



SAVING THE SASSAFRAS

HUMANURE - Human waste from septic systems, boats, & wastewater treatment plants

HUMAN ACTIVITY contributes to less than desirable water quality in a number of ways, and the bodily waste we produce as humans is a large part of that contribution. Failing and conventional septic systems, wastewater treatment plants, and boat sanitation systems all contribute to high nutrient, and in some cases high bacteria, levels in our waterways.

THE AVERAGE CONVENTIONAL onsite septic system is not designed to remove nitrogen, discharging approximately 40 pounds of nitrogen per year, about 80% of which can end up reaching surface waters. A failing septic system can contribute significantly higher amounts of nitrogen. Upgrading a functioning septic system to a BAT (Best Available Technology) system results in up to 78% reduction of nitrogen released into the soil. Even higher levels of reduction can be achieved by upgrading failing systems.

WASTEWATER TREATMENT PLANTS (WWTPs) also contribute to high nutrient levels in our river. Both the Betterton and Galena WWTPs discharge into our watershed, contributing significant amounts of nitrogen and phosphorus to the Sassafras. However, upgrades to the newest technology, Enhanced Nutrient Removal, typically result in 70-90% reductions in nitrogen and phosphorus. Both Galena and Betterton WWTPs are upgrading in the near future.

MANY BOATERS TODAY use Marine Sanitation Devices which are designed to kill bacteria before waste is discharged overboard. However, boaters should know that while these sanitation devices are in compliance with the law by removing harmful bacteria from the wastewater, they do not remove any nitrogen or phosphorus. Therefore, to be environmentally responsible, it is necessary to store all wastewater in a holding tank until it can be pumped out at a marina facility.



HOW YOU CAN HELP RESTORE THE RIVER:

- Fertilize fields, lawns, and gardens based on soil test results. Over-fertilizing is a common source of nutrient pollution.
- Compost lawn clippings, or direct the clippings back onto the lawn to recycle nutrients. If clippings are discharged on the road, storm runoff will deposit the nutrients into the river.
- Boaters should always pump out waste from a Marine Sanitation Device (MSD) at a marina pump out station. MSDs only kill bacteria - they do not remove any nutrients.
- Continue agricultural Best Management Practices (BMPs). No-till farming, cover crops, vegetative stream buffers, grass waterways, and nutrient management plans effectively reduce nutrients in storm runoff.
- Upgrade septic systems to nutrient-removing systems (Best Available Technology).
- Install permeable surface driveways and sidewalks.
- Pick up litter. Leave all outdoor areas cleaner than you found them.
- Install rain barrels and rain gardens.
- Plant native plants to provide animal habitat and forage, and to minimize rainwater runoff.
- Join the Sassafras River Association - contribute to the solution with your financial support and/or time. Please use the form below.

SRA IS A MEMBER OF
WATERKEEPER* ALLIANCE,
WATERKEEPERS CHESAPEAKE, and a
number of other organizations in order to
network, communicate issues, and share
initiatives. We are active in the Cecil County
Watershed Implementation Plan (WIP)
Advisory Committee and the Kent County WIP
Committee. We also participate in the Upper
Shore WIP and the Eastern Shore WIP groups.



Sassafras River Association

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Georgetown, MD 21930

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BECOME INVOLVED

YES! I would like to:

☐ join SRA

☐ renew my membership

☐ act to "Save the Sassafras"

**Sassafras River Association is
a 501(c)(3) organization**

**Visit www.sassafrasriver.org for pledges
and online payment options. Thank you!**

Enclosed please find
my tax-deductible
contribution payable
to Sassafras River
Association.

☐ \$ Other gift

Membership Levels

☐ \$1000 River Steward

☐ \$500 Creek Champion

☐ \$250 Inlet Protector

☐ \$100 Stream Supporter

☐ \$50 Family

☐ \$35 Individual

☐ \$5 Student

Name: _____

Address: _____

Ph/Email: _____

Cut along the blue line and mail this card to:

Sassafras River Association

P.O. Box 333 Georgetown, MD 21930



Contact the

Sassafras River Association:

410.275.1400

riverkeeper@sassafrasriver.org

SASSAFRASRIVER.ORG



SASSAFRAS RIVER ASSOCIATION

SASSAFRAS RIVER Report Card 2015



Photo by Heather Orkis



Protection
Advocacy

Restoration

Water Quality Monitoring

Restoring the health of the Sassafras River

THE GOOD, THE BAD, AND THE BEAUTIFUL – FLORA OF THE SASSAFRAS

THE GOOD: Sometimes the things you can't see are the most important. Of the various flora found in and around the Sassafras River, none are more important to the health of the river than Submerged Aquatic Vegetation (SAV). There are a dozen species in the shallow waters of the Bay and its tributaries, but relatively few of these essential plants are currently found in the Sassafras. The Sassafras River Association samples the health of our river in many ways with manpower and scientific instruments, but acreage of SAV is one of the best measures of water quality. These underwater grasses filter polluted runoff, and provide food for waterfowl and habitat for fish, crabs, and other aquatic critters. The plants absorb wave energy to settle out sediment, and the roots and rhizomes stabilize the river bed. The remarkable depletion of SAV is of great concern to the Sassafras River Association.

THE BAD: Water chestnut is an invasive species bearing no resemblance to the delicacies in Chinese food. They grow from a caltrop, which is a sharp-spiked seed pod strong enough to penetrate a sneaker. The thin stem grows to the surface of the water where it separates into multiple branches and forms leaf clusters. It continues to spread into a large area on the surface and ultimately blocks the sunlight from reaching into the water column. Lack of sunlight prevents SAV from growing. Every June, with the help of volunteers and the Maryland Department of Natural Resources, we remove water chestnuts from our creeks. On a positive note, water chestnut numbers have been decreasing in recent years.

THE BEAUTIFUL: The native American Lotus displays the largest flower in the Sassafras watershed. Their pure yellow blossoms are proudly held up for view by a strong stem above a jade lily pad. There is nothing more beautiful than the area around Mount Harmon and Turners Creek when the lotus comes into full bloom. In August, one can enjoy the beauty of this unforgettable plant in the Sassafras River.



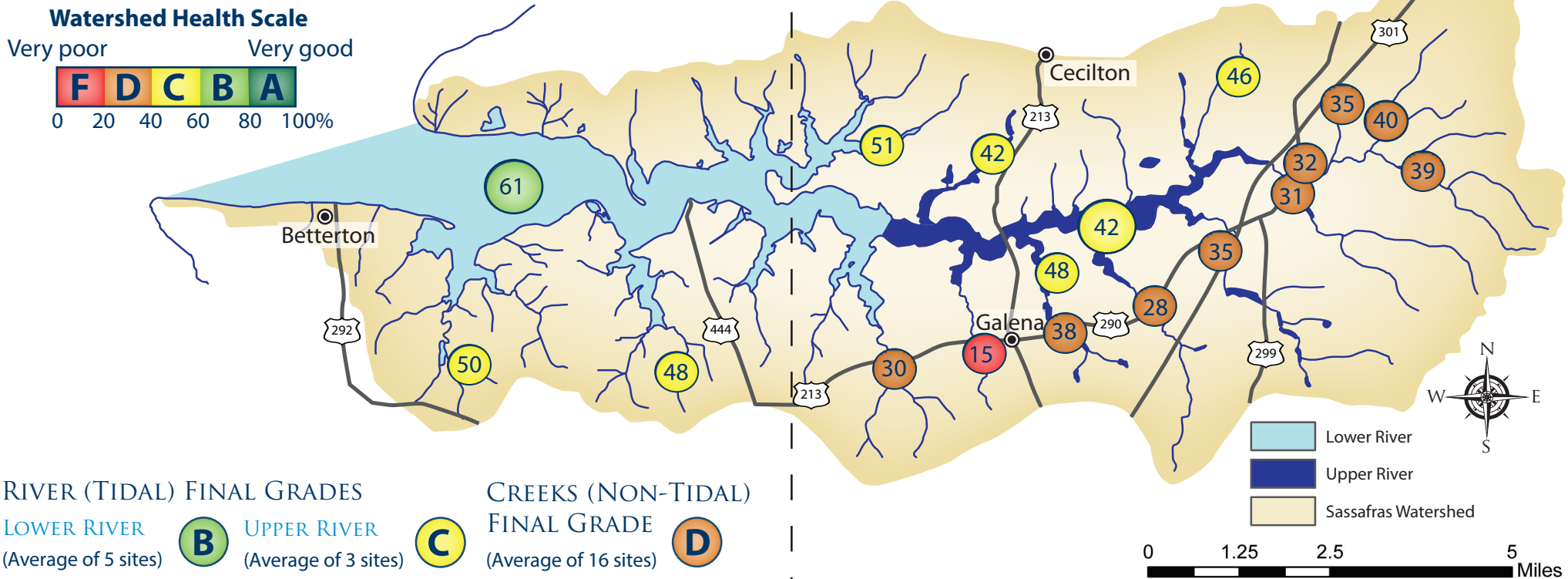
- What do grades mean?**
- A** All water quality and biological health indicators meet desired levels (80-100%). Quality of water in the locations tends to be very good, most often leading to very good habitat conditions for fish and shellfish.
 - B** Most water quality and biological health indicators meet desired levels (60-79%). Quality of water in these locations tends to be good, often leading to good habitat conditions for fish and shellfish.
 - C** There is a mix of good and poor levels of water quality and biological health indicators (40-59%). Quality of water in these locations tends to be fair, leading to fair habitat conditions for fish and shellfish.
 - D** Some or few water quality and biological health indicators meet desired levels (20-39%). Quality of water in these locations tends to be poor, often leading to poor habitat conditions for fish and shellfish.
 - F** Very few or no water quality and biological health indicators meet desired levels (0-19%). Quality of water in these locations tends to be very poor, most often leading to very poor habitat conditions for fish and shellfish.

SPREADING THE CLEAN WATER SPIRIT

THE SASSAFRAS RIVER ASSOCIATION celebrated our 10th anniversary in 2014. We have been working in many ways to restore the Sassafras to a healthier condition, and with a lot of support from the community, we are making great progress.

DURING 2014, our staff and members of our Board worked to help interested citizens get several new environmental organizations started in Cecil County. When the Sassafras River Association (SRA) was being formed, we received a lot of assistance and guidance from the Chester River Association (CRA). Using the mentoring of CRA as inspiration, SRA has been working closely with another group of interested citizens to organize the Friends of the Bohemia on the Bohemia River.

CECIL COUNTY government has responded to the growing interest among residents to restore the health of the other rivers in the county. With a little help from the Sassafras River Association and a lot of help from the county, a group of citizens launched a new organization called the Elk and North East Watershed Association. The Sassafras River Association is delighted that the clean water message is spreading throughout our Upper Eastern Shore region. And we're thankful that the leaders of both Cecil and Kent Counties are supportive of our efforts.



OUR MISSION:

THE SASSAFRAS RIVER ASSOCIATION is dedicated to promoting good water quality, a balance among recreation, wildlife, and economic activity, and an educated community that takes action to restore and maintain the health of the watershed.



Data used for the 2015 Report Card were collected in 2014 by the Sassafras Samplers, Sassafras RIVERKEEPER®, the Maryland Department of Natural Resources and the Virginia Institute of Marine Science. SRA especially would like to thank the Sassafras Samplers who volunteer their time throughout the year monitoring creeks to help produce this publication.

RIVER (TIDAL) HEALTH INDICATORS			
		LOWER RIVER	UPPER RIVER
	Dissolved Oxygen	A	A
	Water Clarity	C	D
	Chlorophyll- <i>a</i>	B	D
	Aquatic Vegetation	F	F
	Total Nitrogen		C
	Total Phosphorus		D

CREEK (NON-TIDAL) HEALTH INDICATORS			
	Dissolved Oxygen		A
	Turbidity		F
	Total Nitrogen		D
	Total Phosphorus		B
	Creek Bed Organisms		F