Will the Weirs Harm Fish and Wildlife?

No. On the contrary, over 150 fish were discovered dead along the southwest shoreline on September 26, 2008 indicating current lake conditions are at times deadly to aquatic life. Moreso, frequent draining of the lake prevents fish spawning and year-round residents. When water is present; brackish water species like mullet, white perch, spot, gizzard shad, menhaden, croaker, striped bass, and others inhabit the lake. The proposed weirs would stabilize water levels and make possible the year round support of freshwater fish species like largemouth bass and sunfish while the current salt-tolerant species would continue to reside unharmed in Asheville Bridge Canal and Back Bay. Existing fish populations would retain the ability to move in and out of the lake when the weirs are overtopped during normal periods of flooding. Furthermore, stable water levels would favor the establishment of emergent plants that attract wading birds and waterfowl, and provide cover for fish.

Over 150 Gizzard Shad, as well as American eel and White Perch, were discovered dead along the shores of Lake Tecumseh on September 26, 2008 the day after a high wind and drainage event. It is suspected excess suspended sediment or a sudden drop in dissolved oxygen lead to their death.

Water sampling indicated an estimated 134 tons of suspended sediment (left side of photo) flowed south from Lake Tecumseh into Asheville Bridge Canal during this event in November 2008. Analysis of these sediments found 70% are less than five thousandths of an inch in size and can remain suspended in the water column for weeks.

How You Can Help

The project will not progress without the expressed approval of the public. Contact the Hampton Roads Sanitation District (owner of the lake), Army Corps of Engineers, and the City of Virginia Beach Mayor's Office. Let them know if you support the weirs or other means to reduce fine sediment and turbidity contribution from Lake Tecumseh that negatively affect submerged aquatic vegetation, fish, and waterfowl.

For More Information Contact:

U.S. Fish and Wildlife Service

Partners For Fish And Wildlife Program

6669 Short Lane
Gloucester, Virginia 23061
Phone (804) 693-6694 ext. 124
Fax (804) 693-9032
http://www.fws.gov/northeast/virginiafield/partners/tecumseh.html

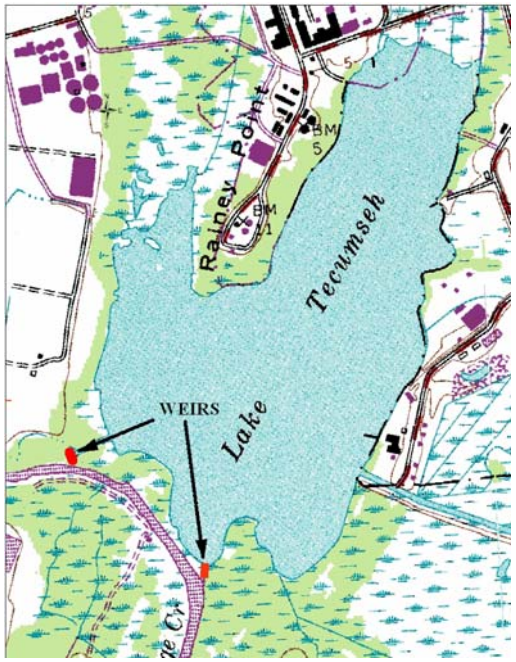
REDUCING TURBIDITY IN BACK BAY ESTUARY

FOCUS ON LAKE TECUMSEH

A Water Quality Issue Affecting Your Community

Why Lake Tecumseh?

Recent studies identified Lake Tecumseh as a leading source of suspended sediment to Back Bay, a nationally significant estuary. Wind-associated wave action within the shallow lake suspends unstabilized bottom sediments and erodes shorelines. These fine sediments then drain from the lake into Back Bay estuary. Suspended sediments negatively affect submerged aquatic vegetation, foul fish gills, and degrade waterfowl habitat. The U.S. Fish and Wildlife Service has proposed the installation of low weirs at the lake's outlets to Asheville Bridge Canal to reduce the release of suspended sediment from the lake. A secondary benefit for local residents would be improved boating opportunities in the lake.



Two low weirs would be placed in canals connecting Lake Tecumseh to Asheville Bridge Canal to reduce the release of turbid water from the lake when winds and runoff increase.

How Will The Weirs Affect Recreational Boating?

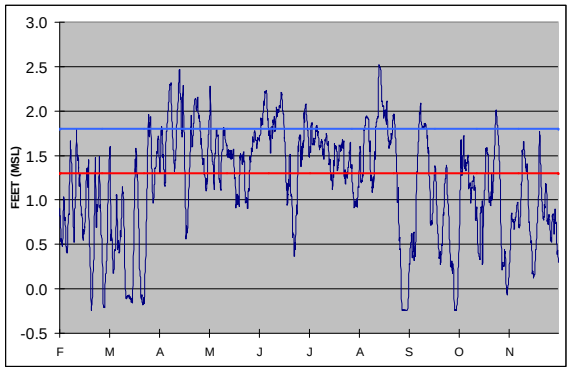
Boat access between Lake Tecumseh and Asheville Bridge Canal will be maintained by a boat portage, or roll over, mechanism similar to the one pictured above. Boating opportunities within Lake Tecumseh will improve as well. Water level monitoring indicates permissible boating depths are present only half the year. The weirs will prevent the lake from draining completely and increase the ability to navigate by boat by 50% by holding a minimum of 8 inches of water at the entrance to Widgeon Lane Canal and 1.3 feet of water over the "flats" along the lake's perimeter. Otherwise, the weirs will be very low and many times be submerged during normal high tides. Boat travel within Asheville Bridge Canal will remain unaffected by the weirs.

Will The Weirs Improve Water Quality?

Recent data indicates yes, and to a significant degree. Measurements from 2008 indicate the weirs would have prevented 80% of all discharge events. The weirs will also reduce flow velocities inside the lake, help to settle sediment suspended by wind and waves, and reduce shoreline erosion. Discharge of suspended sediment into Asheville Bridge Canal and North Bay during wind and runoff related discharges will decrease dramatically.

Will the Weirs Cause Flooding?

No. Weirs are small overflow-type structures commonly used to raise the level of a river or stream and have traditionally been used to create mill ponds. The proposed weirs would be submerged during normal flooding and would not reduce flood absorption or flood flows into or out of the lake. Flood risk studies by the U.S. Geological Survey (2005) and the City of Virginia Beach (2008) concluded no increase in flooding would result in neighboring communities including Sandbridge, Ocean Lakes, Red Mill, and Lago Mar due to the large flood storage capacity provided by the 261 acre lake and the surrounding 600 acres of wetlands.



The above hydrograph of Lake Tecumseh recorded in 2008 demonstrates the dynamic fluctuations in water levels that occur due to wind and each drop in water level coincided with a high wind event. Boat navigation is possible at levels above the red line when depths are 1.3 feet or greater. The weirs would prevent levels from dropping below the red line by stabilizing water depths at elevation 1.8 feet (blue line) thereby increasing desirable boating depths by 50%.