

## TALBOT RIVER PROTECTION ASSOCIATION RIVER FELLOWS - LANDOWNER ACTION PLAN

By Cleo Braver - TRPA Board Member

The health of the Rivers of Talbot County – the Miles, the Tred Avon, the Choptank and the Wye - has been monitored for years, but is not getting any better. The 2008 Chesapeake Bay Report Card released by the University of Maryland Center for Environmental Science gives Eastern Shore tributaries a grade of D. Nitrogen and phosphorus levels are high (nitrogen often higher than it should be by a factor of four) causing algae blooms and lowering dissolved oxygen which fish and shellfish require to survive. The sources of pollution to our rivers lie within our watershed. In other words, to quote Pogo, we have met the enemy and he is us. All of us in Talbot's River Watersheds – homeowners both on and off the water, row crop farmers, poultry growers, commercial enterprises – have a role to play in the River's undoing and it will take all of us to put things right.

The Talbot River Protection Association ("TRPA") has assembled a list of actions which, taken collectively, we and scientists believe can make a very real difference in the health of the Miles River. We hope to encourage you – and fellow citizens in your watershed – to play an important role. You decide what changes you think you might be interested in implementing on your property or in your operations and the Miles River Fellows can steer you to the resources you need and track the collective effort. Commencing as early as 2009, a dedicated "River Fellow" at Horn Point's marine science graduate program will perform research on the Miles and thereafter on its sister Rivers, contribute to the more precise identification of pollution sources and appropriate solutions, and provide the feedback we need to know our efforts can make the difference. As Margaret Mead has said: "Never doubt that a small group of committed citizens can change the world. Indeed it is the only thing that ever has."

### **River Fellow Landowner Actions**

1. Transition some of your lawn to native trees and shrubs.  
Why: Eliminating lawns eliminates mowing; reduces or eliminates watering and lowers water bills; provides habitat and food for birds, bees and other insects and greater biodiversity; eliminates fertilizers, pesticides and herbicides which make their way into the Miles River.  
How: Take advantage of free assistance of Master Gardeners' Bay-Wise Landscape Management Program of Maryland Cooperative Extension Service. Get a copy of the EPA's "Better Backyard" published under the

Chesapeake Bay Program for extensive tips. Check out Adkins Arboretum's plantings, library, and plants for sale.

2. Practice integrated pest management (IPM) by, e.g., using native plants with natural pesticide qualities to minimize or eliminate the need for pesticides and by using beneficial insects like lady bugs and by "spot" or "band" treating with safer non-toxins like insecticidal soap.  
Why: Eighty million pounds of pesticides are used annually in the US, EPA has found at least one pesticide in almost every water and fish sample from streams and in more than half of all shallow wells. Pesticides kill beneficial insects including pollinators and accumulates in the food chain of humans.  
How: Use native plants with natural pesticidal properties. For example, apply natural pesticides like pepper or garlic or grow basil to control aphids.
3. Eliminate fertilizer on lawns and, in gardens, transition nitrogen and phosphorus based fertilizers from synthetic fossil fuel based to organic.  
Why: reduces nitrogen and phosphorus runoff which leads to algae blooms, lowers dissolved oxygen and kills fish.
4. If you grow crops on your property, install buffers (100 feet is currently funded in Maryland) around your fields, take advantage of existing CREP, CRP and other federal programs, and share these funds with your farmer-operator. If you are ready to take a further step, consider allocating some of your farmland to sustainable vegetable and small animal production.  
Why: buffers of warm season grass mixes or native trees and shrubs filter sediment (up to 5 tons an acre) and take up nutrients nitrogen and phosphorus which would run off into River, particularly phosphorus for which agriculture contributes significantly; absorb carbon (which causes global warming); provide oxygen; and provide habitat for disappearing Eastern Shore species like the quail. A 50 or 60 foot minimum buffer is advised.  
How: Chesapeake Wildlife Heritage will design, install and help you maintain your buffers and provide feedback on improved bird species in your new habitat.
5. IF you have annual row crops on your property, plant or ask your operator to plant a winter cover crop (like winter wheat or crimson clover and barley), taking advantage of existing federal and state programs.  
Why: Cover crops retain soil and take up nutrients nitrogen and phosphorus (particularly nitrogen for which agriculture accounts for up to 90%) which would otherwise run off into River.

How: Ask your farm operator to plant the cover crop or have a service fly it in even before the summer crop is harvested. Sign up starts around June.

6. Beyond buffers and cover crops, landowners with row crops can incorporate or have their operator incorporate additional sound environmental practices like knife injection of fertilizers, band spraying of herbicides (which can reduce herbicide volumes by two thirds), and application of poultry manure only where poultry feed practices are modified to reduce phosphorus.
7. Install buffers along drainage ditches.  
Why: Drainage ditches, which surround all fields and roadways, carry sediment and nutrients to the Bay. Buffering riparian edges alone does not address this problem.  
Why: Buffers such as warm season grass mixes and native tree and shrub mixes provide habitat for disappearing Eastern Shore species like the quail); filter sediment, nitrogen and phosphorus which would run off into River; absorb carbon and provide oxygen. A fifty or sixty foot minimum buffer is advised.  
How: Contact the non-profit Chesapeake Wildlife Heritage to design, install and help you manage these buffer strips.
8. If you have a septic system, install a denitrifying treatment unit. These can reduce nutrient discharges to both surface water and ground water. This upgrade is available in Talbot County through the Bay Restoration Fund at no cost (installation and five years of maintenance) for properties within 1,000 feet of the water. A 2009 Maryland law requires it for new homes within 1,000 feet.  
Why: Increases removal of nitrogen to which wastewater contributes greatly.  
How: Contact Talbot County Public Works Engineer Ray Clarke
9. If you have waterfront property, leave marsh grasses and natural vegetation in place, and install grasses and natural plantings for protection against shoreline erosion. Hardscaping like rip-rap, bulkheads and jetties are expensive, require permits, and block habitat in the critical area of the water's edge.  
Why: Protecting your shoreline against erosion with natural plantings rather than hard protection like rip-rap provides needed habitat for turtles and many species. A 2008 Maryland law requires natural plantings in many instances.
10. If you have waterfront property and appropriate water characteristics, install floating oyster tanks. Talbot County's "oyster gardener" program

will work with you or you can get their instructions for making your own Taylor Float.

Why: Oysters – if they can survive – will filter the water in the immediate vicinity. You can contribute to the restoration of the local oyster population or you can grow about 500 oysters to market size.

How: Contact Talbot County Sanitary District Engineer Bill Wolinski.

11. If you have waterfront property, install an aerator in the water.

Why: Dissolved oxygen levels in many parts of the Miles River are too low for fish and shellfish to survive. An aerator will increase dissolved oxygen levels and create small areas where fish will gather to breathe, particularly between dusk and dawn when dissolved oxygen levels are lowest.

How: Contact Talbot County Public Works Sanitary District Engineer Bill Wolinski.

12. Plant native trees on your property. On the smallest of properties, trees can lower home energy bills (plant deciduous trees on the south side of a home to provide shade in summer and light in winter). If you have waterfront property, install 100-150 foot riparian buffers along the water's edge with native trees and shrubs, taking advantage of existing federal programs which pay you to do so.

Why: A riparian buffer along the water's edge of native tree and shrub mixes moderates temperatures, provides habitat, filters sediment and nutrients; absorbs carbon and other pollutants from the air.

How: Check out Chesapeake Wildlife Heritage, which will plant and manage buffers on private as well as public lands.

13. If you have them on your property, protect woodlands, wetlands and meadows. If you don't, install a wetland, woodland, or a meadow, taking advantage of existing federal programs, which pay you to do so.

Why: These three critical ecosystems promote good air quality by filtering pollutants and sequestering carbon, moderate temperatures, filter water, conserve soil, reduce flooding, and provide habitat and food; meadows and wetlands provide critical habitat and food and can lead to the resurgence of disappearing species.

How: Check out Chesapeake Wildlife Heritage, which has created over 5,000 acres of wetlands, grasslands and woodlands.

14. Protect your property by placing restrictive easements on your property. Easements can both protect your property against development and, going further, ensure that the use to which you put portions of your property – woodland, wetland, meadow – are continued.

How: Contact Eastern Shore Land Conservancy about both types of easements.

15. Manage water resources by reducing water demand (transition to native plantings, resist the urge to water lawns, grow crops that require less water), and by increasing water productivity.

Why: Currently, U.S. gardens and lawns use 8 billion gallons a day of water, of which 32% is due to lawn care. Total flow volumes overwhelm treatment plants and result in outflow to the River. (e.g., it takes only 1/8 inch of rainfall to overwhelm NYC's wastewater treatment plants – Riverkeepers).

Why: A home can cut summer water use by as much as 2/3 by landscaping and watering with water conservation as a goal.

16. Use water sources currently not utilized and lessen storm-water runoff going to the Miles River via the St. Michaels wastewater treatment plant (which is within the Miles River watershed) or via drainage ditches, by installing rain barrels (which can capture 36,000 gallons off a 2,000 square foot home), planting a rain garden, and using permeable pavers. Investigate the possibility of installing a gray water system, which will reclaim your used water for irrigation and other non-potable uses.

How: See the rain garden installed at the Talbot Ag Center by the Talbot Master Gardeners and contact the 74 volunteers of Talbot Master Gardeners.

17. Refrain from flushing medicines and other toxic substances like solvents, paints and preservatives that make their way to the Miles River via the wastewater treatment plant, your septic system, or drainage ditches.

Why: Over 300 synthetic chemicals have been found in our bodies. Medicines of all kinds have been found in our waterways.

18. Consider the impact your food choices can make on the land. Buying local and organic (or sustainably grown) foods grown in healthy soils, meats and poultry that are pasture raised and not corn fed, and eating lower on the food chain are as good for Talbot's Rivers and the environment as they are for you.

Why: Vegetables and grains require a vastly smaller percentage of water, land and fuel to produce than meat. For example, it takes 25 gallons of water to produce a pound of wheat but 5,214 for a pound of beef; it takes a gallon of fossil fuel to produce a calorie of protein from soybeans but 54 gallons for a calorie from beef; it takes 12-16 pounds of grain to create one pound of beef; and 70% of U.S. grains and cereals and even 50% of the world's fish catch is fed to livestock (John Robbins, The Food Revolution).

Why: The nutrition in meat and eggs is higher if the animal or layer eats grass instead of grain – e.g., eggs of free-range chickens have

more omega 3 fatty acids, vitamin E and less cholesterol than factory-farmed.

19. If you can, make a contribution to help support a Horn Point River Fellow, or make a contribution to or engage the services of a non-profit mission-driven organization described in this list.
20. Help to get the neighbors in your Watershed involved.

If you or someone you know is interested implementing one of these measures and becoming a River Fellow, contact TRPA Board member Cleo Braver at 410-763-8385 or [cleobraver@aol.com](mailto:cleobraver@aol.com). (April 2009)

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