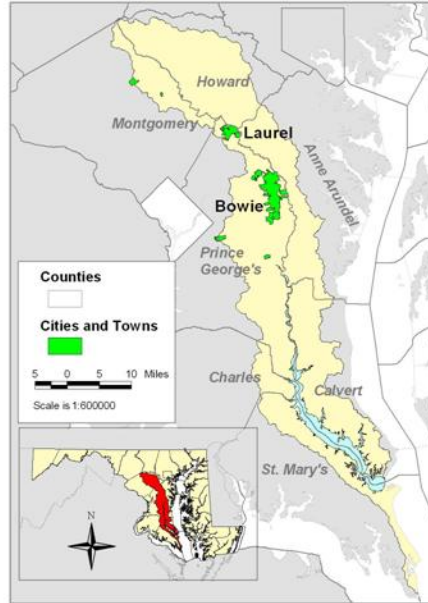


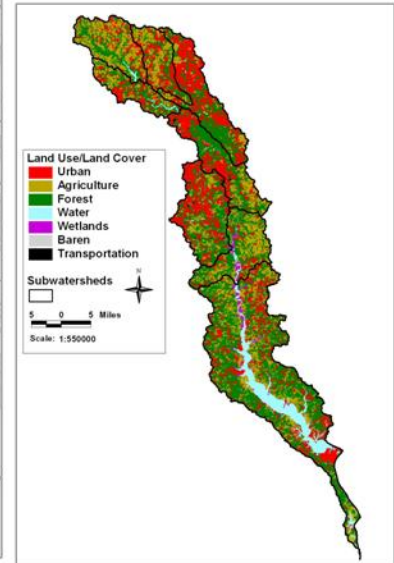
Patuxent River Water Quality and Habitat Assessment

Patuxent River

The Patuxent River is the largest river located entirely within Maryland. The basin drains approximately 900 square miles in portions of St. Mary's, Calvert, Charles, Anne Arundel, Prince George's, Howard, and Montgomery Counties. The Patuxent River Basin lies in both the Piedmont and Coastal Plain physiographic provinces and major towns include Bowie and Laurel. In 2010 there were approximately 714,000 people living in the basin. The dominant land usage in the basin is urban use (40%) and forest (38%), with most of the rest used as agriculture (19%). Between 2000 and 2010, urban land use increased by 11% and impervious surfaces cover 9% of the overall basin.



Land Use/Land Cover

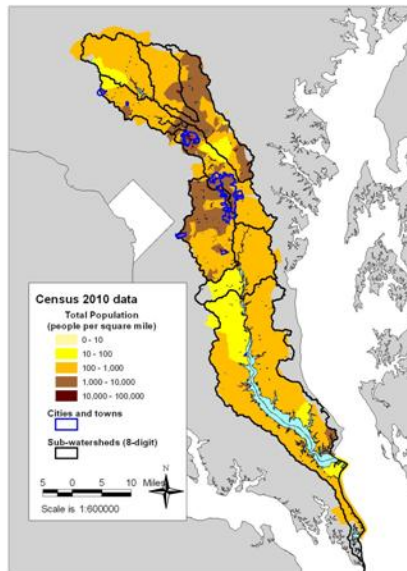


Overall Conditions

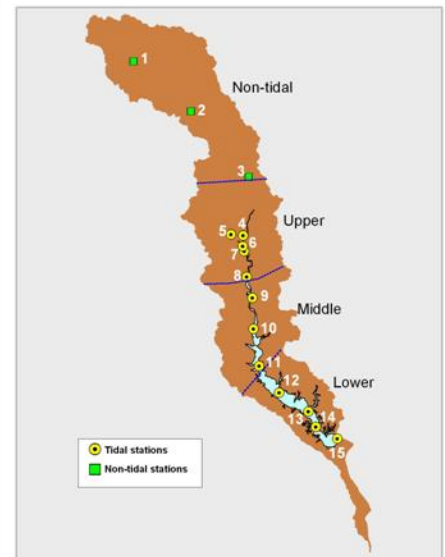
Upper River

- Sediment loadings increased in non-tidal areas, but nitrogen and phosphorus decreased
- Water quality is fair in the tidal portion with high but improving nitrogen, phosphorus, and sediment levels
- Poor water clarity and moderate algal levels have led to impaired underwater grass habitat—grass coverage is 15% of restoration goal
- Summer bottom dissolved oxygen levels are good and bottom dwelling animals are healthy

Population



MD DNR Monitoring Stations



Middle River

- Poor water quality with high but improving phosphorus and sediment levels
- Impaired underwater grass habitat due to moderate algal densities, and poor water clarity—grass coverage is 14% of restoration goal
- Dissolved oxygen levels are poor and bottom dwelling animals unhealthy

Lower River

- Good water quality with low sediment and low but degrading nitrogen and phosphorus levels
- Limited underwater grass coverage (<1% of restoration goal) with degrading algal densities and water clarity
- Summer bottom dissolved oxygen levels are often low and bottom dwelling animals are unhealthy

Improving Water & Habitat Quality: What's been done and what needs to be done?

- Upgrades to the largest wastewater treatment plant that discharges into the Patuxent River will be completed by 2014; previous upgrades to the largest facilities have already reduced nitrogen loadings into the river by half
- 270 septic system upgrades have been completed to reduce nutrient inputs and stormwater retrofits in urban and suburban areas have reduced nitrogen loadings and prevented more than 18,200 pounds of nitrogen from entering streams
- Over 13,500 acres of cover crops were planted between growing seasons to absorb excess nutrients and prevent sediment erosion
- Fencing on over 8,000 acres of farmland was used to keep livestock out of streams and prevent streambank erosion and approximately 2,600 acres of stream buffers are in place to reduce runoff and erosion
- More than 240 containment structures have been built to store animal wastes and allow these nutrients to be applied to the land in the manner most effective to reduce runoff
- Over 10,000 acres have been protected and preserved through various programs such as Program Open Space, the Rural Legacy Program, the Maryland Environmental Trust, and the Maryland Agricultural Land Preservation Program
- Efforts to reduce nutrient and sediment loadings from agricultural areas should be a priority
- In heavily urbanized areas, existing structures should be retrofitted with alternatives to conventional building materials and methods to reduce the amount of impervious surfaces and prevent additional degradation of water quality
- The full assessment is available through the link: <http://bit.ly/PAXwhq10> or by scanning:



Merkle Wildlife Sanctuary, located along the Patuxent River, is a popular recreation area.

What Can You Do?

There are many things you can do to help improve water and habitat quality of the Patuxent River.

- **Plant trees along streamside property.** Tree roots will slow erosion and absorb the flow of nutrient runoff.
- **Pump out septic tanks regularly (every 3-5 years).** A failing system can contaminate groundwater.
- **Conserve water.** Use rainwater for plants, take shorter showers, and turn off the faucet when brushing your teeth.
- **Drain gutter spouts into rain barrels or grassy areas.** This will reduce erosion, which adds sediment to rivers.
- **Carpool, or try biking or walking.** Exhaust fumes contain nitrogen oxides, which can end up in rivers and bay.
- **Dispose of household chemicals properly.** Toxic chemicals poured down the drain could end up in rivers.
- **Use fertilizer sparingly.** If you must fertilize, try doing it in autumn, when it will have less of an impact on rivers.
- **Support land protection initiatives.** Preserving existing green space is much easier than restoring degraded areas.
- **Get involved.** Let county, state, and local officials know that water and habitat quality are important to you.

Water quality data from the Patuxent River are available at:
www.eyesonthebay.net

Please report fish kills, algal blooms, or any other events or problems to the toll-free Chesapeake Bay Safety and Environmental Hotline at **1-877-224-7229**

Martin O'Malley, Governor

Joseph P. Gill, DNR Secretary



Maryland Department of Natural Resources; Taves State Office Building; 580 Taylor Avenue; Annapolis, Maryland 21401
 Toll free : 1-(877)-620-8DNR(8638) in Maryland Out of state call: 410-260-8638 TTY users call via the Maryland Relay
www.dnr.maryland.gov



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