



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

**Anglers for
Clean Water**

Give Something Back to the Chesapeake

By Capt. John Page Williams, Senior Naturalist, Chesapeake Bay Foundation

Any angler who studies an electronic fishfinder in waters north of the York River during the summer sees a discouraging picture way too often: fish stacked up over a thermocline, with blank screen below indicating an oxygen-deprived “dead zone.” It’s a visual reminder that our Chesapeake is still in trouble. The Bay gives us great days on the water, but in warm weather 20 to 40 percent of it ends up off limits to fish and crabs each year, depending on heat and rainfall patterns. That’s a lot of lost habitat. Think what it does to “carrying capacity” —the Bay system’s ability to sustain strong populations of those critters we love—and the smaller critters they feed on.

None of that bad stuff is news, except that it’s still here, and our human population continues to increase. In fact, **there is cautious good news**: scientists at the Chesapeake Bay Program and university marine science laboratories see the 10-year rolling average size of the dead zone shrinking a little bit as a result of the pollution reductions we have made over the past 30 years. So far, the Bay states are meeting their two-year milestones under the Chesapeake Clean Water Blueprint (cbf.org/blueprint). Pollution from wastewater plant discharges and agricultural runoff from croplands and livestock are dropping.

Both sectors, however, still have work to do, and **the worst problem is that runoff pollution from urban and suburban development is still increasing** with our population. Nitrogen, phosphorus, and sediment from those sources are half of the problem. The other half is the loss of the Bay’s natural treatment systems: forests, wetlands, natural stream floodplains, and oyster reefs—the “lungs and kidneys of the Chesapeake.”

This year consider giving something back to the Bay. If we anglers won’t get involved in cleanup programs that make a difference, why should we expect anybody else to do things for us?

There are three basic ways you can help:

- **Become better educated** about the Chesapeake and the serious fish habitat challenges it still faces,
- **Participate in hands-on restoration projects** for oyster reefs, shorelines, and stream banks; and
- **Encourage political and regulatory action** to reduce pollution and restore clean water.

Each of these options can be interesting, and the hands-on projects are usually fun. You’ll not only feel good about doing something positive for the Bay, but you’ll meet interesting people, learn more about how the Bay and its rivers “work,” and find new places to fish. Here are some opportunities for giving back.

Learning More about the Bay

If you want to understand what’s happening to the Bay, it helps to learn about its natural history and ecology. There is a lot of information out there, much available at modest or no cost.

- The classic broad-based field guide is *Life in the Chesapeake Bay* by Alice Jane and Robert L. Lippson,

published by the Johns Hopkins University Press. (The third edition was released in 2006.) It's readily available in bookstores and online.

- The best guide specifically focused on fish is *Fishes of Chesapeake Bay* by Edward O. Murdy and John A. Musick, published by the Johns Hopkins University Press in 2012. It too is readily available in bookstores and online.
- An excellent book geared directly to anglers is the *Fly Fisherman's Guide to Saltwater Prey* by Maryland native and skilled angler Aaron J. Adams, Ph.D., manager of the Habitat Ecology Program in the Center for Fisheries Enhancement at Florida's Mote Marine Laboratory. This book has plenty to teach us all, not just fly fishermen. (Visit www.stackpolebooks.com for more information on this book and Adams's earlier *Fisherman's Coast*, a guide to saltwater gamefish and their habitats.)
- Two excellent free news sources are the EPA Chesapeake Bay Program's monthly *Chesapeake Bay Journal* (www.bayjournal.com) and the Bay Program's daily online news clipping service (subscribe by visiting www.chesapeakebay.net and clicking on "more news" in the News section.) Both sources cover the entire Chesapeake watershed.

There are several websites with plenty to teach:

- Check out *The Issues* (cbf.org/bay-issues) section of CBF's website under "About the Bay" for a look at the key issues confronting the Bay, such as polluted runoff, land use, agriculture, and more.
- A good basic one is the Bay Program site (www.chesapeakebay.net). It's loaded with information.
- Another excellent one is the Maryland Department of Natural Resources (www.dnr.state.md.us). In the banner at the top, click on "Program Directory," then "Bays, Streams, and Watersheds," and "Chesapeake Bay." You'll find a wealth of information there, including a link to a set of daily satellite images of the entire Bay. Check the Fisheries Service section too for informative reports from state fisheries biologists.
- Yet another is the *Bay Info* web site at the Virginia Institute of Marine Science: www.vims.edu/bayinfo/index.php, which includes a link to the VIMS SAV Program (underwater grasses). It's full of information about these critically important "keystone communities," as well as maps from the lab's annual survey of ALL of the Bay's grass beds, Maryland's as well as Virginia. If you are a shallow water angler, these charts are money in the bank for finding special places to fish, and you may find that you'd like to help out the program by becoming a volunteer field observer for the program. On the banner at the top of the SAV site, choose *Ground Survey* and then *Aerial and Field SAV Observations*. You'll find instructions there, along with sample reports from other volunteers.
- The Chesapeake's scientific research laboratories also offer informative web sites, including regular newsletters:
 - Virginia Institute of Marine Science (www.vims.edu) and
 - University of Maryland Center for Environmental Science (www.umces.umd.edu).

Finally, check out the monitoring websites that provide near-real-time data on what's going on out there in the water.

- The BayStat (www.baystat.maryland.gov) section on the Maryland DNR site holds a link to the Department's *Eyes on the Bay* (www.mddnr.chesapeakebay.net/eyesonthebay), which covers the Bay from the mouth of the Susquehanna down to Smith Point, as well as several of the upper Bay rivers.
- Also check out NOAA's Chesapeake Bay Interpretive Buoy System, which marks the Captain John Smith Chesapeake National Historic Trail but also offers a wide range of near-real-time data from eleven buoys that stretch from one end of the Bay to the other, plus the Potomac and James Rivers. Many anglers are aware that it's possible to access the information from these buoys by telephone

(1-877-BUOYBAY), but the website (www.buoybay.org) provides a lot of additional information, including a graphing tool that allows an angler to look at trends like water temperature, salinity, and water clarity (turbidity) over time. Now there is an inexpensive smartphone app too. On the App Store search function, type in *Smart Buoy* to get it.

Hands-On Restoration Projects

If you really want to roll up your sleeves, consider volunteering for a restoration project. Restoring oyster reefs has direct, obvious value for fish habitat. So does helping to build living shorelines that use natural plant materials, live plants, stones, and sometimes even oysters to stabilize tidal creek banks. Planting streamside buffers with site-appropriate mixes of native grasses and trees helps to filter and clean stormwater runoff from farm fields, suburban communities, and cities. In addition, those plantings help the streams develop the kind of riffle-and-pool structure that encourages diverse in-stream communities of invertebrate animals like insect larvae. They are the ones that actually finish the water quality improvements begun by the planted buffers. There are also volunteer opportunities to help restore wetlands and replant forests.

But planting a few red maples along the bank of a creek is not by itself floodplain restoration any more than tossing several live oysters onto muddy bottom beside a dock is reef restoration. The trick is to find a project that is well-organized and laser-focused on a task that will truly emulate the natural system it's designed to replace. Wetland, stream bank, living shoreline or reef, they're all complex communities with physical characteristics that make it possible for a broad, interlocking group of plants and animals to live together for mutual benefit.

So how do you find a good project? Thanks to the Internet, it's easy now to check the websites of various environmental and fishing organizations to look for volunteer opportunities.

- For starters, consider programs run by the Chesapeake Bay Foundation at cbf.org. On the blue banner just below the logo, click on *Join Us* and then on *Volunteer Opportunities* (cbf.org/volunteer). This section describes a wide range of them. The Foundation sponsors projects in three states and Washington D.C., extending from Hampton Roads at the mouth of the Bay to Wilkes-Barre and Scranton on the Susquehanna River. Click on the *Get Involved* link on the left at the top of the *Volunteer Opportunities* page (cbf.org/volunteerwithus), fill out the form that comes up, including the list of projects that interest you, and send it in.

Several of CBF's conservation partners offer excellent volunteer restoration programs too. Here are six examples:

- The James River Association (www.jamesriverassociation.org),
- The Virginia Eastern Shorekeeper (www.shorekeeper.org),
- The South River Federation (www.southernriverfederation.net),
- Blue Water Baltimore (www.bluewaterbaltimore.org),
- Lynnhaven River NOW (www.lynhavenriver.org) and
- The Elizabeth River Project (www.elizabethriver.org).

In recent years, anglers from several chapters of the Coastal Conservation Association (www.ccamd.org) and the Maryland Saltwater Sportfishing Association (www.mssa.net) have participated in restoration projects led by CBF and our partners. We anticipate that some of Virginia's independent angling clubs will do the same, under the coordination of the new Virginia Saltwater Sportfishing Association (www.ifishva.org). Participants have enjoyed the projects and in most cases, found new places to fish in the process. We hope more people from

these organizations and other independent angling clubs will join us.

Political Activity

As valuable as hands-on projects are to restoring the Bay's natural filters, there are large issues that demand broad public solutions, like upgrading the nitrogen-removal capabilities of sewage treatment plants, helping farmers reduce runoff of nitrogen, phosphorus, and sediment from their fields and barnyards, and reducing pollution from air and urban/suburban runoff. Those issues require a thoughtful public willing to study and weigh in on such matters to public officials at the local, state and federal levels. When thoughtful anglers and environmentalists find common ground and unite on a Clean Water Blueprint or habitat issue, it makes a huge impression on elected officials. Taking advantage of that kind of opportunity can work wonders for clean water and a healthy Chesapeake. With the advent of county, city, and township stormwater utilities to support projects that reduce runoff pollution, local action has become especially valuable.

The Internet, e-mail, and social media together form a powerful tool for intelligent political advocacy. CBF's online advocacy tool is its Action Network (cbf.org/join-us/take-action/sign-up). Anyone interested is welcome to sign up at no cost. In addition to Action Alerts and opportunities to write to public officials, the Action Network offers a monthly electronic newsletter written by a variety of Foundation staff and keyed to each member's state of residence.

Why It Matters

That's a lot of homework to keep you busy when you're not on the water. The more work you do on behalf of the Chesapeake, the more you'll realize that while there are serious problems out there, there's a lot to be encouraged about. The glass isn't half empty; it really is half-full, and from where we sit it's getting fuller. **Assistance from dedicated anglers can really make a difference in building the momentum for major restoration.**

There's another benefit to involvement too. You may find that what you learn makes you a better angler. For example, if you participate in oyster projects, you'll learn where the restored reefs are, and no one is going to object if you take a handheld GPS or a notebook along to mark their locations. The same goes for helping with field observations of underwater grasses. **You can consider those lat/lon numbers a personal dividend for giving back to the Bay. Join us! The Chesapeake and its rivers need all of the angler friends they can get!**