

SASSAFRAS RIVER REPORT CARD

2011



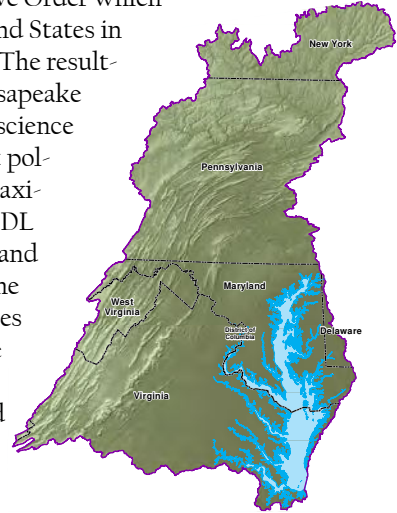
Sassafras River Association

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MARYLAND'S PLAN TO RESTORE THE BAY

For the first time in history, the Chesapeake Bay is poised to make a true recovery. In 2009, President Obama released an Executive Order which called for the Environmental Protection Agency (EPA) and States in the Chesapeake watershed to clean up the Bay by 2025. The resulting effort has culminated into what is known as the Chesapeake Bay Watershed Implementation Plan (WIP), which is a science based plan to reduce nitrogen, phosphorus and sediment pollution in the Bay. The WIP is based on the Bay's Total Maximum Daily Load (TMDL), or Bay pollution diet. The TMDL specifies the maximum amount of nitrogen, phosphorus and sediment the Bay can absorb while remaining healthy. The WIP details the set of tools, or Best Management Practices (BMPs), that each State, County, and watershed will use to reduce pollution and improve the health of the Bay. Measuring and gauging the effects of BMPs implemented across the landscape is now a refined science that accurately predicts the outcome, in terms of water quality improvement.

Progress towards restoring the Bay will be closely followed through the establishment of short term goals, or milestones. Accountability is the keystone for these efforts, and unlike previous efforts to clean up the Bay, this WIP is backed by real consequences for those states, counties, and agencies that do not achieve their goals and 2 year milestones. It will be up to the local County governments, watershed organizations, and Soil Conservation Districts to ensure that local WIPs include all the actions necessary to restore the Bay, and that those actions are fully implemented on the ground. Individuals can play a tremendous role in improving the Bay by implementing BMPs on their own property, and ensuring they have minimal impact on the Sassafra River, and ultimately the Bay. Sassafra River Association needs member support now more than ever to ensure the staff and resources are in place to achieve these goals, and to promote the importance of the WIP and Bay restoration effort.



The Chesapeake Bay is the largest estuary in the U.S. with a watershed spanning six states, and 64,000 square miles, from Cooperstown NY, to Norfolk VA. Like Maryland, each state in the Bay watershed is developing a WIP to reduce its pollution load in the Chesapeake.

CLEAN WATER ACT 101

The Clean Water Act (CWA) was passed in 1972. The CWA is the principal law governing the protection and restoration of America's waterways, with an objective to make all U.S. waters "swimmable" and "fishable". In an era when the Cuyahoga River caught fire from industrial pollution, the CWA emerged as the tool allowing the EPA to set standards for safeguarding water quality. The current TMDL and WIP in the Chesapeake Bay are not new initiatives, but were mandated by the CWA decades ago to restore impaired waterways.



ESTUARY (TIDAL) FINAL GRADES

LOWER ESTUARY
(Average of 6 sites)



UPPER ESTUARY
(Average of 4 sites)

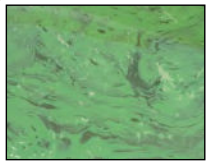


CREEKS (NON-TIDAL) FINAL GRADE
(Average of 16 sites)



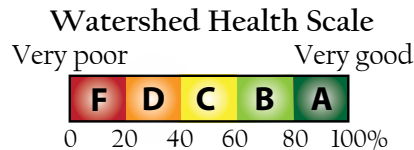
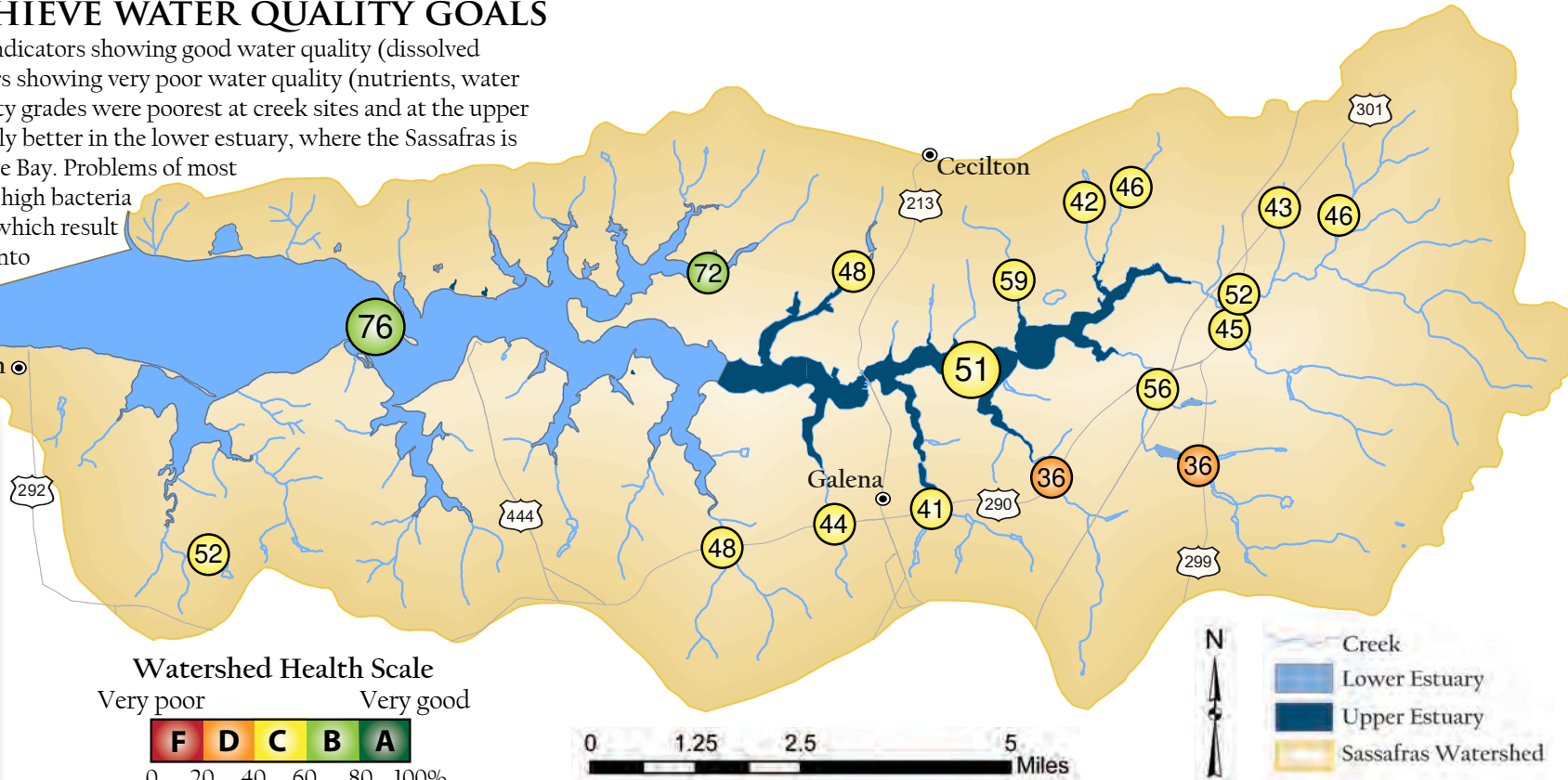
WORK REMAINS TO ACHIEVE WATER QUALITY GOALS

In 2010, the Sassafas River had a mix of indicators showing good water quality (dissolved oxygen, aquatic vegetation), and indicators showing very poor water quality (nutrients, water clarity, creek bed organisms). Water quality grades were poorest at creek sites and at the upper portions of the estuary. Scores were slightly better in the lower estuary, where the Sassafas is more heavily influenced by the Chesapeake Bay. Problems of most concern included beach advisories, due to high bacteria levels, and toxic blue-green algae blooms which result from an abundance of nutrients draining into the River from sources such as stormwater, agriculture, and septic systems.



Microcystis (left) is a type of blue-green algae which resembles bright green paint floating at the water surface. *Microcystis* produces a toxin causing skin rash, or serious illness during significant bloom events.

Wild celery (right) is a type of native aquatic vegetation that serves as important habitat for a variety of aquatic organisms. Aquatic vegetation abundance increased from previous years during 2010.



ESTUARY (TIDAL) HEALTH INDICATORS

	Lower Estuary	Upper Estuary
Dissolved Oxygen	A	A
Water Clarity	C	D
Chlorophyll <i>a</i>	B	D
Aquatic Vegetation	B	B
Nutrients	B	C
Total Nitrogen	B	C
Total Phosphorus	B	D

CREEK (NON-TIDAL) HEALTH INDICATORS

		Nutrients	
Dissolved Oxygen	A	Nitrate	C
Turbidity	B	Ammonium	C
Creek Bed Organisms	F	Phosphate	F

Visit www.sassafasriver.org/whatwedo/ for additional information on grading methods.

RESTORING THE HEALTH OF THE SASSAFRAS RIVER

The Sassafras Watershed Action Plan, or SWAP, was developed by Sassafras River Association (SRA) in 2009 to prioritize and direct our efforts to restore the Sassafras River. SWAP focuses on projects that achieve the greatest impacts in reducing nutrient and sediment pollution, including many large scale on-the-ground restoration initiatives. In 2010, SRA made significant progress implementing SWAP in the watershed:



- Two new restoration projects focus on preventing animal waste runoff from reaching the River through installation of treatment wetlands, which capture and slowly reduce the concentration of contaminants.
- Numerous new acres of cropland have received important winter cover-crops to prevent erosion and absorb excess nutrients, through SRA's provision of cost-share funding to farmers.
- In neighborhoods, 175 soil test kits were distributed to provide home-owners with information on lawn and soil management, and tips to prevent over-use of nutrients.
- After considerable door-to-door contact explaining ways to detect a failing septic system, information at three workshops provided listeners news on the availability of State grants for an upgrade at their house, and the options for upgrading to a nutrient removal septic system.
- Over 80 rain-barrels were constructed with SRA technical assistance at training events to capture stormwater that may erode lawns, and also to redirect water for re-use, an especially valuable tool during times of drought.

Restoring the Sassafras River requires the use of environmental practices by all types of land-users and watershed citizens. It is only through cooperation and partnerships that best management practices become implemented and a clean and healthy Sassafras River is achieved. SWAP contains many more challenges and SRA looks forward to working with more watershed residents and installing more innovative restoration projects.

What do grades mean?



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.



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.



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.



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.



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.

JOIN SRA

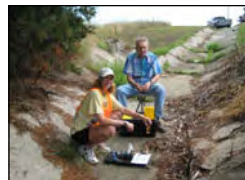
Sassafras River Association (SRA) is a non-profit organization dedicated to promoting good water quality, a balance among recreation, wildlife, and economic activity, and an educated community that takes action to restore and maintain the health of the watershed. SRA's staff are professionals in land management and water quality; using advocacy, restoration, and outreach to address environmental issues in the watershed. As a grassroots, membership driven organization, support and involvement from watershed residents is critical to SRA's work.

VOLUNTEER

SRA and its volunteers lead programs in water quality sampling and monitoring; river clean-ups; community, educational and agricultural outreach; and watershed restoration. Help strengthen SRA's work to protect and restore the Sassafras River by volunteering your time today. Visit: www.sassafrasriver.org/volunteertoday



SRA leads educational outreach lessons for youth on water quality and environmental science.



Sassafras Sampler volunteers, Janet Ruhl and Bill Wright, collect water samples at a local creek.

BECOME A MEMBER

We are only as strong as our membership. Your contributions provide the financial support for our operations and your membership adds to the volume of our voice when we speak with State and local elected officials. Membership forms and information are available at: www.sassafrasriver.org/donatenow



Watershed residents construct rain barrels at a SRA workshop.

Concerns or Questions?

Contact the **RIVERKEEPER®** for help with environmental problems you may witness on the River including algae blooms or fish kills, or for information on volunteering with SRA.

- (410) 708-3303
- riverkeeper@sassafrasriver.org
- www.sassafrasriver.org/reportpollution/

Data used for the 2011 Report Card were collected in 2010 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.



The Sassafras River Association thanks the following organizations for their generous support:

