



# Conserving The Nature of America

## Sediment Quality Evaluation Provides Data for Dam Removal Impact Assessment and Planning

With the removal of Milburnie Dam on the Neuse River under consideration and study, the U.S. Fish and Wildlife Service coordinated an investigation of sediment pollution levels and their significance as technical assistance to interested stakeholders. The work was done in cooperation with the U.S. Geological Survey's Columbia Environmental Research Center.

Ten sediment samples were collected in August 2011. Our final report\* demonstrates that concentrations of heavy metals and hydrocarbons in surface sediments upstream of the dam are below levels of concern (less than consensus-based published toxicological benchmark values). We also documented that the highest sediment hydrocarbon concentrations were found downstream of the dam. We conclude that the proposed dam removal is unlikely to increase long-term pollutant exposure downstream.



*Milburnie Dam, U.S. Fish and Wildlife Service photo*

\* **Augspurger, T. 2012. Milburnie Dam Tier 2 Sediment Sampling and Evaluation Report. U.S. Fish and Wildlife Service, Ecological Services, Raleigh, NC.**

The following are some other highlights of the analyses and results:

- Concentrations of metals in pore water (the water between sediment particles) did not exceed water quality standards.
- Concentrations of metals in sediment elutriates (the water taken following a mixture of 1-part sediment to 4-parts water, intended to mimic the water-soluble fraction of sediment contamination) exceeded water quality standards for copper and lead. When elutriates were filtered, copper and lead concentrations met the standards. The elutriates were not toxic to the water flea, *Ceriodaphnia dubia*, a sensitive lab test organism.
- While surface samples are only definitively characterizing the top few inches in the sampled areas, the sites were chosen in areas of fine-grained sediment deposition. These areas favor pollutant accumulation, supporting an inference that the samples represent worst case conditions for contaminant accumulation within the impoundment.

The report is available from the U.S. Fish and Wildlife Service at <http://www.fws.gov/nc-es/ecotox/reports.html>. For more information, contact Tom Augspurger, U.S. Fish and Wildlife Service, Raleigh, NC (919/856-4520 x.21 or [tom\\_augspurger@fws.gov](mailto:tom_augspurger@fws.gov))

*Pollution is one of the public's greatest environmental concerns. The USFWS has been involved with studying contaminant effects on fish and wildlife since its earliest days, and today our Environmental Contaminants Program includes contaminants specialists at more than 75 locations around the country.*