monitoring and sustainability metrics inform management of all tributaries.**
- Rationale: North Carolina expects that surveys performed in the Albemarle Sound are representative of Currituck Sound.
- **Cape Fear system (Black River): tributary not included in SFMP.**

The Black River is a tributary of the Cape Fear River, which is included in the NC SFMP for shad. Monitoring is performed in the Cape Fear River, including annual electrofishing for adults, an annual independent gill net survey, commercial harvest monitoring, and a recreational creel survey. Shad are not suspected to be present in the Black River. Cape Fear monitoring does not cover fish entering the Black River because it occurs upstream from where the tributary connects.

 - **TC recommends including all tributaries of the Cape Fear River in the SFMP, and adding an explanation of shad abundance in the Black River.**
 - Rationale: Shad in the Black River are assumed to be from the same spawning stock as those in the Cape Fear mainstem.
- **Little River: no SFMP; no monitoring.**

The Little River is a small coastal river that connects to the Intracoastal Waterway in both NC and SC. Shad may travel to the Waccamaw River in SC through this system. Both NC and SC allow recreational harvest in this river with a 10 fish aggregate daily creel limit for both states. There is no monitoring that captures shad data for this river.

 - **TC recommends addressing Little River in SFMP by applying management response to sustainability metrics from the Winyah Bay System. Management response should be consistent between North Carolina and South Carolina.**
 - Rationale: The TC determined that the available data for the Winyah Bay system are more robust than those for the Cape Fear system.

South Carolina

- **Little River: See NC above.**
 - **TC recommends addressing Little River in SFMP by applying management response to sustainability metrics from the Winyah Bay System. Management response should be consistent between North Carolina and South Carolina.**
 - Rationale: The TC determined that the available data for the Winyah Bay system are more robust than those for the Cape Fear system.
- **Winyah Bay system (Little Pee Dee, Lynches, Black, Sampit, Bull Creek): tributaries not included in SFMP.**

South Carolina's SFMP for shad allows for harvest the Winyah Bay system. Specifically, commercial and recreational fisheries exist in the Waccamaw River, Great Pee Dee River, and the Bay itself, while all other waters of the state are open for shad recreational harvest under an aggregate creel limit of 10 combined American and hickory shad per person. Where commercial fisheries occur, there is required monthly catch reporting for legal commercial and recreational fishers using nets. SC also collects FD biological samples in the Great Pee Dee River. Sampling in the Pee Dee system would be representative of the five tributaries listed above.

- **TC recommends including all Winyah Bay tributaries in SFMP**
- Rationale: Monitoring programs in place for the Bay are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.
- **Santee-Cooper system (Wateree, Congaree, Broad): tributaries not included in SFMP.**
The Wateree, Congaree, Broad are tributaries of the Santee and Cooper Rivers. They are not explicitly included in the SC SFMP. There is not monitoring occurring specifically within these tributaries, however, downstream monitoring in the Santee and Cooper Rivers would be representative of the tributaries. The Santee-Cooper is included in the SC SFMP.
 - **TC recommends including all tributaries in the Santee-Cooper SFMP**
 - Rationale: Monitoring programs in place for the Santee and Cooper rivers are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.
- **Wando, Ashely and Coosawhatchie Rivers: No SFMP; no monitoring.**
These rivers are not included in the SC SFMP for shad. Under the statewide regulations, recreational harvest is allowed. Harvest is not suspected to occur in these rivers. However, monitoring does not occur on these rivers. These are not tributaries of another river, and are treated as separate stocks. Similar to the Wando and Ashely, the Coosawhatchie is not a tributary of another river, and is treated as a separate stock. It is not included in the SC SFMP. Under the statewide regulations, recreational harvest is allowed. Harvest is not suspected to occur in this river. However, monitoring does not occur here.
 - **TC recommends modifying SFMP to include these systems, and apply metrics from the Santee-Cooper system to the Wando and Ashely, and apply metrics from the Savannah River to the Coosawhatchie. If necessary, add additional detail about the management responses tied to triggers.**
 - Rationale: The Santee-Cooper system and the Savannah River could serve as “surrogate” systems for these smaller rivers. Changes to the SFMP would be evaluated by the TC.
- **ACE Basin system (Ashepoo, Salkehatchie): tributaries not included in SFMP.**
These two tributaries are considered to be part of the ACE Basin system. The Salkehatchie is a tributary of the Combahee. The SC shad SFMP addresses commercial and recreational harvest in the Combahee and Edisto Rivers, but recreational harvest is also allowed in the other tributaries under the statewide regulations. Harvest is not suspected to occur in these tributaries, however there is no monitoring occurring for either of them. For the Combahee and Edisto Rivers, monthly catch reports for legal commercial and recreational fishers using nets are required. This would be representative of the Salkehatchie but not the Ashepoo.
 - **TC recommends including Ashepoo and Salkehatchie with the Combahee in the SFMP.**
 - Rationale: The sustainability metric, triggers and management response from the Edisto River can be applied to the entire ACE basin system.

Georgia

- **Altamaha system (Oconee, Ocmulgee): tributaries not included in SFMP.**
Georgia has an SFMP for shad, which includes the Altamaha River but is not clear whether it extends to these two tributaries. Commercial and recreational shad fisheries occur on the mainstem of the Altamaha. No harvest is suspected in these two main tributaries, but state

regulations allow recreational harvest of shad, with an 8 fish per day possession limit for aggregate shad species. Creel surveys occur in the mainstem of the Altamaha and would capture shad in the tributaries which are upstream.

→ **TC recommends including tributaries of the Altamaha system in the SFMP**

→ Rationale: Monitoring programs in place for the Altamaha River are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.

- **Satilla River: No SFMP; some monitoring**

Georgia's SFMP for shad does not include the Satilla River. The state regulations allow recreational harvest of shad with an 8 fish per day possession limit for aggregate shad species. No harvest is suspected. Creel surveys have been conducted in the past (last one in 2014), and no evidence in recent years suggests any shad harvest is occurring in the Satilla. Electrofishing for standardized surveys occurs in the Satilla every year from March-April at 11 stations but has only picked up 1 or 2 shad in recent years.

→ **TC recommends including the Satilla in the GA shad SFMP for recreational harvest, and applying the same metrics and management response in place for the Altamaha River to this river**

→ Rationale: The Altamaha is the nearest river with a known spawning run, adequate monitoring and a sustainability metric.

- **St. Marys River: no SFMP; no monitoring.**

Neither Georgia nor Florida's SFMP for shad include the St. Marys River. Georgia and Florida both allow recreational harvest of shad in this river, with 8 and 10 fish daily possession limits for aggregate shad species, respectively. Neither state suspects harvest occurs here, but neither performs shad monitoring for this river. Electrofishing for standardized surveys occurs in the St. Marys.

→ **TC recommends including the St. Marys in the GA shad SFMP for recreational harvest, and applying the same metrics and management response in place for the Altamaha River to this river**

→ Rationale: The Altamaha is the nearest river with a known spawning run, adequate monitoring and a sustainability metric.

Florida

- **St. Johns system (Econlockhatchee, Wevika, Oklawaha); tributaries not included in SFMP; some monitoring.**

Florida has a shad SFMP for the St. Johns River. The St. Johns River system includes the three tributaries listed above, but they are not addressed in the SFMP. Statewide regulations allow harvest of shad under the 10 fish possession limit for aggregated shad species. The Wevika is a minor tributary with little suitable shad habitat, but some American shad have been recorded there. The Oklawaha appears to have some suitable American Shad habitat, though there is no record of a spawning run or fishery there prior to the Rodman dam. JAI sampling of the St. Johns occurs downstream of all significant tributaries. On the St. Johns and Econlockhatchee, there are American shad creel surveys. However, these creel surveys, as well as FI spawning stock

monitoring would not be representative of the Wevika and Oklawaha because they occur upstream of the tributaries.

- **TC recommends that FL revise the shad SFMP to include all tributaries, and add language for how metrics from monitored sections will apply across the system tributaries**
- Rationale: Monitoring programs in place for the St. Johns main stem are considered adequate, should metric benchmarks be triggered, management responses will be applied to these tributaries as well.
- **Pellicer, Tomoka, and Nassau Rivers: No SFMP; no monitoring; no record of shad presence**

These rivers are not included in Florida’s shad SFMP. Statewide regulations allow shad harvest with a 10 fish possession limit for aggregated shad species. No monitoring occurs on any of these rivers, which are separate systems. There is no record of shad presence in these three rivers, but there is a small amount of suitable habitat located in the Pellicer and Tomoka, south of the southern-most confirmed runs. The Nassau River is a small watershed with a big tidal range, so it is unlikely to contain any suitable spawning habitat.

 - **TC recommends either 1) implement catch and release only regulations, or 2) describe in SFMP/or Alternative Management Plan that these systems are not part of the alosa range.**
 - Rationale: If second option is chosen, the state will provide evidence to demonstrate that these areas are not part of the species range.

Section 2. Recommendations for Improvements to Shad and River Herring FMP

The TC Task Group and full TC discussed some possible changes to the FMP that could potentially improve clarity on what is required of the states with regard to SFMPs and monitoring, and/or reduce or resolve state conflicts with the current FMP requirements. The TC’s discussions are described below. However, the TC has not made any consensus recommendations on modifications to the FMP.

The TC task group discussed the clarification of the *de minimis* language in Amendments 2 and 3. Based on the language in the FMP and a review of the Board’s February 2010 discussion related to *de minimis* criteria and status, it is clear that *de minimis* status may only be granted on the basis of commercial harvest landings. Additionally, *de minimis* status does not exempt a state from the requirement to implement an approved SFMP for any system in which recreational or commercial harvest is allowed. The TC did not propose any changes to the current *de minimis* language.

The suggestion was made to modify the tables in Amendments 2 and 3 that specify required monitoring for river herring and shad. In particular the group noted that the tables could be improved by using more consistent and definitive language (e.g. define language such as “where appropriate”).

Several ideas were discussed regarding adding more detail and guidance to the FMPs on SFMPs. Specifically, the TC Task Group thought it would be helpful to provide a standard format for reporting management metrics, thresholds and responses in the SFMPs. In addition, it was suggested that SFMPs should be more definitive with regard to the management responses (changes in regulations) that would be implemented if a management threshold or trigger were met. The group recognized there is still a need to maintain flexibility for the states/jurisdictions to tailor management responses to their systems

and fisheries. Lastly, the group noted the need for additional guidance on inter-jurisdictional management of shared waterbodies.

During the development of recommendations for resolving the inconsistencies described in the previous section, the TC discussed the use of Alternative Management Regimes, described in Section 5 of Amendment 2. The TC generally commented that there is a lack of clarity on when it is appropriate for a state/jurisdiction to use an Alternative Management Regime versus and SFMP, as well as what information is to be provided in such a proposal. More detailed guidance should be added to the FMP, especially given several states may consider implementing Alternative Management Regimes for data limited systems.

Lastly, the TC Task Group discussed the concept of modifying the FMP to allow states to maintain a low bag limit in unmonitored systems as an alternative to requiring catch and release only for unmonitored systems, provided a management response related to sustainability metrics from another or other monitored systems were in place. Several concerns with this concept were discussed. First, there were concerns that there could be negative impacts to the stock, but it would be difficult to assess considering the lack of monitoring. Second, the policy could be viewed as favoring the recreational fishery over commercial fisheries given that commercial fisheries are required to close completely unless an SFMP and appropriate monitoring are in place. The TC acknowledged that additional information and analysis would be necessary to evaluate the impacts of this concept. The TC intends to continue discussions on this and the ideas above at future meetings.

Table 1. Summary of TC Recommendations by State and Species

State	Species	Areas of Inconsistency	Recommendations
ME	River Herring	Statewide 25 fish bag limit, limited monitoring.	Address cases where recreational harvest occurs in rivers not currently monitored under the river herring SFMP with a relevant monitoring threshold from other watersheds that relates to a defined management response.
	Shad	All rivers: No SFMP, some monitoring	Develop potential sustainability metrics using the JAIs and fishway counts from monitored systems to create a SFMP or Alternative Management Plan with a management response to a trigger for all unmonitored rivers.
NH	River Herring	Salmon Falls River: Irregular monitoring	No changes to monitoring; make NH SFMP clear as to how monitoring in the Great Bay system is sufficient to inform sustainability and management of Salmon Falls.
NJ	Shad	Tributaries of the Delaware River not in SFMP	Include all tributaries in the DE COOP SFMP.
DE	Shad	Brandywine and Broadkill: tributaries not in Delaware River SFMP	Include all tributaries in the DE COOP SFMP.
	Shad	Back Creek, Chester River, Choptank River: No SFMP, no monitoring	Incorporate Back Creek into the DE COOP SFMP and implement catch and release only regulations on the Chester and Choptank
NC	Shad	Meherrin, Cashie, Northwest River, North Landing River: tributaries not in Albemarle Sound SFMP	Include all tributaries of the Albemarle Sound system in the SFMP, including Currituck Sound tributaries, and add language to specify how monitoring and sustainability metrics inform management of all tributaries.
	Shad	Black River: tributary not in SFMP	Include all tributaries of the Cape Fear River in the SFMP and add explanation of shad abundance in the Black River.
	Shad	Little River: no SFMP, no monitoring	Address Little River in SFMP by applying management response to sustainability metrics from the Winyah Bay system in SC; NC should include an equal management response in their SFMP to SC.
SC	River Herring	Little River: No SFMP, no monitoring	The Little River should respond to Great Pee Dee River (Winyah Bay) sustainability metrics, as it connects with the Great Pee Dee system.
	Shad & River Herring	Winyah Bay System tributaries (Waccamaw, Little Pee Dee, Lynches, Black, Sampit, Bull Creek): not in SFMPs	Revise shad and river herring SFMPs to apply sustainability metrics and management response for the Winyah Bay system to all tributaries in the system
	Shad & River herring	Tributaries of the Santee-Cooper System (Wateree, Congaree, Broad): not in the SFMPs	Revise shad and river herring SFMPs to apply sustainability metrics and management response for the Santee-Cooper system to all tributaries in the system

	River Herring	Wando and Ashely Rivers, ACE Basin system, Coosawhatchie River, Savannah River: No SFMP, no monitoring	1) Implement catch and release regulations for all unmonitored systems, 2) Implement Alternative Management Regime; or 3) apply statewide metrics to unmonitored rivers with defined management response
	Shad	Wando and Ashely Rivers, Coosawhatchie River: No SFMP, no monitoring	Apply metrics from the Santee-Cooper system to the Wando and Ashely, and apply metrics from the Savannah River to the Coosawhatchie. If necessary, add additional detail about management responses.
	Shad	Little River: No SFMP, no monitoring	Address Little River in SFMP by applying management response to sustainability metrics from the Winyah Bay system
	Shad	ACE Basin (Ashepoo, Salkehatchie): tributaries not in SFMP.	Include Ashepoo and Salkehatchie with Combahee in the SFMP; Sustainability metric, triggers and management response from the Edisto river can be applied to the entire ACE basin system.
GA	River Herring	All rivers: No SFMP; only monitoring in Savannah and Altamaha regularly, in Ogeechee every 5 years	1) Implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying the absence of statewide harvest regulations.
	Shad	Altamaha tributaries not in SFMP	Including all Altamaha tributaries in SFMP.
	Shad	Satilla, St. Marys: No SFMP, some monitoring in Satilla only.	Include Satilla and St. Marys in shad SFMP for recreational harvest, and apply the Altamaha sustainability metric, triggers and management response to those systems.
FL	River Herring	St. Marys: No SFMP, no monitoring	1) Implement catch and release only regulations for river herring statewide, or 2) develop an Alternative Management Regime justifying harvest regulations. Take management consistency with Georgia into account.
	River Herring	St. Johns system: no SFMP, some monitoring	1) Implement catch and release only regulations for river herring statewide, or 2) develop an alternative management plan justifying the statewide harvest regulations.
	Shad	St. Johns system: monitoring not representative of all tributaries	Revise the shad SFMP to include all tributaries, and add language for how metrics from monitored sections will apply across the system tributaries.
	Shad & River Herring	Pellicer, Tomoka, and Nassau Rivers: No SFMP; no monitoring; no shad or river herring	1) Implement catch and release only regulations, or 2) describe in SFMP/or Alternative Management Plan that these systems are not part of the alosa range.