

The Cove Run Brook Trout Restoration Project
with the Northern Garrett High School AP Environmental Science
Class, 2012 – 2014.



Presented By:
Alan W. Klotz, Western Region District I,
Inland Fisheries Manager

The Brook Trout, Maryland's only native trout species, has experienced a 90% decline statewide from historical populations. This fish needs cold, clean water to survive.



**2006
Maryland Brook Trout
Fisheries Management Plan**



Photo by Matt Kline

Prepared by
Maryland Department of Natural Resources
Fisheries Service
Inland Fisheries Management Division

Edited by Alan A. Heft

Contributors:

Maryland DNR Fisheries Service:

Nancy Butowski, Don Cosden, Steve Early, Charlie Gougeon, Todd Heerd, Alan Heft,
Jody Johnson, Alan Klotz, Karen Knotts, H. Robert Lunsford, John Mullican, Ken Pavol,
Susan Rivers, Mark Staley, Mark Toms

Maryland DNR Biological Stream Survey:

Paul Kazyak, Ron Klauda, Scott Stranko

University of Maryland Appalachian Laboratory:

Ray Morgan, Matt Kline, Bob Hilderbrand

Management Recommendations:

5. Encourage riparian buffer habitat preservation and restoration.

10. Support grass roots advocacy groups dedicated to the conservation of Brook Trout in Maryland.



May 31, 2011 – Wilderness Week experience for Northern Garrett Middle School students – stream ecology presentation in Cove Run at Camp Hickory.

January 2012 – NGHS Environmental Science Teacher Rebecca Kenyon-Sisler and MD DNR Fisheries Manager Alan Klotz met with two landowners in the Cove Run watershed to discuss a student hands-on learning opportunity on their farms.



Mainstem Cove Run





- ✓ Watershed organizations with 501c-3 status working with a school/schools on a specific aquatic based project are eligible to apply for up to \$2,500 per year. A letter of support from the Principal of that school must be attached to the application.
- ✓ Once grant approval paperwork is received by the organization, the organization may bill the ARE Program for 75% of the grant award and the remaining 25% once the project is complete and the final report is received by the ARE Program.
- ✓ Grant request must have a connection to water and Maryland's Aquatic Resources. Service learning and enhancement projects are strongly encouraged! Examples of projects that ARE Grants Program funds: BayScaping, Rain Gardens, Stream Clean ups, Oyster Gardening, riparian buffer plantings, Storm Drain Stenciling, and more!
- ✓ The ARE Grants Program can not fund: food, computer or video equipment, software, prizes, t-shirts or other promotional items, reimbursement for completed projects, program admission fees or big ticket field or classroom equipment, fund-raising projects or related costs, general operating budgets or field trips.
- ✓ The ARE Program encourages matching funds, partnerships, technical support from local resources, and volunteer time! Grant applications that provide matching funds/support from other sources are encouraged.

For more information contact Cindy Etgen at 410-260-8716
or cetgen@dnr.state.md.us.

Toll free in Maryland: 1-877-620-6DNR ext. 8716

TTY users call via the MD Relay



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<http://www.dnr.maryland.gov>

Aquatic Resources Education

Grant Application & Guidelines

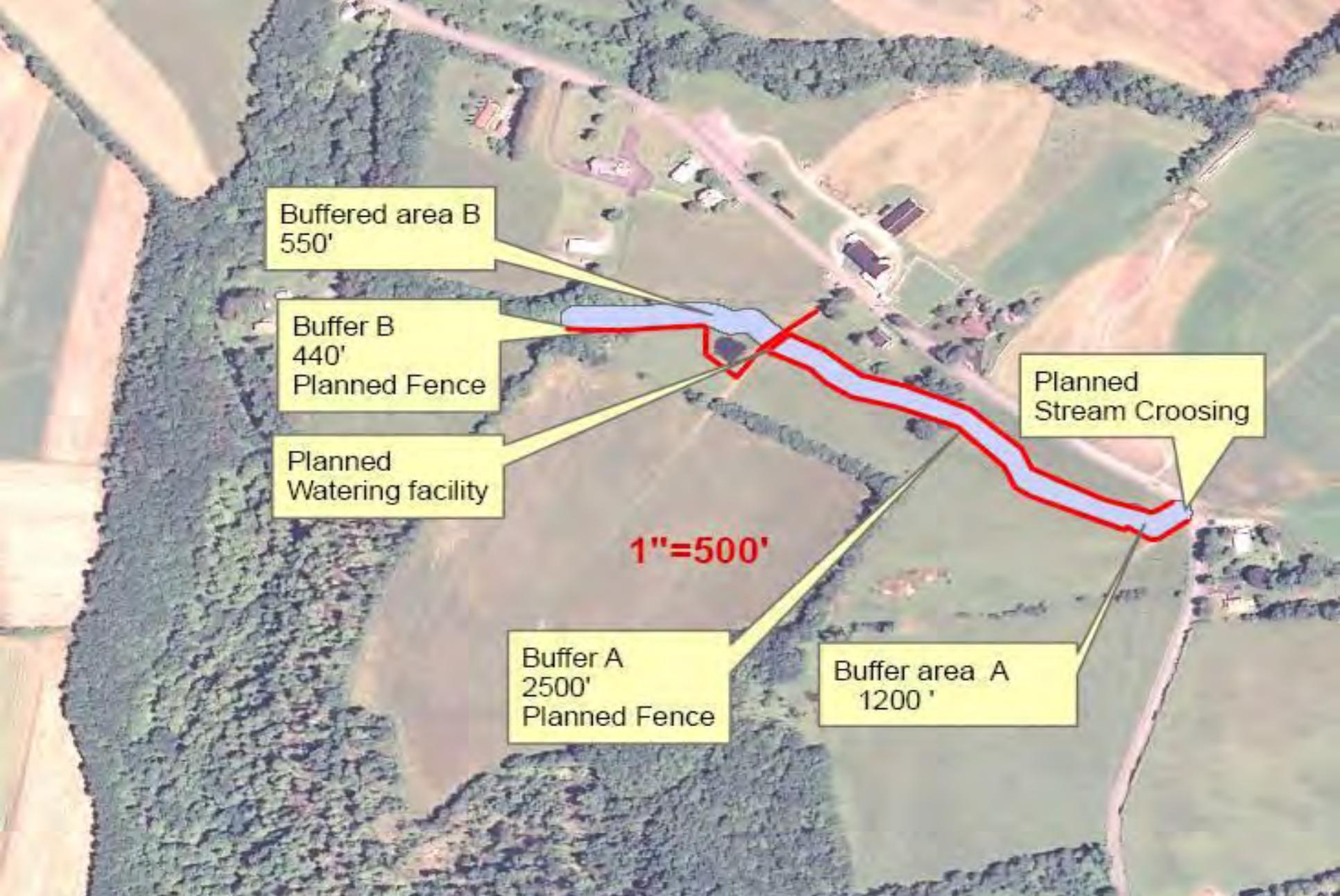
For Watershed Organizations working
with Schools



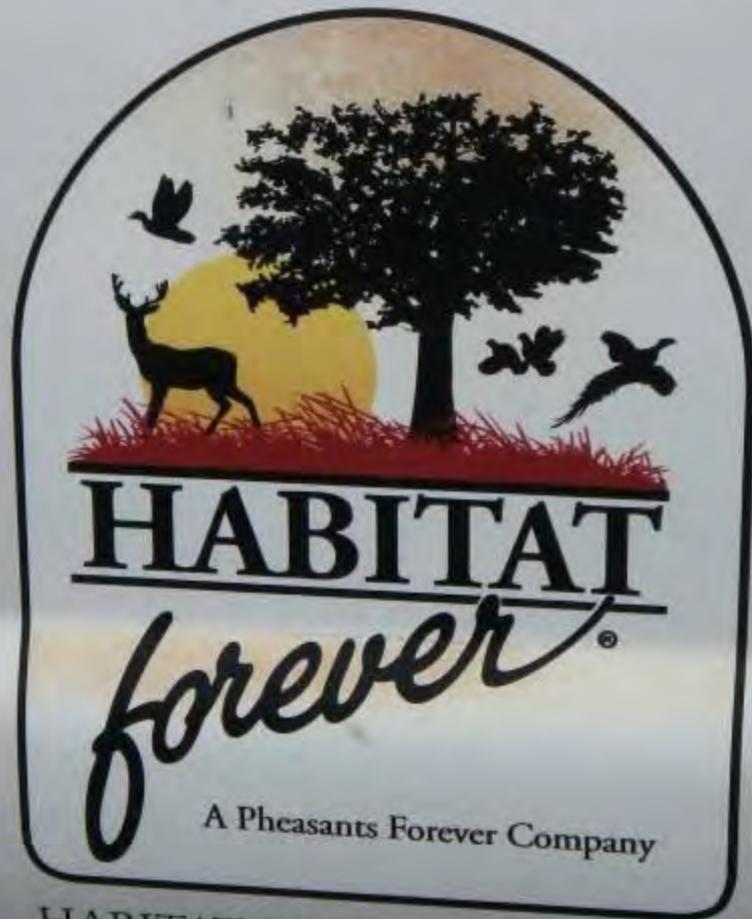
Governor Martin O'Malley
Lt. Governor Anthony Brown
John Griffin, Secretary

A total of \$4,500 was awarded for the NGHS students to begin their work!





Mr. Chuck Hayes of the Natural Resource Conservation Service became a major partner with the Cove Run Brook Trout Restoration Project.



HABITAT FOREVER, LLC
ST. PAUL, MN USDOT 10991

Habitat Forever, LLC, A Pheasants Forever Company, based out of California University of Pennsylvania, under the direction of Mr. Jose J. Taracido, was contracted to conduct the fencing project on the Dennis Margroff farm.

About 87.5% of the cost was covered by Maryland Department of Agriculture's Maryland Agricultural Water Quality Cost-Share Program (MACS).



March 20, 2012



March 20, 2012

A line in the sand was drawn.....



March 20, 2012 – Fencing installed by Habitat Forever, LLC.



April 12, 2012: Northern Garrett High School's AP Environmental Science Class starts to work on the project.



DNR Forest Service personnel demonstrated proper tree planting techniques.







Success! First apple tree planted!



April 12, 2012 the students planted:

- 20 (5'-7') Apple Trees supplied by YRWA
- 60 Red Osier dogwoods supplied by the National Wild Turkey Federation
- 10 Black Willows, 50 Silky Dogwood, and 20 Witch Hazel seedlings supplied by the Dept. Juvenile Services Meadow Mountain Youth Camp.
- **160 trees/seedlings planted that day!!!!**

Invasive plant removal – multiflora rose and Japanese barberry.





MD DNR Wildlife Service
“donated” Bluebird Boxes.

The Dept. of Juvenile Services also provided 22 larger trees (6 – 8') through a grant they received, including 5 apple trees, 5 flowering dogwoods, 5 service berry, 5 Eastern redbud, 5 black gum, and 2 sugar maple trees. These trees were planted by MD DNR on 4/17/12.



April 17, 2012



May 17, 2012: Fencing completed and hardened cattle crossing installed.



Before ...



After....



May 17, 2012: NGHS students performed baseline water quality, stream habitat, and biological studies in Cove Run headwaters.





The students measured stream temperature, pH, turbidity, dissolved oxygen, and nitrate levels using equipment purchased with the DNR ARE grants.



Students assessed aquatic macroinvertebrate populations using equipment also purchased through the DNR ARE grants.



Electrofishing survey – found creek chubs!



We electrofished Cove Run below Camp Hickory and documented a naturally reproducing Brook Trout, estimated at 172 adult trout and 64 young of year trout per mile in 2012.

Fish Species Found in Cove Run



Brook Trout



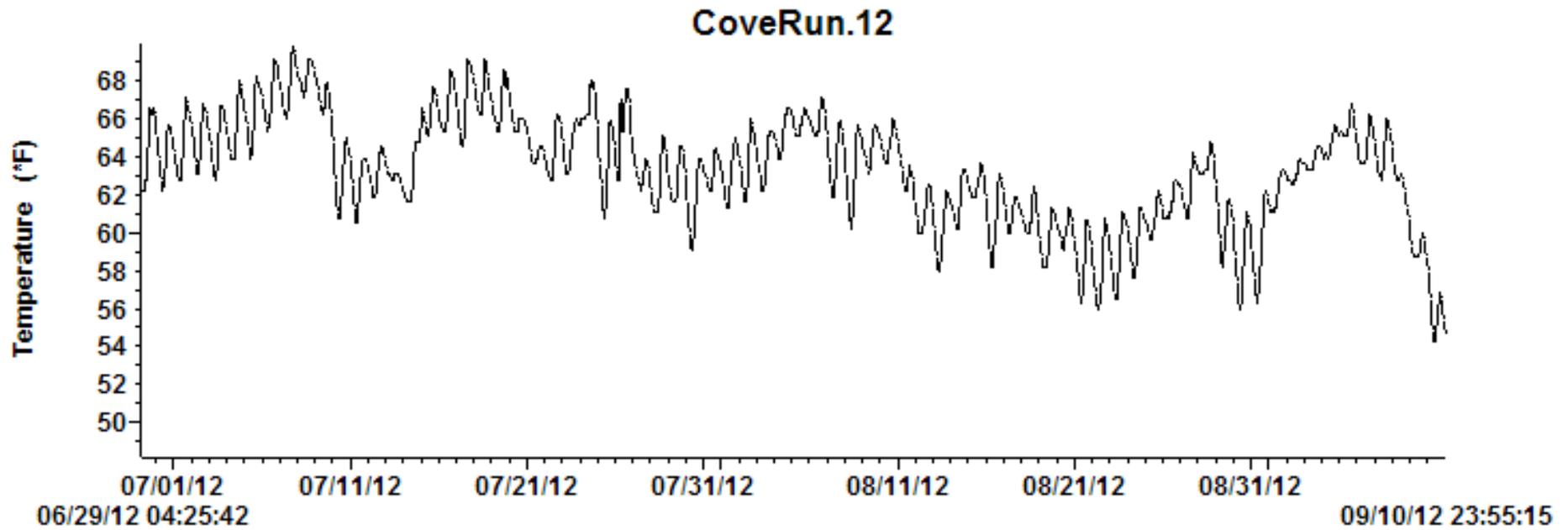
Mottled Sculpin



Blacknose Dace



Creek Chub



During the summer of 2012, stream temperatures exceeded 68° F only for a short period.

Winter 2012



Spring 2012



Summer 2012



Fall 2012





We also worked with two other landowners in the watershed, one on a tributary and one on the mainstem of Cove Run.



The mainstem Cove Run fencing project by Habitat Forever, LLC was completed during Summer 2012. About 2,000 feet of stream (7.1 acres) were fenced to create a protected riparian zone. This property is the Bobby Bender farm - home of the “Corn Maze”.

May 24, 2012 – Fisheries Service staff planted 20 apple trees and 200 seedlings of button bush, silky dogwood, arrow-wood, and winterberry. These trees were provided by the DJS and Habitat Forever, LLC. Two properties were planted: Bob Bender and Jim Margroff farms.





Pear tree planting on the Bender farm on 4/18/13. When MD DNR Forester Ernie Metz speaks, even horses pay attention!



On May 23, 2013 – Mrs. Kenyon-Sisler's Enrichment Class helped plant 650 tree and shrub seedlings at the Margroff and Bender farms!

Service learning hours for invasive plant removal – 4/8/13





Stream habitat, water quality, and bio-assessment studies continue in Cove Run during 2013 and 2014.



Free living, predacious caddisfly larva – indicator of “excellent” water quality.



Aquatic salamanders started to inhabit the stream.



Northern water snake – either love them or you hate them!



2014 – More brook trout than creek chubs!

The student experience in their own words...

“The experience was very educational, yet it was also pretty fun. I enjoyed applying the knowledge we gained in class to real-world environments.” J.M.

“The Cove Run project was an excellent way to not only learn about the different problems that current aquatic ecosystems are undergoing, but ways to solve these problems and why we should do something about it.” E.G.



Northern Garrett High School received the MD DNR PLANT Award in 2013 for the remarkable number trees the students planted along the stream.





The 37th Annual Tawes Award for a Clean Environment – Youth Category.

Save the Date!



You are Invited to Celebrate The Cove Run Brook Trout Restoration Project!

Saturday April 27, 2013

1:00 pm ~ 4:00 pm

Northern Garrett High School

Accident, MD

Rain Date ~ May 4, 2013

The event is being hosted by:

Northern Garrett High School Environmental Science Class,
Maryland Department of Natural Resources, Natural Resource Conservation
Service and the Youghiogheny River Watershed Association.

For more information please contact:

Rebecca Kenyon-Sisler

ikenyon@GA.K12.MD.US

301~746~8668



Northern High School Stream Restoration Project

Students

and

Community Members

Collaborating to

Preserve a

Brook Trout Habitat



MD Dept. of Natural Resources

MD Dept. of Juvenile Services

Yough River Watershed Assn.

Garrett Soil Conservation

Yough Chapter Trout Unlimited

Partnership acknowledgements:

- Northern Garrett High School
- Maryland Department of Natural Resources
- Natural Resource Conservation Service
- Youghiogheny River Watershed Association
- Maryland Department of Juvenile Services
- Meadow Mountain Youth Camp
- Yough Chapter of Trout Unlimited
- Habitat Forever, LLC
- National Wild Turkey Federation
- Garrett Soil Conservation District
- Maryland Department of Agriculture
- US Fish and Wildlife Service

➤ Special gratitude is extended to Dennis Margroff and family, Steve Margroff and family, Jim Margroff and family, and Bobby Bender and family for making this student learning project possible!

Thank you!

