Maryland Biological Stream Survey (MBSS)
Savage River State Forest

The Savage State Forest is located within six (6) of Maryland's 8-digit watersheds. Those watersheds are Savage River, Upper North Branch of the Potomac and George's Creek in the Chesapeake Bay Drainage and Casselman River, Youghiogheny River and Deep Creek Lake in the Ohio River Basin. The majority of Savage State Forest is located within the Savage River watershed (57.8%) with smaller amounts in George's Creek (12.7%), Casselman River (17.9%) and Youghiogheny River (10.7%) watersheds. Very small amounts of the State Forest are located in Deep Creek Lake (0.4%) and Upper North Branch of the Potomac (0.6%) watersheds.

The total miles of streams by Strahler stream order in each watershed, grouped by major drainage, is presented in Table X.

Table X: Strahler Stream Order by Watershed

	Stream Order				
Watershed	1st	2nd	3rd	4th	5th
Georges Creek	55.9	15.1	12.9	0	0
Potomac River Upper North Branch	90.7	22.1	7.5	33.1	0
Savage River	96.3	21.8	16.8	5.0	0
Cheasapeake Bay Total	**242.9**	**59.0**	**37.2**	**38.1**	**0**
Casselman	61.0	22.2	13.1	0	0
Deep Creek Lake	24.4	2.9	1.7	0	0
Youghiogheny River	166.8	52.5	30.0	7.1	19.8
Ohio River Total	**252.2**	**77.6**	**44.8**	**7.1**	**19.8**
Grand Total	495.1	136.6	82.0	45.2	19.8

Stream Condition

The Maryland Biological Stream Survey (MBSS) has randomly sampled streams across the state of Maryland to assess stream ecological condition. Stream condition is measured using information collected from the fish and the benthic macroinvertebrate communities. This information is analyzed and reported in one of four categories; good, fair, poor or very poor. The results for the six Savage State Forest watersheds are presented in Table X for fish and Table X for benthic macroinvertebrates compared with statewide watershed condition.

TableX: Estimated Number of Stream Miles By Category; Fish Index of Biotic Integrity Compared to Statewide Condition

Watershed	Good	Fair	Poor	Very Poor	Not Rated
Savage River	57.1	28.6	7.1	0	7.1
Georges Creek	20.0	20.0	60.0	0	0

Potomac River					
Upper North Branch	10.0	20.0	40.0	30.0	0
Casselman River	10.0	30.0	50.0	10.0	0
Youghiogheny River	18.8	31.3	50.0	0	0
Little Youghiogheny/Deep Creek Lake	0	10.0	70.0	20.0	0
STATEWIDE	**26.0**	**25.0**	**21.0**	**19.0**	**9.0**

Table X: Estimated Number of Stream Miles By Category; Benthic Index of Biotic Integrity Compared to Statewide Condition

Watershed	Good	Fair	Poor	Very Poor	Not Rated
Savage River	85.71	7.14	7.14	0	0
Georges Creek	40	20	30	10	0
Potomac River					
Upper North Branch	20	40	30	10	0
Casselman River	30	20	30	20	0
Youghiogheny River	37.5	25	25	12.5	0
Little Youghiogheny/Deep Creek Lake	10	60	20	10	0
STATEWIDE	**26**	**28**	**30**	**16**	**0**

Aquatic Biodiversity

The Savage State Forest is located within portions of 14 of the 159 Stronghold Watersheds. Stronghold Watersheds are the 12-digit watersheds that are the most important to protect in order to preserve Maryland's aquatic biodiversity. More information on Stronghold Watersheds can be found on the MBSS website (http://www.dnr.state.md.us/streams/pdfs/StrongholdFactSheet.pdf). The stronghold watersheds in the Savage State Forest are important for the conservation of several state rare, threatened, or endangered species. These species include Johnny darter, striped shiner, mottled sculpin, stonecat, brook trout and hellbender. The Savage River watershed also contains the most intact and connected population of brook trout in Maryland. The Casselman River watershed is the only known watershed, in Maryland, with recent records for the stonecat and hellbender.

The MBSS has collected information on non-native aquatic species. Eleven non-native fishes have been found on or in close proximity to the Savage State Forest. The eleven non-native species are fathead minnow, golden shiner, brown trout, rainbow trout, largemouth bass, smallmouth bass, black crappie, rock bass, green sunfish, pumpkinseed and bluegill.

The MBSS has a long-term monitoring network called the Sentinel Site Network. This is a network of twenty-seven sites used to monitor the natural variability of streams and to investigate the possible effects to streams due to global climate change. These sites are the highest-quality sites identified by the MBSS with the least amount of anthropogenic

influence in the upstream catchment. Eight of the twenty-seven Sentinel Sites are located on or adjacent to the Savage State Forest.