

**KRA Watershed Grant
Final Report
for
Muddy Creek Watershed Stream Aquarium
June 15, 2005**

Date Project Began:

KRA Watershed Grant funds were awarded to the Kentucky Riverkeeper in June of 2004 to purchase a stream aquarium for use in watershed education. The CreekLab High-flow Stream Aquarium was received by Tom Edwards on the Blue Grass Army Depot (BGAD) on June 18, 2004. This aquarium, designed and constructed by Mike Strohm of Teachwater.com, was setup in the BGAD Land Manager/KY Department of Fish and Wildlife Resources (KDFWR) office building.

Accomplishments to Date:

Upon delivery of the stream aquarium to BGAD, it was assembled and filled with water. Field visits to BGAD's portion of Muddy Creek were taken and samples of fish (black bass, rock bass, long-eared sunfish, green sunfish, Rainbow darters, Green-sided darters, Johnny darters, Fan-tailed darters), aquatic invertebrates and shells of freshwater mussels were collected for placement in the aquarium. Muddy Creek substrate material (gravel, rocks and driftwood) were also collected and arranged in the aquarium to simulate the natural stream environment.

The original and current location of the stream aquarium on BGAD is Building S-14. This building houses BGAD's Natural Resources, Safety, Environmental and Contracting Staff. The building also contains a conference room which is utilized by various other depot services. Due to the diverse mix of BGAD services found in this building and the conference room the stream aquarium is viewed by a great number of employees and visitors.

The decision to place the aquarium in this area was based on several factors. First, this is the office of KDFWR's Muddy Creek Watershed biologist and the location of BGAD's offices whose missions may directly impact the quality of Muddy Creek. Secondly, because BGAD represents nearly ¼ of the entire length of Muddy Creek, BGAD is the largest Muddy Creek landowner. Educating the depot personnel on the biological diversity of this creek was deemed a high priority.

The presence of the stream aquarium has generated a great deal of interest among BGAD personnel. Employees regularly examine the activities of the fishes and frequently ask questions about the aquarium and the stream it represents. So great is the interest that the BGAD Director of Public Works suggested an additional and larger aquarium be purchased by BGAD and setup in the same location as the stream aquarium to allow display of a wider diversity of Muddy Creek fishes. On August 27, 2004, BGAD purchased and received a 210 gallon aquarium for \$1,800. This aquarium was also equipped with Muddy Creek features and organisms. BGAD also contracted with a local pet store for monthly maintenance (general cleaning and filter replacement) of both their new

aquarium and the stream aquarium. The Muddy Creek Watershed Biologist has taken responsibility of regular feeding and maintenance of the fish.

The result of the Muddy Creek aquaria has been a greater appreciation for the creek from many of the depot staff. The depot Commander expressed his pleasure and interest in the exhibit. Visitors want to know more about the life and health of the creek.

Discussions have been held with members of the Kentucky Riverkeeper to set up the stream aquarium and maintain it in various locations within Madison County. Future plans for the use of the aquarium will incorporate the several colorful darters native to Muddy Creek and the display and rearing of larval aquatic invertebrates to adults. Additionally, it is hoped the aquarium may be used to display native freshwater mussels and explain their lifecycles.

Adherence to Budget:

The grant is within budget. As a result of the subsequent purchase of another supporting aquarium by BGAD and the contracting for maintenance of both aquaria this grant has been matched more than 100%.

All maintenance costs and labor are being provided by BGAD and KDFWR. The aquarium is expected to provide educational benefits for several years beyond this grant project period.

Target Completion Date:

The KRA Watershed Grant funds were used for the purchase of the CreekLab High-flow Stream Aquarium. The aquarium has met and continues to meet the intent of the grant as it is currently being used as an educational exhibit of Muddy Creek on the Blue Grass Army Depot, Muddy Creek's largest landowner.

With assistance from Eastern Kentucky University's Department of Geography professor Dr. Alice Jones an additional educational, interpretive display will be created to accompany the stream aquarium. Such materials will include photos of the fishes, aquatic insects and mussels along with life history requirements. An emphasis will be made on the necessity of maintaining good water quality in our streams in order for the complex ecosystem to survive.

Photos of the project:

The CreekLab High-flow Stream Aquarium on Blue Grass Army Depot.