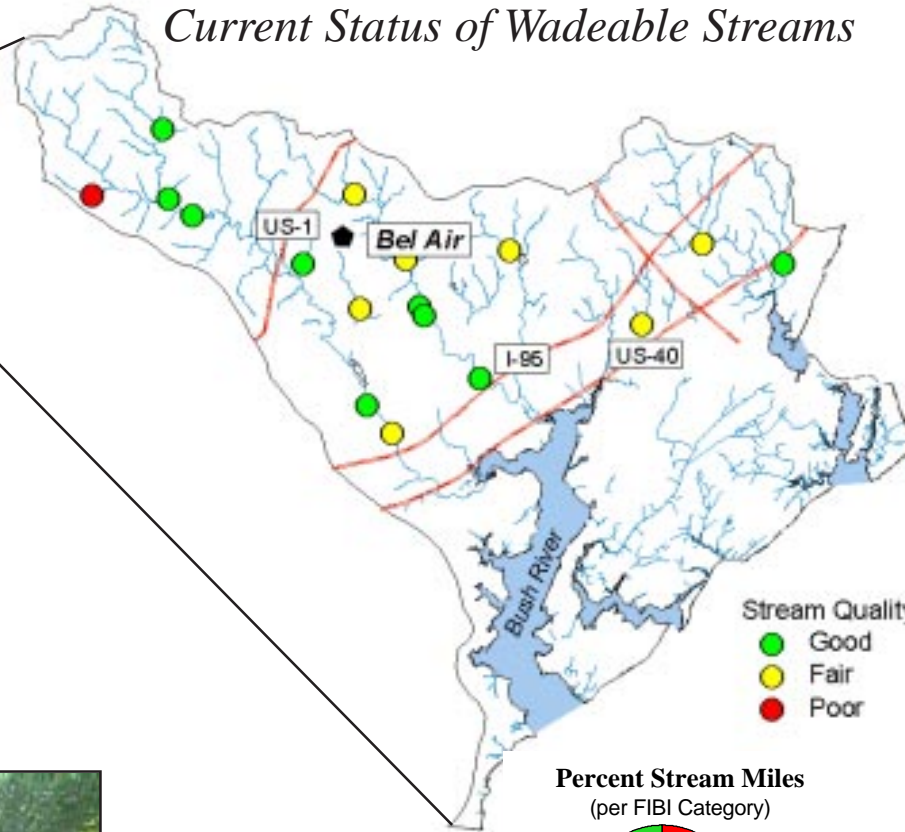
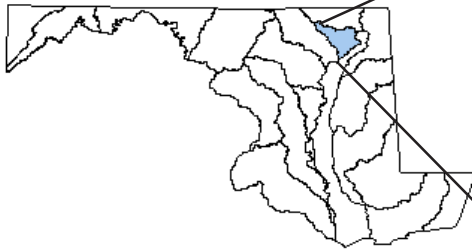


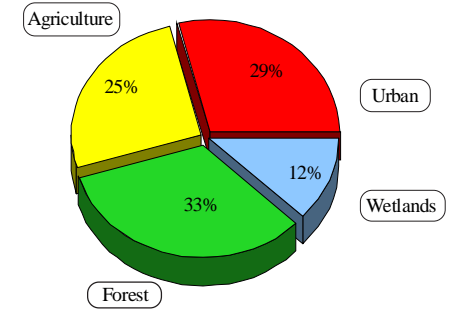


Bush River Basin

Current Status of Wadeable Streams



Land Use in the Basin



Land use in the 213 square miles of the Bush River basin is a fairly even distribution of forest, urban, and agriculture. The population of the basin is 437 people per square mile and is expected to increase by 25% over the next 20 years.



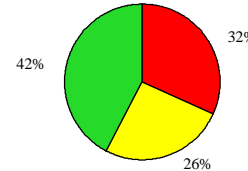
Where is the Bush River Basin?

The Bush River basin lies entirely in Harford County, Maryland. About half of the basin lies within the Piedmont Plateau, characterized by rolling hills. The remaining half lies in the Coastal Plain, an area of mostly sandy soils and fairly flat landforms. Winters Run, Bynum Run, Church Creek, and Swan Creek are all part of the network of streams that make up the basin.



The Bush River basin provides beautiful scenic areas such as Winters Run, which flows through Harford Glen Outdoor Education Center.

Percent Stream Miles (per FIBI Category)



The Fish Index of Biotic Integrity or FIBI is a measure of stream quality based on fish communities.

What Lives in Our Streams?*

Estimated Fish Abundance:	1.6 million
Number of Fish Species:	38
Number of Gamefish Species:	3
Number of Reptile and Amphibian Species:	10
Number of Freshwater Mussel Species:	2

*Based on the Maryland Biological Stream Survey collections in wadeable streams basin-wide during 1996.

Water Quality



Oxygen - All of the stream miles in the basin had oxygen levels that met the state water quality standard of 5 mg/L.



Nitrate - 62% of the streams had nitrate levels (>1 mg/L) that may affect aquatic life. The main sources of nitrates in small streams are fertilizers and acid rain.



Buffering Capacity - 88% of the streams in the basin are well buffered against acid rain.



Good



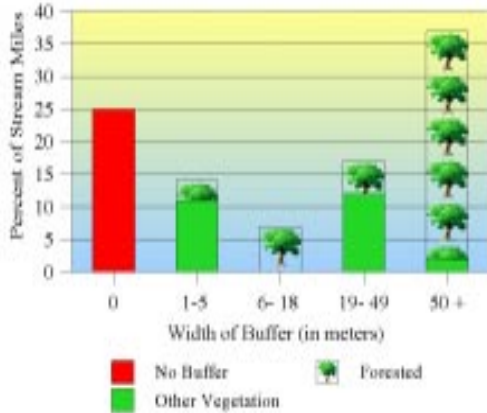
Fair



Poor

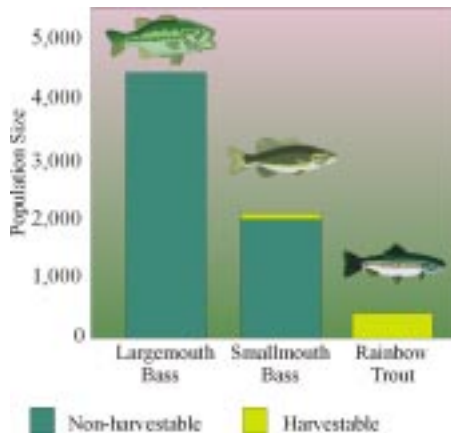
Riparian Zone

Trees, shrubs, and grasses that border a stream are called the stream's *riparian buffer*. This buffer zone can protect a stream against runoff, provides shade, stabilizes stream banks, and supplies food and shelter for aquatic life. A wide and intact buffer offers more protection than a narrow one. Riparian buffers in the Bush River basin are in fair to poor condition. We can help maintain these buffers by protecting streamside forests and planting trees in disturbed areas.



Gamefish

Three species of gamefish were found in the basin. None of the largemouth bass and less than 4% of the smallmouth bass were of legally harvestable size. All rainbow trout were of harvestable size. Wadeable tributary streams in the Bush River basin appear to serve as a nursery for some gamefish.



Did You Know???



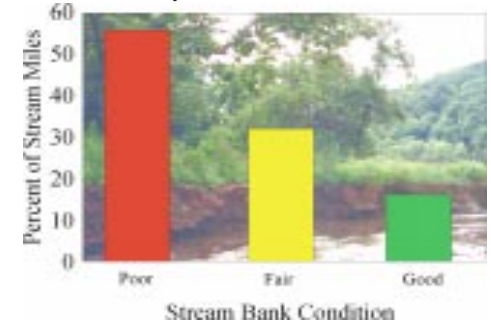
- ◆ The population of wintering bald eagles in the basin may be the largest concentration in the United States, with as many as 90 birds observed.
- ◆ The federally endangered Maryland darter was once found in Gasheys Run and Swan Creek in the basin. It has not been collected since 1988, and may be extinct.
- ◆ We may be losing an irreplaceable part of our natural heritage. At present there is at least one fish species, the comely shiner, in the basin at risk of local elimination.



The comely shiner, rare in Maryland, is found in the Bush River basin.

Stream Bank Stability

Eroded, unstable banks reduce habitat quality in streams and contribute to water quality problems in downstream areas. On average, the stability of stream banks in the basin is relatively poor. As lands within the basin were developed for agriculture and later urbanized, some stream banks became highly eroded. Since streams in the basin flow into the Chesapeake Bay, this bank instability causes an increase in downstream transport of nutrients and suspended sediments that enter the Bay.



Recreation

The main source of recreational activities in the basin centers around three marinas and three public boat ramps. These provide opportunities for boating and fishing in the Bush River estuary and access to the mainstem Chesapeake Bay. A 13 mile stretch of Winters Run also becomes popular for canoeing within 24 hours after a hard rain.



Four young men enjoy a summer afternoon boating in Mariner Point Park, located in the Bush River basin.

Community Involvement

Want to help? These community groups can show you how!

Alliance for the Chesapeake Bay
6600 York Road, Suite 100
Baltimore, MD 21212
Kathleen Millan (410) 377-6270

Trout Unlimited
2916 Trellis Lane
Abingdon, MD 21009
Scott McGill (410) 515-2737



For more detailed information on streams in the Bush River basin and elsewhere in Maryland, contact Ann Smith of DNR/MANTA at (410) 260-8611, email asmith@dnr.state.md.us, or check out the DNR web site at www.dnr.state.md.us/Bays/waterqual/mbss/mbss.html.