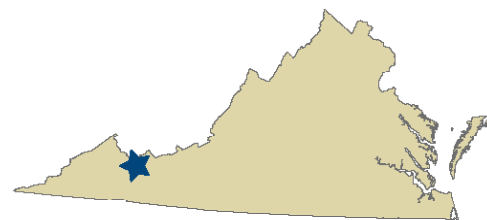


Restoring the Clinch River Watershed, Tazewell County, Virginia

Natural Resource Damage

Assessment and Restoration Program



The Problem

On August 27, 1998, a tanker truck overturned on U.S. Route 460 in Tazewell County, Virginia near the town of Cedar Bluff. The truck released approximately 1,350 gallons of Octocure 554-revised, a rubber accelerant used in the manufacture of foam rubber and rug materials, into a small tributary about 500 feet from its confluence with the Clinch River. The spill turned the river a snowy white color and killed mussels, fish, and many other aquatic organisms for over seven miles downstream of the spill.

The Clinch River Watershed and Lost Natural Resources

The Upper Tennessee River Basin (UTRB) is primarily located in southwestern Virginia and eastern Tennessee, and includes the Clinch River watershed. This area is one of the Nation's most biologically diverse aquatic ecosystems. Prior to the spill, the upper



Scenic view of the Clinch River.

Restoration on the Clinch River includes:

- Releasing 13 species of hatchery-reared juvenile mussels into the Clinch River;
- Monitoring released mussels; and
- Hosting several community outreach events with partnering agencies and hundreds of participants from the community.



The Certus Spill on the Clinch River.

Clinch River supported a wide array of organisms, including three federally listed mussel species. The Octocure 554-revised spill eliminated, or nearly eliminated, entire biotic communities within the seven mile impacted stretch of the Clinch River.

The diversity of freshwater mussels in the UTRB is particularly significant, because the area is one of the last strongholds for mussels in the United States. Since the turn of the century, more than half of the 300 species of freshwater mussels in North America have become so rare that they are extinct, listed as threatened or endangered, or are likely to become imperiled.

Freshwater mussels are a valuable part of the river ecosystem. They filter water, improving the aquatic habitat for all species; stabilize river and stream bottoms; and are a food source for other fish and wildlife. Restoring mussel populations improves the quality of habitat for fish and other aquatic wildlife.



Tagged freshwater mussels; the endangered purple bean.

Natural Resource Damage Assessment and Restoration Program

When hazardous substances enter the environment, fish, wildlife, and other natural resources can be injured. The Department of the Interior, along with State, Tribal and other Federal partners, acts as "trustees" for these resources. Trustees identify the natural resources injured and determine the extent of the injuries. Trustees work with the responsible parties to carry out restoration activities, or recover funds from responsible parties to carry out the restoration activities. These efforts are possible under the Natural Resource Damage Assessment and Restoration Program (NRDAR), the goal of which is to restore natural resources injured by oil spills or the release of hazardous substances.

Restoring the Resources

A consent decree was entered with the U.S. District Court on April 7, 2003, to address natural resource damages resulting from the 1998 release.

The consent decree required that Certus Inc., pay \$3,800,000 to the Department of the Interior (DOI) NRDAR Fund. The consent decree stipulates that these funds are to be "...managed by the DOI for the joint benefit and use of the Federal and State Trustees to plan, perform, monitor and oversee native, freshwater mussel restoration projects within the Clinch River watershed..."

A Restoration Plan and Environmental Assessment was completed in July 2004 describing the preferred alternatives for restoration, combining certain habitat protection and community outreach and facilitation goals in concert with a long-term mussel propagation program.

Restoration in Progress

Propagation of the Entire Mussel Assemblage

- A freshwater mussel propagation program was started in 2004 at Virginia Tech and the Virginia Department of Game and Inland Fisheries' (VDGIF) Aquatic Wildlife Conservation Center. To date, thousands of hatchery-reared juvenile mussels of 13 species have been released in the Clinch River, including three federally listed species: the tan riffleshell, purple bean and rough rabbitsfoot. This propagation, restoration and monitoring program will continue through 2016.

- Tagged mussels will be monitored over time for survival and growth. Mussel populations will also be assessed over time to document the outcome of restoration efforts.



Outreach event and mussel release in 2010.



The Old Mill on the Clinch River located at Cedar Bluff.

Community Educational Outreach

- Several community outreach events hosted by personnel from VDGIF and Virginia Tech have occurred at sites along the Clinch River with up to 100 participants from the community, non-profit groups, local government and partnering state and federal agencies per event. These events engage the public in the mussel release and restoration process.

Riparian Habitat Protection and Enhancement

- Specific habitat enhancement actions have not yet been determined, but may include: property acquisition for long term protection of riparian areas to benefit fish, mussel, and other wildlife habitat; riparian buffer planting and stream bank restoration.

Thanks to Our Partners

Without the help of the VDGIF and Virginia Tech, restoration of the Clinch River would not be possible.



Hatchery-reared tagged mussels from VDGIF and Virginia Tech for stocking in the river.



Species like smallmouth bass benefit from restoration efforts on the river.

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