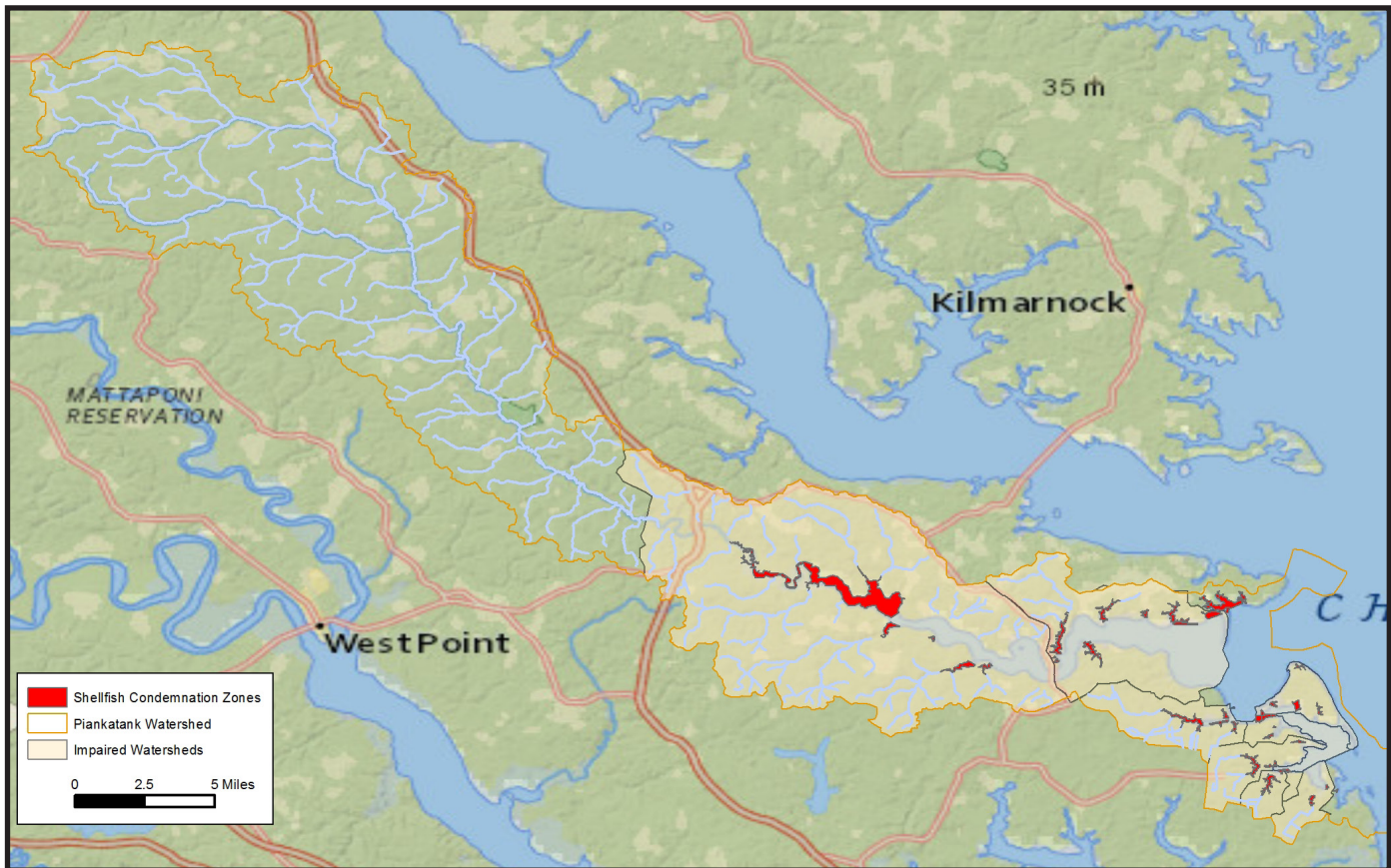


Piankatank River: Shellfish, Bacteria, & You



The Piankatank River flows through Mathews, Middlesex, and Gloucester counties and then empties into the Chesapeake Bay. The entire watershed includes Dragon Swamp and begins at Highway 360. Forests, wetlands, and agriculture make up most of the land use in the watershed, with little development. The creeks are used for crabbing, fishing, boating, and oyster gardening.

According to the Piankatank, Gwynns Island and Milford Haven Implementation Plan, 16 watersheds are impaired for fecal coliform bacteria and do not meet the water quality standards for shellfish harvesting (See map above for locations). Bacteria can come from a variety of sources, such as livestock, wildlife, and pet waste and failing septic systems. These sources enter the streams by running off the land during rain events. When there are too much bacteria in an area where shellfish is being harvested, the shellfish can become unsafe to eat, as they could cause sickness in humans.

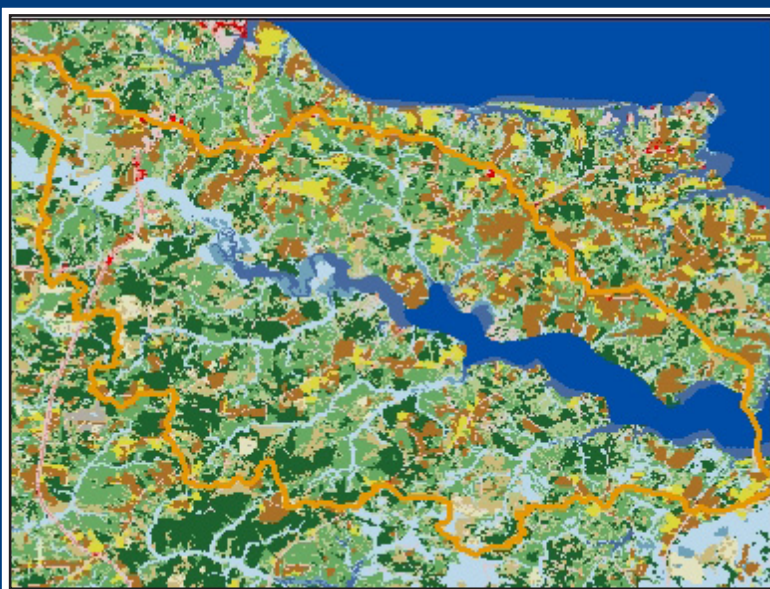


Looking west up the Piankatank River. Photo by Jane Thomas.

Everyone who lives in the Piankatank watershed can do their part to reduce bacteria and restore the aquatic habitat for shellfish. Read on for more information on the condition of these small watersheds and the plan to clean-up our local streams.

Shellfish Contamination & Bacteria

For a watershed to meet water quality standards again, and in this case for shellfish to be safe for consumption, a certain amount of bacteria needs to be removed from the watershed. To determine the amount as well as the best actions to take to reach the goal, the Virginia Department of Water Quality works with stakeholders to develop a Total Maximum Daily Load as well as an Implementation Plan. For the Piankatank, the impaired area was divided into three sections: the Upper Piankatank, the Lower Piankatank, and the Gwynns Island and Millford Haven watersheds.



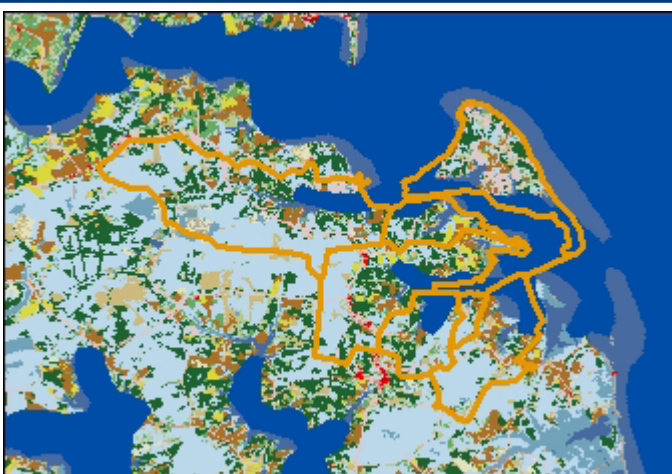
Upper Piankatank

- Mostly forested
- 5 condemned areas
- Primary bacteria sources are human (septic and boat discharges) and livestock.



Lower Piankatank

- 40% forest, 20% agriculture, 3% developed
- 3 condemned areas
- Primary sources of bacteria are septic and pet waste.



Gwynns Island and Millford Haven

- Mostly wetland forested, & agriculture with some residential development
- 8 condemned areas
- Primary source: human (septic or illicit discharges)
- Secondary source: livestock

The maps to the left and the legend below show the 2011 land cover in the three watersheds.

NLCD Land Cover Classification Legend	
11	Open Water
12	Perennial Ice/ Snow
21	Developed, Open Space
22	Developed, Low Intensity
23	Developed, Medium Intensity
24	Developed, High Intensity
31	Barren Land (Rock/Sand/Clay)
41	Deciduous Forest
42	Evergreen Forest
43	Mixed Forest
51	Dwarf Scrub*
52	Shrub/Scrub
71	Grassland/Herbaceous
72	Sedge/Herbaceous*
73	Lichens*
74	Moss*
81	Pasture/Hay
82	Cultivated Crops
90	Woody Wetlands
95	Emergent Herbaceous Wetlands

* Alaska only

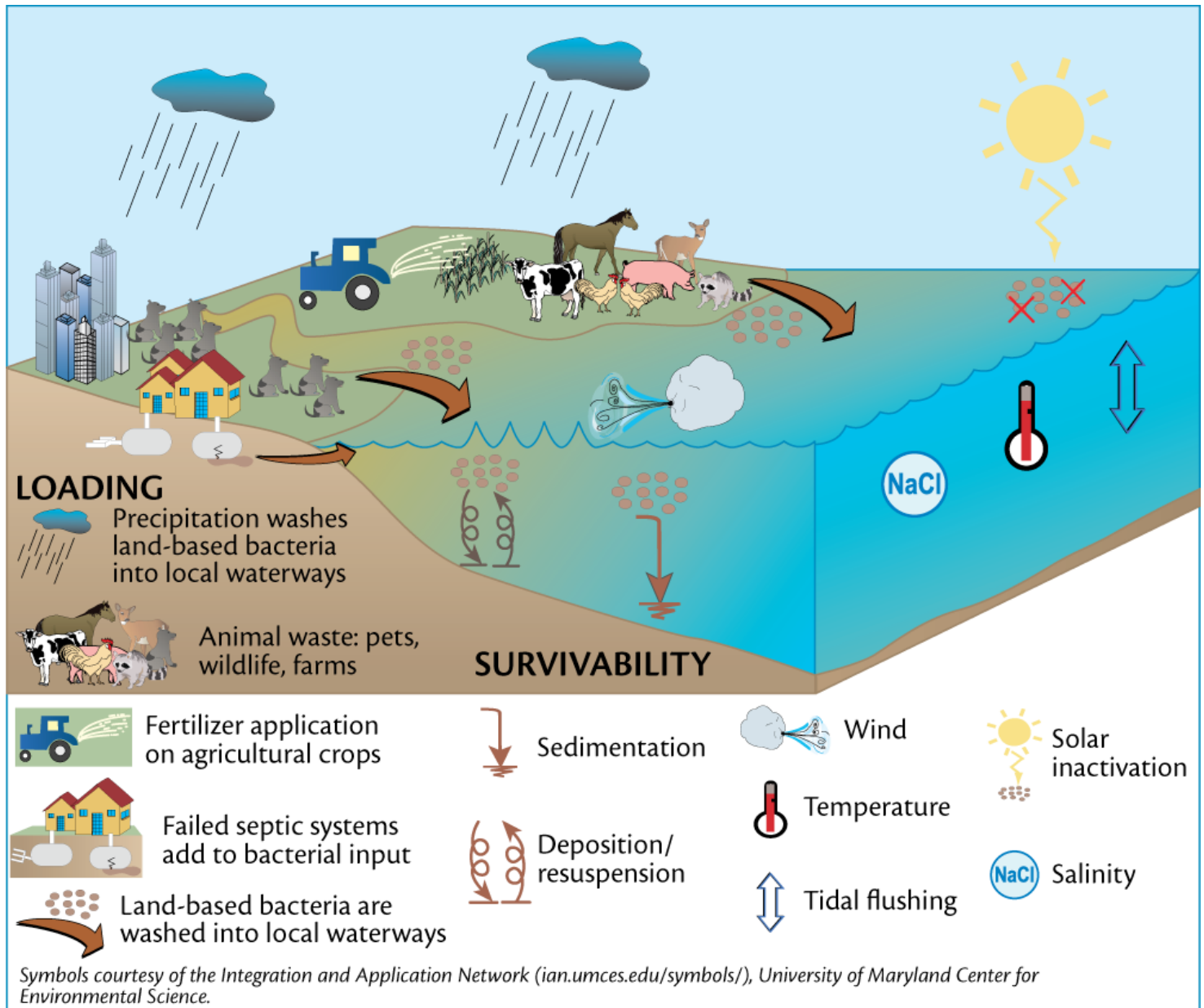
The *Implementation Plan* identifies BMPs to reduce bacteria loadings in each of the watersheds. See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/TMDL/ImplementationPlans/piankatankpublic.pdf>

Illicit Discharge
A discharge to the storm drain system that is not stormwater or permitted, such as illegal dumping.

Bacteria Water Quality Standard
In shellfish waters, bacteria data at a sampling station should not exceed a geometric mean of 14 MPN per 100 mL.

Shellfish Condemnation
The Virginia Department of Health Division of Shellfish Sanitation watches shellfish beds for contaminants after major storms to ensure any shellfish harvested there do not contain harmful substances that will make consumers of these shellfish ill. If there is potential for contamination, the area will be closed and alerts will be issued.

Many Sources Pollute the River with Bacteria



Escherichia Coli is a type of bacteria that occurs only in the intestines and feces of warm blooded mammals. It is used as an indicator species to determine the level of fecal waste contamination which can also carry other bacteria, viruses and protozoans that can cause illnesses in humans. Sources of fecal contamination include: livestock (feeding or slaughter operations), sewage treatment systems (septic), boat waste, solid waste storage facilities, leaky municipal sanitary sewer lines, urban runoff/storm sewers, and waste from pets, waterfowl and other wildlife.

Let's Do Our Part to Clean Up

What can you do to help clean up the Piankatank River? Here are a few options:

- Install a Best Management Practice (BMP) on your residential property. Residential BMPs include rain barrels, tree plantings, rain gardens, and pervious pavers.
- Use an agricultural BMP on your farm. Agricultural BMPs include stream fencing, vegetated buffers, and animal waste control facilities.
- Maintain your septic system. Have it checked and pumped out at least every five years. Correct septic system deficiencies as soon as possible.
- Pick up after your pet. Ask your locality to add pet waste bag stations in popular dog walking areas.
- Use a sanitary pump out facility to get rid of the waste on your boat.
- Properly dispose of bait and fish waste.



Residents, watermen, and farmers can all do their part to clean up the Piankatank. Photos by Caroline Wicks and Jane Thomas.

For more information and any questions about the restoration plan for the Piankatank River, you can contact the Virginia Department of Environmental Quality Piedmont Regional Office at 804-527-5020. Additionally, there are many organizations that have committed to helping with the clean up plan and have resources available:

- Tidewater Soil and Water Conservation District - www.tidewaterswcd.org
- Middle Peninsula Planning District Commission - www.mppdc.com
- Tidewater Oyster Growers Association - www.oystergardener.org
- Chesapeake Bay Foundation - www.cbf.org
- Alliance for the Chesapeake Bay - www.allianceforthebay.org
- York and Small Coastal Basins Roundtable - www.yorkwatershed.org

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