Savage River Reservoir and Savage River Tailwater Fish Restoration Plan
Prepared by MD DNR Inland Fisheries Service
July 10, 2009

The Maryland DNR Inland Fisheries Service conducted a comprehensive fish population survey in the Savage River Reservoir on 10 June and 12 June 2009. Daytime electrofishing was employed at eight stations for 600 seconds of electrofishing effort at each station. Stations were selected to include all habitat types: flooded woody vegetation, steep rocky littoral zones, shallow mud bottom littoral zones, mouths of tributary streams, and submerged fish habitat structures. Additional shoreline seining will be conducted during July 2009 to document juvenile fish densities and additional fish species.

Sixteen fish species representing six families were collected in the survey. The following table lists the species and the general occurrence. Fish were reported as abundant (>100 individuals), common (5-100 individuals), or scarce (< 5 individuals). We will determine proportional stock density (PSD), relative stock density (RSD), relative weight (Wr) and length frequencies for the important gamefish and panfish species in order to use as the standard for the full recovery of the fishery.

Table 1. List of common and scientific names and general occurrence of fish collected in the Savage River Reservoir, June 10 and 12, 2009.

Common Name	**Scientific Name**	**General Occurrence**
Swallowtail shiner	*Notropis procne*	Abundant
Bluntnose minnow	*Pimephales notatus*	Scarce
White sucker	*Catostomus commersoni*	Common
Yellow bullhead	*Ameiurus natalis*	Common
Rainbow trout	*Oncorhynchus mykiss*	Common
Brook trout	*Salvelinus fontinalis*	Scarce
Rock bass	*Ambloplites rupestris*	Abundant
Redbreast sunfish	*Lepomis auritus*	Scarce
Green sunfish	*Lepomis cyanellus*	Scarce
Pumpkinseed	*Lepomis gibbosus*	Common
Bluegill	*Lepomis macrochirus*	Abundant
Smallmouth bass	*Micropterus dolomieu*	Common
Largemouth bass	*Micropterus salmoides*	Abundant
Black crappie	*Pomoxis nigromaculatus*	Common
Yellow perch	*Perca flavescens*	Common
Walleye	*Sander vitreus*	Scarce
Total species = 16		

Salvage and recovery of the reservoir fish population is not deemed feasible due to several reasons. Lack of a holding area for the fish during the drawdown period is the major reason. It is not a good practice to transfer adult fish from one waterbody to

another waterbody that already contains an established fish community. Additional fish introductions may upset the population balance and concerns over fish health are factors directing this decision. . The reservoir's fish populations are expected to cease to exist once the reservoir is completely drained. A description of an emergency draining of the Savage River Reservoir during January 1963 indicated that there were few if any pools remaining that could support fish life. We are positioned to assume the same result when the reservoir is drained for repairs. Reservoir warmwater and coolwater fish species that are flushed into the Savage River Tailwater are not expected to survive and establish viable populations due to physical habitat and water temperature constraints and requirements. All reservoir fish species have had access to the tailwater area since the construction of the reservoir, yet only the occasional reservoir fish species (mostly largemouth bass, bluegill, and rock bass) have been collected or observed in very low numbers during the annual trout population surveys that have spanned a period of some twenty-seven years.

In the meantime, anglers are encouraged to harvest their legally permitted catch while in compliance with the Maryland Sportfishing Guide Regulations. However, we are informing the anglers via our website (www.dnr.Maryland.gov) found in the Freshwater Fishing Report – that anglers do need to limit their consumption of fish from the Savage River Reservoir. The Maryland Department of the Environment has listed fish captured in the Savage River Reservoir under a consumption advisory due to the presence of methyl-mercury. For smallmouth and largemouth bass, the general population is advised to eat a maximum of twelve 8 ounce meals per year; women – ten 6 ounce meals per year; and children should avoid eating these fish. For walleye, the general population is advised to consume a maximum of fifteen 8 ounce meals per; women – twelve 6 ounce meals per year; and children are advised seven 3 ounce meals per year. Sunfish are also under a consumption advisory, with a recommendation of 96 meals per year for all population groups.

For a complete list of fish consumption advisories, please see:

http://www.mde.state.md.us/CitizensInfoCenter/Health/fish_advisories/index.asp

Reservoir fish community re-stocking efforts

Forage fish and non-gamefish

Swallowtail shiners are the most abundant forage fish species in the Savage River Reservoir. These fish are found in the mainstem Savage River upstream of the reservoir, and are expected to re-colonize the reservoir soon after it reaches full pool. White suckers also inhabit the mainstem river and they too are expected to re-colonize the reservoir without the need of re-introduction.

Panfish

Green sunfish and redbreast sunfish were found in low abundance during the recent survey, and do not contribute much to the fishery. These two species will not be re-introduced, however it is likely that they are found in the upper mainstem river and are expected to re-colonize the reservoir at low abundance levels. Rock bass are abundant in the reservoir and are also common to abundant in the mainstem river and the lower parts of the reservoir's coldwater tributaries. Rock bass are expected to re-colonize the reservoir without the need of re-stocking efforts. Pumpkinseeds and yellow bullheads were common; however these species are also found in the mainstem Savage River and most likely will re-colonize the reservoir.

Bluegills are the most sought after panfish species in the Savage River Reservoir. MD DNR Inland Fisheries service will initiate stocking bluegill fingerlings during spring 2010. Black crappies are also a highly sought after panfish species, and will also be re-introduced by fingerling stockings. It is recommended that 800 bluegill fingerlings and 200 black crappie fingerlings be stocked per surface area depending on availability. Stocking will be conducted annually until natural reproduction is documented.

Yellow perch are also a highly sought after panfish species in the reservoir and have likely provided an important forage base for walleye. Recent surveys in the Savage River upstream of the reservoir showed that juvenile yellow perch are common as far upstream as the confluence of Poplar Lick. These juvenile yellow perch may serve as the recruitment stock once the reservoir refills. If these yellow perch fail to re-establish a reservoir population, an introduction of Deep Creek Lake adult yellow perch into the Savage River Reservoir will be considered. DNR will continue discussions on this subject to determine the need to initialize stocking efforts in the spring following pool restoration in the reservoir to ensure an effective and timely yellow perch recolonization in Savage River Reservoir. Deep Creek Lake yellow perch have recently been tested for infectious fish diseases by the US Fish and Wildlife Service, and were negative for all bacterial and viral pathogens. About 100 pre-spawn adult yellow perch will be stocked on an annual basis until natural reproduction is documented.

Gamefish

Largemouth bass were the most abundant gamefish, and re-stocking efforts of 100 largemouth bass fingerlings per surface acre is recommended annually for three years or until natural reproduction is documented. Smallmouth bass stocking rates of 100 fingerlings per surface acre are recommended. As an alternative to fingerling stockings, the use of Deep Creek Lake adult largemouth and smallmouth bass will be considered since recent fish health testing for VHS, LMBV were negative for the diseases. Walleye will be re-stocked at a rate of two million fry or 50,000 fingerlings annually once a yellow perch population has been re-established.

The stocking of adult rainbow trout will be conducted at the 2009 level (3,850 adult trout) as early as spring 2010.

Savage River Tailwater

The Savage River Trophy Trout Fishing Area is one of Maryland's top fishing destinations for trophy wild brook and brown trout. Our 2008 surveys showed that adult trout densities are near record levels with an average of 1,376 per mile throughout river. The highest numbers were found in the Fly-Only Area with 1,716 adult trout per mile. Brown trout dominate the population, while brook trout still maintain about 25% of the total numbers, with a few rainbow trout in the river to add to the fishing experience.

We will be re-locating an undetermined number of brook trout and associated coldwater fish species (Table 2) from the tailwater river to the stilling basin of the dam's spillway. This waterbody is cut-off from the river during non-spilling flows and maintains water quality sufficient to support trout (personal observation). These brook trout will be out of the potential sediment-laden flushing flows during the drawdown period, enabling them a better chance of survival. We will not be moving brown trout into the stilling basin as this species is more tolerant of higher turbidity levels than brook trout.

Table 2. A list of common and scientific names and general occurrence of fish species collected in the Savage River Tailwater, 2008.

Common Name	Scientific Name	General Occurrence
Blacknose dace	*Rhinichthys atratulus*	Common
Longnose dace	*Rhinichthys cataractae*	Common
White sucker	*Catostomus commersoni*	Common
Rainbow trout	*Oncorhynchus mykiss*	Scarce
Brown trout	*Salmo trutta*	Abundant
Brook trout	*Salvelinus fontinalis*	Abundant
Potomac sculpin	*Cottus girardi*	Common
Blue Ridge sculpin	*Cottus caeruleomentum*	Abundant

Post-drawdown monitoring

Maryland DNR Inland Fisheries Service will conduct annual fish population assessments in the reservoir using both the electro-fishing survey and the shoreline seining survey annually until we determine that the fishery has made a full recovery. Annual trout population surveys will be conducted at three established stations in the Savage River Tailwater to determine the recovery status of the wild brook and brown trout populations.