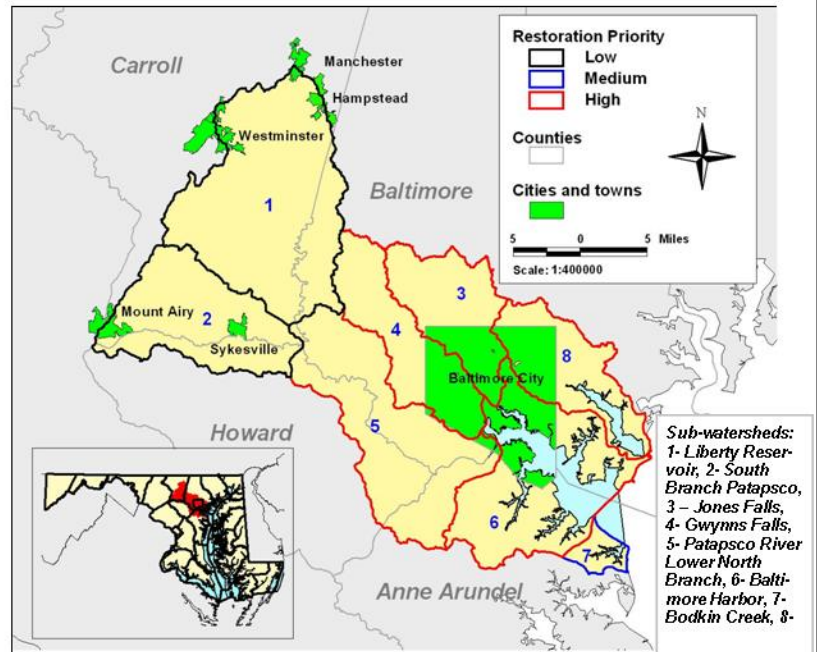


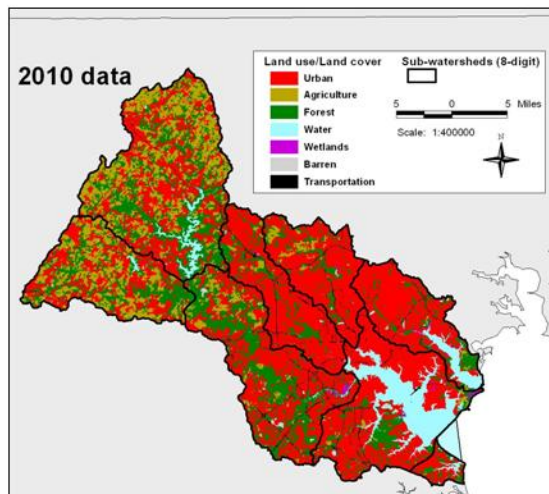
Patapsco & Back Rivers Water Quality and Habitat Assessment

Patapsco and Back Rivers Basin

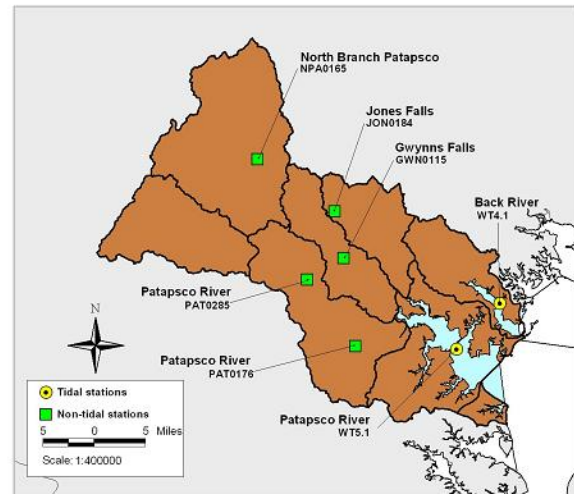
The Patapsco and Back River basin drains approximately 600 square miles in Baltimore City and portions of Anne Arundel, Baltimore, Carroll, and Howard Counties. The majority of the basin lies in the Piedmont physiographic province, but the immediate area surrounding Baltimore Harbor lies in the Coastal Plain province. In 2010 there were approximately 1.5 million people living in the basin. The predominant land use in the basin is urban (59%), followed by forested areas (24%) and agricultural use (15%). Between 2000 and 2010, urban land use increased by 8%, while agricultural lands decreased by 6% and forests decreased by 3%. Impervious surfaces cover approximately 16% of the overall basin.



Land Use/Land Cover



MD DNR Monitoring Stations



Overall Conditions

Patapsco River

- Poor but improving water quality; phosphorus and sediment loadings to North Branch have decreased
- Nitrogen, phosphorus, and sediment levels have decreased in non-tidal streams; phosphorus and sediment levels in river have improved and nitrogen levels have decreased but still too high
- Impaired underwater grass habitat due to high algal density and poor water clarity—no grass in the Patapsco in 2012
- Severe algal blooms are common in summer, bottom dissolved oxygen levels are poor, and bottom dwelling animals are not healthy

Back River

- Poor but improving water quality
- Phosphorus levels have improved and nitrogen levels have decreased but still too high and sediment levels too high
- Impaired underwater grass habitat due to high algal density and poor water clarity—less than 1-acre of grass coverage in the entire river
- Summer dissolved oxygen levels are good, but bottom dwelling animals are not healthy due to excessive algal densities

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

- Upgrades to the Patapsco River wastewater treatment plant will be completed by 2014; upgrades to the other major wastewater treatment plants that discharge into the Patapsco River have already been completed (Mount Airy) or will be completed in 2015 (Cox Creek & Freedom District)
- Upgrades to the Back River wastewater treatment plant will be completed by 2016; previous upgrades cut nitrogen loads in half
- 90 septic system retrofits were completed between 2008 and 2010, and stormwater retrofits have reduced nitrogen loadings and prevented more than 69,000 pounds of nitrogen from entering the rivers since 2003
- In 2010, 4,600 acres of cover crops were planted between growing seasons to absorb excess nutrients and prevent sediment erosion
- Fencing on over 6,500 acres of farmland was used to keep livestock out of streams and prevent streambank erosion and almost 2,500 acres of stream buffers are in place to reduce runoff and erosion
- Approximately 3,500 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
- Reducing sediment loadings from urban areas can be accomplished by retrofitting existing structures with alternatives to conventional building materials and methods that reduce the amount of impervious surfaces
- The full assessment is available through the link: <http://tinyurl.com/qhm8xbc> or by scanning:



Baltimore Harbor is located within the tidal portion of the Patapsco River

What Can You Do?

There are many things you can do to help improve water and habitat quality of the Patapsco and Back Rivers.

- **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 is important to you.

Water quality data from the Patapsco & Back Rivers 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



THE FACILITIES AND SERVICES OF THE DEPARTMENT OF NATURAL RESOURCES ARE AVAILABLE TO ALL WITHOUT REGARD TO RACE, COLOR, RELIGION, SEX, AGE, NATIONAL ORIGIN, OR PHYSICAL OR MENTAL DISABILITY.

This document prepared by members of the DNR Tidewater Ecosystem Assessment Division
 POC: Brian Smith
 Program Manager, Monitoring Integration
 410-260-8630; brsmith@dnr.state.md.us