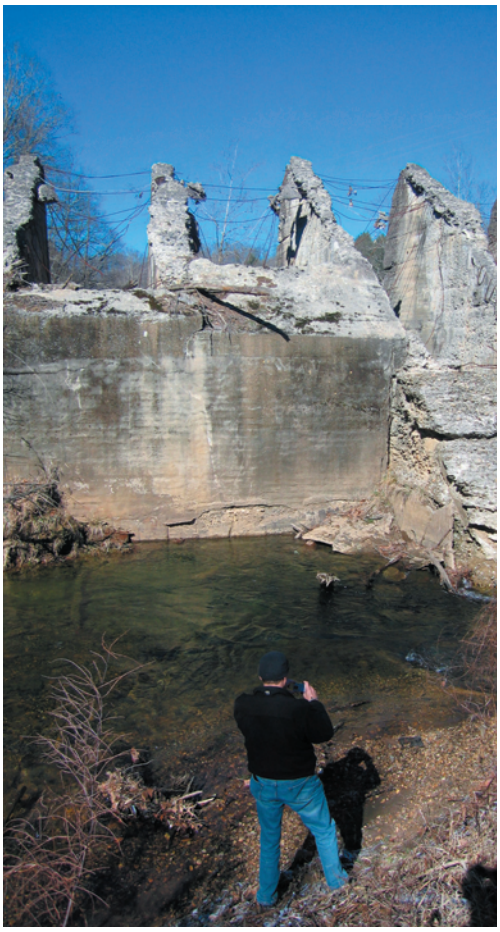
Dam Removal in the Toe River Valley

Conservation Issues in the Asheville Field Office



Two dams are slated for removal in Western North Carolina's Toe River Valley, home to the endangered Appalachian elktoe mussel.

Both dams were constructed for power generation, though it has been decades since either produced electricity. Today, they've both been breached and massive slabs of concrete are all that remain, impeding the water's natural flow. The dams are believed to be fragmenting populations of aquatic organisms and are barriers to aquatic organism movement both upstream and downstream. Each portion of a fragmented population is diminished in size and becomes genetically isolated, making it more susceptible to impacts such as disease or poor water quality.

One dam sits on the North Toe River, outside the town of Spruce Pine in Mitchell County. It was here that a local resident died in a paddling accident when he was caught in a hydraulic immediately downstream of the dam. In addition to the environmental benefits, removing the dam is a step in developing the Toe River Paddling Trail, a project of the local watershed group Toe River Valley Watch, which should improve recreational opportunities on the river.

The other dam sits on the Cane River, upstream from Yancey County's Mountain Heritage High School. Issues with the town of Burnsville's wastewater treatment plant on the Cane River likely contributed to the dramatic decline and possible disappearance of the endangered Appalachian elktoe mussel from several miles of the Cane River in the spring and summer of 2008. However a summer 2008 search led to the discovery of the mussel at a point immediately upstream of the wastewater treatment plant and just downstream from the dam. This is furthest upstream the mussel has ever been found.

Until the incident with the wastewater treatment plant, the river basin was home to one of the healthiest populations of the Appalachian elktoe, which has seven remaining populations, all in the Southern Appalachians. Isolated stream contamination like that from the wastewater treatment plant continues to be a major concern for the future of the mussel, along with sedimentation and storm-water runoff.

Native freshwater mussels spend part of their young lives attached to a host fish, which provides the mussel with nourishment and serves to distribute the mussels along a river. This means the conservation of the mussel is dependent upon the conservation of its host fish species. While both dams occur upstream of known elktoe habitat, removing them would likely open up habitat for the mussel's host fish.

The dam removal project is a partnership between the Service, the Blue Ridge Resource Conservation and Development Council, the Yancey County Soil and Water Conservation District, Toe River Valley Watch, and the Water Resources Division of the North Carolina Department of Environment and Natural Resources.

A pair of consulting firms is studying options for getting the dams out and restoring the stream channels. The dam on the North Toe River will be the first to be removed, sometime in early 2009.

These dam removals are part of an ongoing effort to address aquatic organism passage issues in the region. This effort has fostered a regional aquatic organism passage workshop and an inventory of small barriers in portions of the Little Tennessee River basin, which involves the Service's Asheville Field Office and the Warm Springs Regional Fisheries Center as well as multiple state and local conservation partners.

February 2009