

# 2017 Report Card

Healing the South River in One Generation



Photo by David Sites



## Acknowledgments

We would like to thank the following individuals and organizations for their support in furthering the mission of the South River Federation and this annual report card. Their continued contribution and support is greatly appreciated.

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Marlene Rice—Rice Graphics

South River Federation Staff & Board of Directors  
and all of our generous donors

**The South River Federation, Inc. is dedicated to protecting, preserving, restoring, and celebrating the South River and its interdependent living community.**

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# 2017 Highlights



In 2017, almost 900 people volunteered with the South River Federation to help heal the river within one generation. These volunteers planted trees, installed living shorelines, restored oyster reefs, cleaned up streams, and collected data. In addition, the Federation managed 75 oyster growers tending over 400 cages. With help from the Chesapeake Bay Foundation, 3.4 million juvenile oysters were also planted on the South River oyster sanctuary.

In 2017, the Federation installed two large stream restoration projects completing our Church Creek Initiative, started construction on two large wetlands, and completed five community scale stormwater projects. In addition, two new designs were started on a living shoreline and major stream restoration project.

## Data Collection Methods

The data set collected for the 2017 report card comes from the Federation's 21 tidal sites throughout the river. Federation staff under supervision of the RIVERKEEPER® use a Hydrolab instrument to measure eight parameters each week, developing vertical profiles of the water column for each site. Water Clarity is measured using a secchi disk. Bacteria data is analyzed by the laboratory at **Anne Arundel County Community College**.

Our scoring system uses the multiple threshold approach of the **Mid-Atlantic Tributary Assessment Coalition** (MTAC). The leading environmental scientists of MTAC assign numeric scores to very good, good, fair, poor, or very poor conditions. In this system, an A grade is not a pristine, untouched river; instead it represents a river able to sustain aquatic life and support other designated uses like swimming.

The South River Federation's data set is included in assessments conducted by the **Chesapeake Bay Program** and **Maryland Department of the Environment**.



Check out our new interactive South River data map at [www.southriverdata.net](http://www.southriverdata.net)

# 12th Annual South River Report Card

South River Federation is pleased to present the **12th Annual South River Report Card**. The data collected in 2017 (consisting of 503 water column profiles) indicate that water quality in our River remains stable and resilient! Scores for water clarity and dissolved oxygen varied less than 2% from 2015-2017. Chlorophyll and pH levels worsened while bacteria levels improved.

The South River earned an overall score of 69%—a B grade, representing a system capable of supporting fish and aquatic life, but with ample room to improve.

Two major parameters missing from analysis this year are nutrients and underwater grasses. Nitrogen and phosphorus data, usually provided by Maryland Department of Natural Resources (DNR), have not yet been released due to technical delays. Due to these differing data sets, this year's grades are not directly comparable to last year's printed report card.

## Disappearing Underwater Grasses

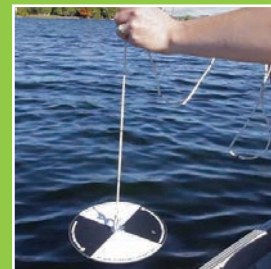
While we are disappointed to share that the Virginia Institute of Marine Science (VIMS) did not identify any grass beds in their 2017 summer survey (see page 4), we did observe robust populations of the springtime horned pondweed. However, we were unable to adequately quantify their extent.

With the federal administration proposing drastic cuts to Chesapeake Bay clean-up efforts for the second year in a row, monitoring and enforcement work performed by groups like the South River Federation is more important than ever. Thank you to all of

our generous supporters for stepping up to protect our wonderful river for ourselves and the generations to come.

Sincerely,

Captain Jesse Iliff  
South RIVERKEEPER®



The Secchi disk—created in 1865 by Angelo Secchi—is a circular disk used to measure water transparency. The depth at which the pattern on the disk is no longer visible is taken as a measure of

the transparency of the water. This measure is known as the Secchi depth and is related to water turbidity.

If you or your organization is looking for volunteer or educational opportunities, please contact Nancy Merrill at 410-224-3802, ext. 205.

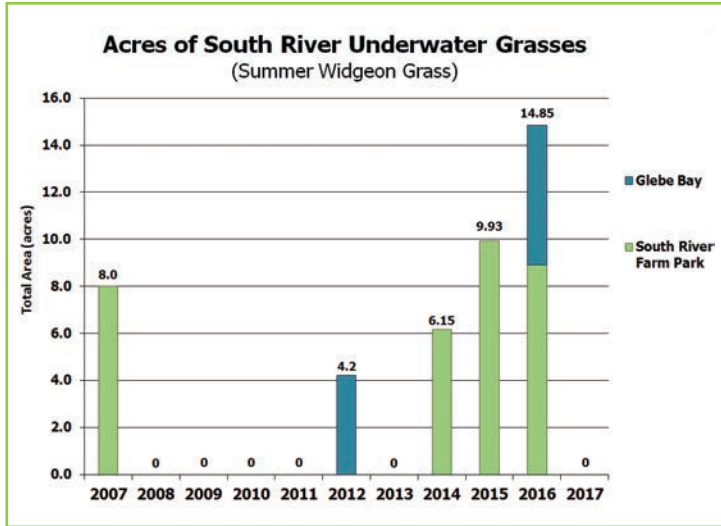
# Unclear Resonse to Clearer Water

## Unpredictable Underwater Grasses

In 2017, we noticed a slight increase in water clarity. Typically, clearer water means more underwater grasses, since more sunlight reaches them. However, the beds of summer widgeon grass (*Ruppia maritima*) that persisted the prior three years went dormant in 2017. In the absence of the widgeon grass, juvenile crabs and fish in the River were missing this source of oxygen and shelter.

The spring migratory fish were able to take advantage of the spring-time horned pondweed (*Zannichellia palustris*) observed in the river.

Fortunately, the widgeon grass disappearance is unlikely to be permanent—this species has been known to come and go, as characterized by the past ten years.



Springtime (May and June)  
Horned Pondweed



Summertime (May thru  
November) Widgeon Grass

Photo courtesy of Bay Journal

# Is It Fishable? **Yes! B+**

## Dissolved Oxygen

Overall, dissolved oxygen levels dropped slightly in 2017, from 80%-79%. Dissolved oxygen is vital for all aquatic life. Therefore, this downward trend, while minor, is still concerning. However, some of our historically troubled creeks saw increases in their dissolved oxygen concentrations.

Leading the charge for improvement among the creeks was Beards, which saw a 17% increase in average oxygen levels over 2016. Warehouse Creek and Broad Creek also stood out, showing 16% and 9% more oxygen respectively.

Another bright spot is that although the overall average for oxygen went down, there did not appear to be any acute instances of the anoxic conditions that can cause fish kills.



Photo by Rudow's Fish Talk

**There's O<sub>2</sub> for Oysters too! The Federation purchased and planted 3.4 million oysters in the River in 2017 with help from Chesapeake Bay Foundation.**



# Working to Protect the South River

This year your RIVERKEEPER® spent a lot of time in Annapolis during the General Assembly session for the Federation. Five bills were pursued this year—a new record! They included improvements to the Forest Conservation Act, a ban on expanded Styrofoam food packaging, two bills to reduce septic system pollution, and a bill that will require counties in Maryland to report annually on environmental enforcement efforts.

On the local level, we are watching mounting development pressure in the watershed, especially on the Mayo peninsula, and tracking large development proposals like the 600+ acre Bayhawks stadium complex in Crownsville. We also keep in contact with Anne Arundel County and the City of Annapolis to push for strong enforcement of environmental law and tighter policies to protect our River and its watershed.

## Development Pressure

The Center for Progressive Reform found that in 2017, Anne Arundel County received more applications for developments over 1 acre than any other jurisdiction in Maryland, fielding 11.7% of all such proposals in the State. This number of proposals reflected the second highest impacted acreage, equal to 9.4% of total development in the State.



## How You Can Help

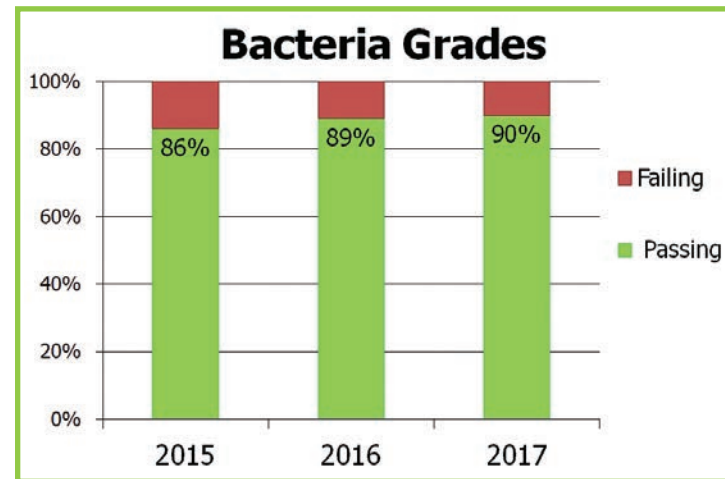
**BE OUR EYES**—If you see dirty runoff, clear cutting of trees, dumping, an oil slick, fish kill, etc., call Jesse Iliff, your SouthRIVERKEEPER® at 410-224-3802. Or, download the Water Reporter app at <https://www.waterreporter.org/> to take pics and share them with the Federation and other users! It works for positive items too, like eagles, dolphins, sunsets, or the catch-of-the-day.

**HELP GIVE THE RIVER A VOICE**—The South River's voice is only as loud as the number of people who will act for its protection. Let us know if you will raise your voice for the River!

# Is It Swimmable?



The Federation collects water samples weekly during the summer at South River swimming beaches as a part of *Operation Clearwater* to test for the presence of *enterococci* bacteria. *Enterococcus* is a bacteria found in the gut of warm-blooded animals and is a reliable indicator of bacteria harmful to human and animal health.



In 2017, swimming beaches in the South River were safe for swimming 90% of the time, up from 89% in 2016, based on 266 samples. *Operation Clearwater* data was supplemented with that collected by the Anne

Arundel County Department of Health to give as robust a picture as possible. We are proud to report an increase in safe readings for the second year in a row! Please remember, it is still not advised to swim within 48 hours of a rain event due to predicted high bacteria levels.

*Operation Clearwater*  
To sign up to have your waterfront community's recreational area tested, please contact our office at 410-224-3802.

## How to Receive the Bacteria information

**SWIMGUIDE:**  
[www.swimguide.org](http://www.swimguide.org)  
There is also an app!

**WEBSITE:**  
[www.southernriverfederation.net](http://www.southernriverfederation.net)

**FACEBOOK:**  
[www.facebook.com/SouthRiverFederation](https://www.facebook.com/SouthRiverFederation)

Residents can help reduce bacteria by picking up pet waste, keeping Canada Geese off shorelines/beaches, and maintaining septic systems. This helps keep bacteria from washing into the South River.