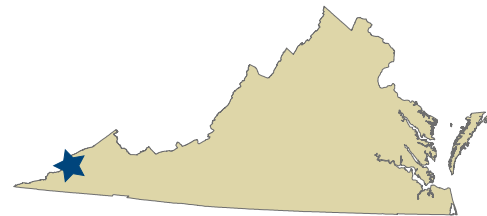


# Protecting and Restoring the Powell River Watershed, Virginia

## *Natural Resource Damage*

## *Assessment and Restoration Program*



### **The Problem**

On October 24, 1996, a failure in a coal slurry impoundment associated with a coal processing plant owned by Lone Mountain Processing, Inc. (LMPI) in Lee County, Virginia, resulted in the release of six million gallons of coal slurry to the Powell River watershed. "Blackwater," a mix of water, coal fines, clay, and associated contaminants, extended more than twenty miles downstream. The coal slurry spill impacted fish, endangered freshwater mussels, other stream organisms, supporting aquatic habitat, and designated critical habitat for three federally endangered mussels and two federally endangered fish. Federally-listed bats and migratory birds may have also been affected due to possible accumulation of contaminants through the food chain.

### **The Powell River Watershed and Lost Natural Resources**

The Upper Tennessee River Basin is primarily located in southwestern Virginia and eastern Tennessee, and includes the Powell River watershed. This area is considered one of the Nation's most biologically diverse aquatic ecosystems. The Powell River is a valuable water source, and is a multiple-use recreation area that provides vital habitat for wildlife, including nine species of freshwater mussels and 2 species of fish that are federally listed.



*Scenic view of the Powell River.*

### **Restoration on the Powell River**

- Released thousands of hatchery-reared juvenile mussels of 15 species into the Powell River;
- Released 800 hatchery-reared yellowfin madtom into the Powell River;
- Monitoring released mussels; and
- Acquired almost 514 acres of riparian habitat.



USFWS

*Yellowfin Madtom*

### **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 "trustee" for these resources. Trustees seek to 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**

The responsible party and the Service entered into a Settlement Agreement in 2001 requiring the Responsible Party to pay \$2,450,000 to the Department of Interior NRDAR Fund. The funds

were to be "...utilized for reimbursement of past natural resource damage assessment costs, and restoration, replacement or acquisition of endangered and threatened fishes and mussels located in the Powell River and its watershed, or restoration, replacement or acquisition of their habitats or ecosystems which support them, or for restoration planning, implementation, oversight and monitoring."

### *Completed Restoration Projects*

A Restoration Plan and Environmental Assessment was completed in June 2003 describing the preferred alternatives for restoration, including:

- Riparian habitat protection and enhancement:
  - riparian buffer planting;
  - stream bank stabilization;
  - implementation of best management practices; and
  - long-term protection of riparian areas.
- Propagation and augmentation of freshwater mussel and fish populations.



*Restoration in Progress (from 2002 to present)*

#### ***Riparian Habitat Protection and Enhancement***

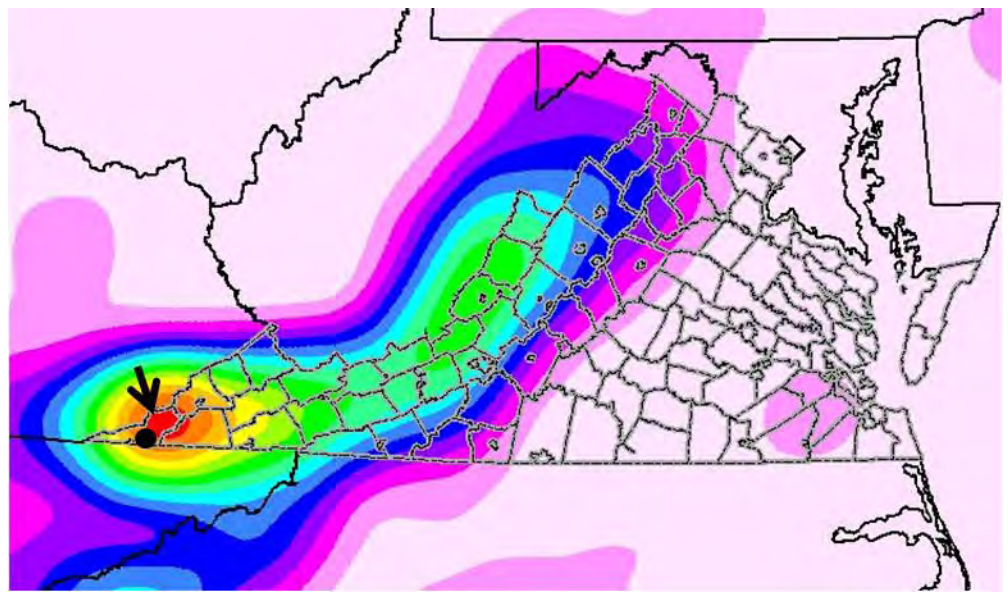
Approximately 514 acres of riparian land along the Powell River have been purchased by the Service, partnering with The Nature Conservancy (TNC). This habitat is located in a biodiversity hotspot designated by TNC, and protects habitat for aquatic organisms, bats and songbirds.

#### ***Propagation and Augmentation of Freshwater Mussel and Fish Populations***

- To date, thousands of hatchery-reared juvenile mussels of 15 species have been released in the Powell River to restore populations, including individuals of five federally-listed endangered species.
- Tagged mussels will be monitored over time for survival and growth.
- More than 800 hatchery-reared yellowfin madtom have been released over the past five years to augment the populations in the Powell River.

#### ***Outreach and Education***

The Daniel Boone Soil and Water Control District has worked each year to give all sixth grade students in Lee County schools a Meaningful Watershed Educational Experience through Kids in the Creek Day program. This program includes classroom time and field experience, such as: collecting and identifying macroinvertebrates and fish, identifying



*Arrow shows spill location, black dot shows location of over 500 acres of habitat purchased through The Nature Conservancy within a hotspot location.*

trees and wildlife, learning about coal mining and impacts, and testing water quality of local streams. The program teaches students how they affect the environment around them through a combination of hands-on experiences, classroom discussion and games.

#### **Thanks to Our Partners**

Without the help of Conservation Fisheries, Inc., Virginia Department of Game and Inland Fisheries, Virginia Tech, The Nature Conservancy, Tennessee Wildlife Resources Agency, and U.S. Geological Survey, Daniel Boone Soil and Water Conservation District restoration of the Powell River would not be possible.



Daniel Boone SWCD

*The Kids in the Creek Day program.*



*An assortment of freshwater mussel species (at least 12 species represented in photo) collected from the Powell River.*

#### **For additional information or questions contact:**

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