

# ALLEGHENY WINS

“WATERSHED IMPROVEMENT NEEDS”

# COALITION

ANNUAL REPORT 2011

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Promoting protection, restoration, and habitat improvement activities in watersheds that lie entirely or partially in the Allegheny National Forest to achieve Forest Service and community needs through collaboration and partnerships

*Cover photo: Minister Creek by Alex Vallejo. Five miles of this stream located in Forest and Warren counties, are managed under the Wild Brook Trout Enhancement program. Fishing is open all year round; there are no tackle restrictions, but no brook trout may be killed or had in possession.*

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## **What is Allegheny WINS?**

Northwestern Pennsylvania is fortunate to have many miles of high quality streams and rivers. The Allegheny River, a federally designated Wild and Scenic River, is the centerpiece of the half-million acre Allegheny National Forest. The Allegheny and its major tributaries, Tionesta Creek and the Clarion River, are well known for their recreational value and high quality fisheries. Healthy populations of sport fish such as trout, bass, walleye, muskellunge, and pike share these waters with rare and endangered species of turtles, mussels, amphibians, invertebrates, and fish. Rich riparian zones provide feeding areas, nesting sites, and travel corridors for waterfowl, birds of prey, and other wildlife. Thousands of miles of smaller streams are home to our state fish, the Eastern Brook Trout.

The scenic waters of the Allegheny region appear to run clean and pure, and, in fact, some are now in better condition than they were decades ago. The Allegheny River, Clarion River, and Tionesta Creek each support healthy fisheries, which was not always the case. From the late 1800's through the mid-1900's, the rivers were spoiled by pollution from pulp mills, tanneries, mines, intense oil and gas exploration, and timber harvests. As these industries faded, conservation measures were implemented, and the waters began to heal and recover.

Unfortunately, new threats have arisen to, again, threaten our waters. Impacted by decades of acid rain and industrial pollution, the region's aquatic ecosystems are now being stressed by booms in oil and gas development and outdoor recreational activities. The number of miles of impaired streams is steadily increasing in the region, with some of the most vulnerable being our smaller headwater tributaries. These first and second order streams provide important habitat for fish and wildlife, and ensure that clean water flows to downstream communities by controlling sediment and nutrient loads. They also stabilize flows by retaining water during storm events and releasing it slowly over time and maintain a base flow during drier periods.

Because their natural buffering capacity is weak, the region's freestone streams are vulnerable to acid deposition. An acid rain event can immediately lower the pH in streams and virtually eliminate aquatic invertebrates and fish in large sections of streams.

Streams affected by acid deposition often suffer from increased sedimentation as well. An extensive network of dirt and gravel roads overlays the entire WINS area. Over 2,000 miles of oil and gas access roads and 1,200 miles of Forest Service roads penetrate even the most remote corners of the National Forest. The native sandstone material used to construct these roads is comparatively soft, breaks down easily under traffic, and readily erodes into adjacent streams. As a result gravel stream bottoms, which are vital for fish reproduction, become embedded with mud and sand. Aquatic invertebrates, a primary source of food for fish, are also unable to survive under these conditions. The result is a loss of critical habitat for coldwater species and a reduction in overall productivity of the stream. Sensitive species like trout have to migrate up into smaller tributaries or downstream into larger waters to survive.

Other issues related to dirt and gravel roads include elevated stream temperatures and poorly placed culverts and road crossings that act as barriers to fish passage. Several of the region's remote streams that once held healthy populations of brook trout have become degraded because of these problems.

Most of the streams across the region lack habitat complexity normally associated with large wood. Because historic logging activities tended to remove debris from stream channels the current habitat is largely defined by high frequencies of riffle and glide features with few pools. Since pool habitat is important for aquatic organism survival and propagation, streams in the region may not fully meet Pennsylvania designated protected water uses due to the lack of adequate aquatic habitat in the form of pools.

Best management practices now encourage the protection of riparian areas by leaving stream buffers and limiting activity. In response to these policies, riparian areas are reaching an age where they are beginning to contribute large wood (e.g. small trees, limbs, and trees affected by mortality and wind throw) to stream channels. Large wood will help recover the ecological processes and instream functions such as storage of sediment and coarse organic matter in small tributary streams and the creation of larger, deeper pools. It will take several more decades of careful riparian area stewardship before these ecological processes are fully affecting larger fish-bearing streams.

Normally, healthy aquatic systems will adjust to stress caused by changes in the environment. However, when those changes occur too quickly a system becomes unstable and results in degradation. This has been the case in and around the Allegheny National Forest. The situation demands greater protection of healthy and pristine watersheds and the restoration of others.

In summary, the main environmental problems affecting Allegheny watersheds include:

- Atmospheric deposition
- Sedimentation, erosion, and instream habitat degradation from sandstone based roads used for timber and oil and gas well access
- Fish barriers and habitat degradation around culverts, crossings, and dams
- Lack of instream habitat for fish

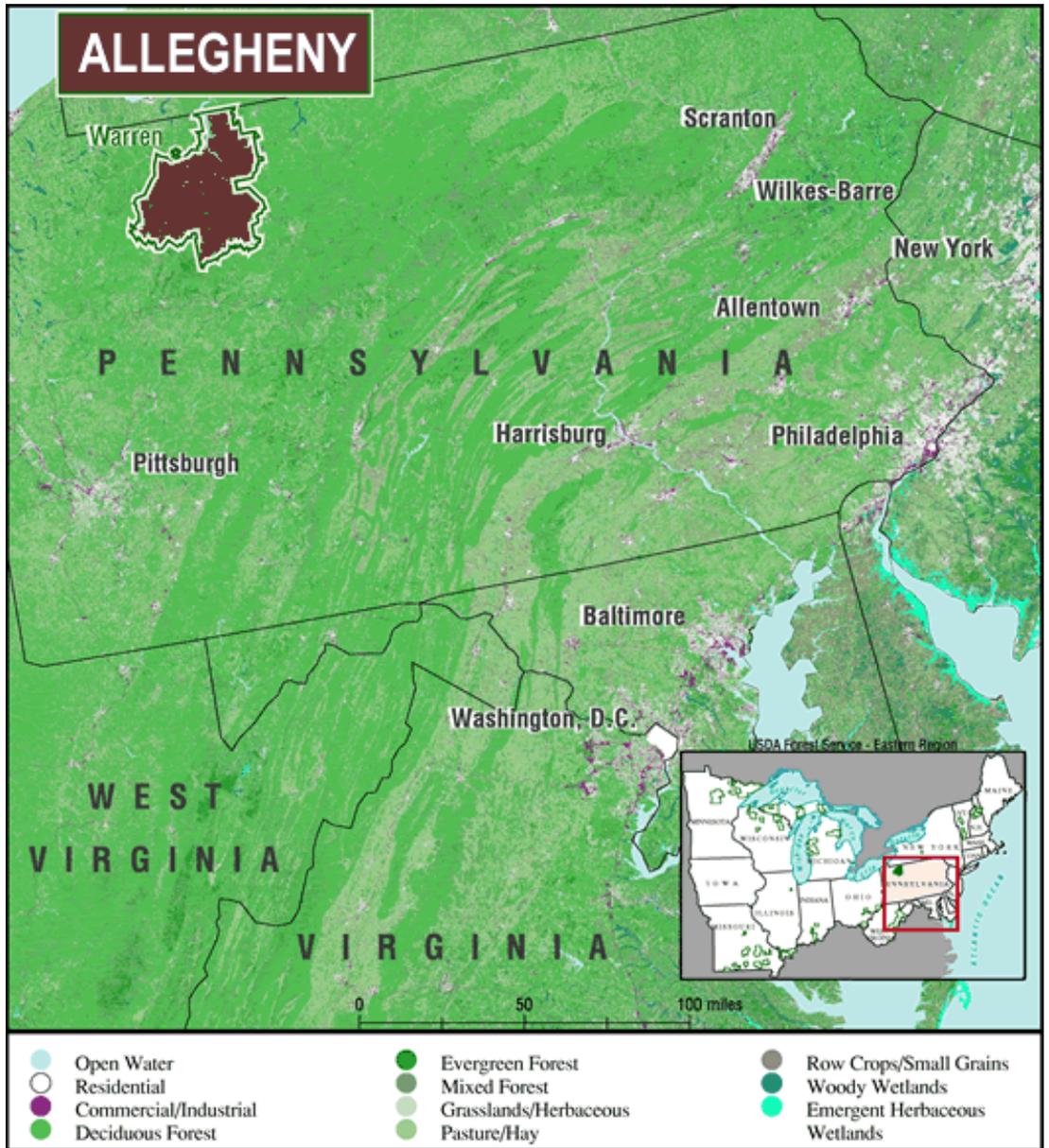
In an economically active and large geographic area like the Allegheny, these problems can be overwhelming for any single government agency or organization. To address the issues and find solutions, a group of like-minded non-profit organizations, private individuals, and government agencies decided to join forces and build a coalition. The common thread that binds the partners of this coalition is an interest in developing and promoting watershed restoration activities.

The Allegheny Watershed Improvement Needs Coalition (WINS) was formed in April 2007; its mission **“to promote protection, restoration, and habitat improvement activities in watersheds that lie entirely or partially in the Allegheny National Forest to achieve Forest Service and community needs through collaboration and partnerships.”** The group’s main focus is developing and implementing projects to protect and restore watersheds and aquatic ecosystems. This includes outreach and educational activities targeting rural communities and youth as a means of preventing problems from occurring in the future. Since its inception, the Coalition has demonstrated a high degree of success; this report documents those accomplishments.

Allegheny WINS is governed by a steering committee made up of representatives of municipal, county, state and federal government agencies, and leaders of various non-profit organizations such as the Western Pennsylvania Conservancy, Trout Unlimited, and local watershed organizations. The group meets bi-monthly at locations throughout the forest.

**Where is Allegheny WINS?**

<b>2500</b> <b>Square miles</b>
<b>Over 600,000</b> <b>Acres of public land</b>
<b>2000+</b> <b>River and stream miles</b>
<b>14</b> <b>Major watersheds</b>
<b>3500+</b> <b>Miles of dirt and gravel roads</b>



Map courtesy of US Forest Service

Allegheny WINS projects can be found on the half-million acre Allegheny National Forest (ANF) and on neighboring State Forests, State Game Lands, and private lands in northwestern Pennsylvania. The ANF is within a day's drive of 1/3 of the nation's population.

***UPPER AND MIDDLE ALLEGHENY RIVER WATERSHED***



Photo courtesy of US Army Corp of Engineers

*Kinzua Dam on the Allegheny River near Warren, Pennsylvania*

**Allegheny Reservoir Cleanup, Seventh Annual**

Partner – Sponsor: US Forest Service

The 2011 Allegheny Reservoir Cleanup took place on Saturday, June 11, and was a cooperative effort involving the US Forest Service (USFS), Pennsylvania Fish & Boat Commission, US Army Corps of Engineers, Warren County Adult Probation and Parole, Cornplanter Chapter of Trout Unlimited, and six other community organizations.



*Cleanup crew on the banks of the Allegheny Reservoir*

In total, 65 volunteers and employees collected 12 cubic yards of trash and litter from roughly 12,000 acres of public land including:

- 40+ miles of shoreline: SR59 bridge north to New York State Line
- 10+ miles of roadway: Scandia Road (SR1013), FR701, and FR615
- (4) USFS campgrounds: Hopewell, Handsome Lake, Hooks Brook, and Willow Bay
- (4) USFS boat launches: Webb’s Ferry, Willow Bay, Roper Hollow, and Sugar Bay
- Kinzua Wolf Run Marina: marina and reservoir shoreline
- Kinzua Beach: parking area, beach, and shoreline

Now in its seventh year, the positive effects of the annual Reservoir Cleanup have become very apparent. As a result of this annual community conservation “event” the shorelines and waters of the Allegheny Reservoir are much safer and cleaner places for the wildlife and recreationalists who use them.

**Allegheny Reservoir Fish Habitat Improvement Projects**

Partner – Sponsor: Kinzua Fish and Wildlife Association

For nearly thirty years, the Kinzua Fish and Wildlife Association, along with its partners, the US Forest Service, and the US Army Corps of Engineers have worked cooperatively to improve fish habitat in the Allegheny Reservoir.



*Porcupine cribs being placed in Allegheny Reservoir*

To date over 30,000 items have been placed in the reservoir:

- 10,126 tires
- 18,704 Christmas trees
- 1,230 porcupine crib seniors
- 903 porcupine crib juniors
- 36 bass nesting boxes
- 32 catfish nesting boxes
- 20 stone reefs and
- 7 ambush cribs

In 2011, 186 Christmas trees were placed in the reservoir.

**Allegheny River and Conewango Creek Cleanups, Fourth Annual**  
Partner – Sponsor: US Forest Service and the Conewango Creek Watershed Association

To call the fourth annual Allegheny River and Conewango Creek Cleanups successful would be an understatement. The community’s support and enthusiasm for this year’s events was simply “Amazing”!!



*Mud soaked volunteers pull garbage from Conewango Creek*

In total, 403 volunteers donated 3,224 hours while removing trash from 31 miles of the Allegheny River, 18 miles of Conewango Creek, and 5 miles of Brokenstraw Creek.

The cleanup yielded over 50 cubic yards of trash, plus 12,600 pounds of metal, and 237 tires. In addition, dozens of bags full of glass, plastic, and aluminum were also recycled.

Items of interest collected include:

- 8-ft. snowplow (approx. 600 lb.)
- 1800’s barge anchor
- Metal staircase
- 4-ft. x 10-ft. wooden dock
- WARNING high water sign
- Antique washing machine

- 14-ft. rubber kayak
- Swing set frame
- (2) Bowling alley bench
- Push mowers (multiple)
- Shopping carts (multiple)
- Mattress springs (multiple)

Wooden picnic tables (several)  
(2) 8-ft. railroad ties



(2) Cast-iron pump jacks  
(2) 12-ft. oil sorbent booms  
High voltage transformer  
Gutter and downspout unit  
12-ft. barn door track  
Commercial dumpster cover  
Municipal steel garbage can  
Televisions (multiple)  
Refrigerators (multiple)  
Kitchen sinks (multiple)



Toilets (multiple and varied)  
Ice maker  
Water heater  
55-gallon drums, plastic and steel  
(multiple)  
Antique brass fire extinguisher  
Highway sign  
Orange/white striped  
construction barrel  
Gas grill  
Wooden porch swing  
Dishwasher



Vacuum cleaner  
Emerald ash borer trap  
Riding mower rear tires/axle  
Manual typewriter  
Carpets (multiple)  
Motorcycle helmet  
Trolling motor  
Cell phones  
Kid's big wheel bikes, balls, and  
toys (multiple)  
.....and the list goes on and on!!

Planning for the fourth installment of this annual community conservation event has already begun. The planning committee welcomes new volunteers and ideas. To get involved in the planning of the 2012 Allegheny River Cleanup, visit [www.alleghenyrivercleanup.com](http://www.alleghenyrivercleanup.com) and use the contact form to reach the organizers.

**Big Bend Recreation Area**

Partner – Sponsor: US Army Corps of Engineers and Allegheny Outdoor Club

The goal of this project is to make continuous improvements to the Big Bend Recreation Area (BBRA) for the purpose of making the site a premier tourist attraction in the Commonwealth. It already draws tourists from across the United States, Canada, and around the world with its wide, sweeping views of the Kinzua Dam whitewater outflow and the northern terminus of the Wild & Scenic Allegheny River.

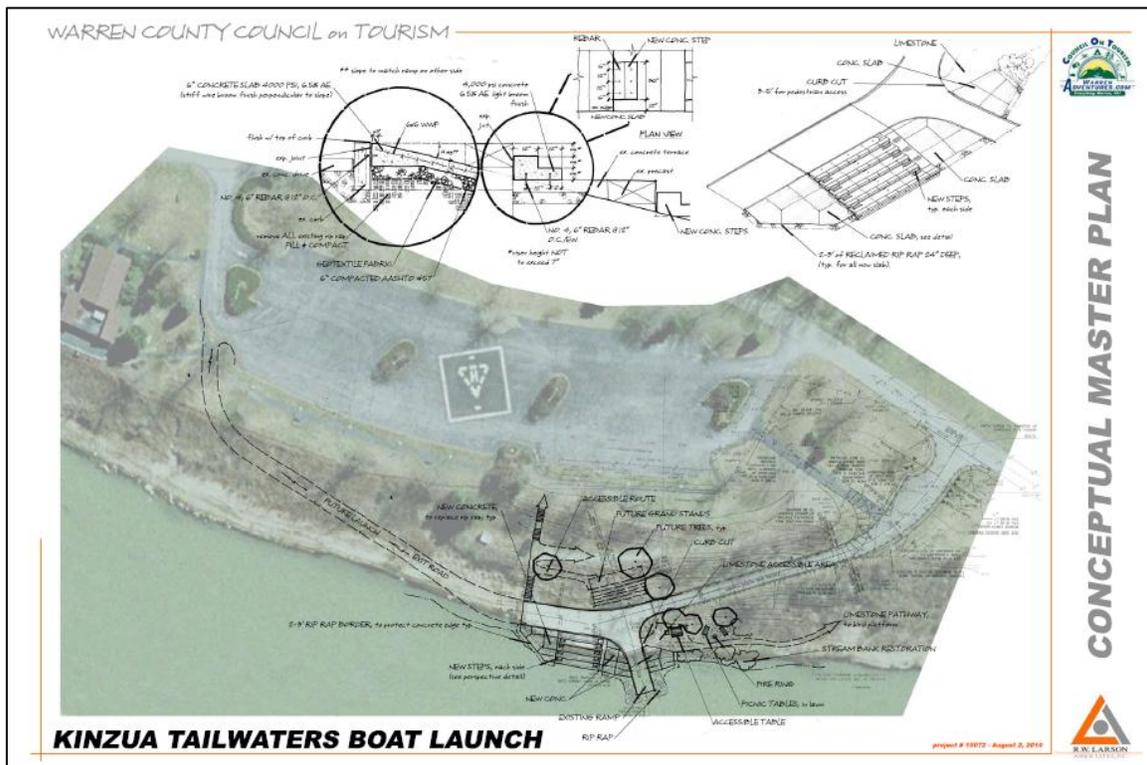
Project partners include the US Army Corps of Engineers, US Forest Service, Allegheny Outdoor Club, WINS Coalition, Warren County Chamber of Business and Industry, Warren County Council of Tourism, Penn Soil Resource Conservation and Development Council, and Allegheny Outfitters.



*Downstream view from the bird-viewing platform at*

In 2009 the partners completed construction of a bird-viewing platform and Riverside Watchable Wildlife Trail at the BBRA. Visitors enjoy an enhanced view of many different birds including bald eagles, ospreys, mallard ducks, mergansers, and blue herons.

In 2011 improvements to the existing boat launch were begun with the addition of four new concrete steps to make access to the water safer and more efficient. The construction of concrete slabs, to replace the existing riprap, is planned for summer 2012.



**McKean County Fish Habitat Improvement Projects**

Partner – Sponsor: McKean County Conservation District

Since 2007 the District has completed 53 stream bank restoration projects throughout McKean County by utilizing: multi-log deflectors, single-log deflectors, modified mud sills, bank fill benches, rock cross vanes, log cross vanes, rock vane deflectors, bank cover cribbing, and 100 Tons of rip-rap through the partnership with the Division of Habitat Management of the PA Fish and Boat Commission (PFBC).



*Before and after the installation of a 135 ft. mudsill on Sinnemahoning Portage Creek*

These projects have stabilized approximately 7,618 feet of stream bank, creating two miles of riparian area by planting 900 shrubs and preventing an estimated 525 tons of sediment from entering the waters of the commonwealth. Funding for this initiative was secured from the following sources: Pennsylvania Department of Environmental Protection (DEP) Growing Greener II County Environmental Initiative Grant (\$150,000.00), DEP Stream Improvement Program (\$117,020.48), PFBC Sinnemahoning Watershed Grant Program (\$255,000.00), and Casella (\$52,300) to satisfy a DEP permit condition.

In 2011 the District completed eleven stream bank stabilization and habitat improvement projects. These projects were implemented through the District’s Stream Bank Stabilization Initiative and funded through the PFBC Sinnemahoning Watershed Grant Program and Two Mile Watershed Renaissance Growing Greener Grant. Partnering with PFBC Division of Habitat Management, District staff worked with multiple contractors to install numerous structures. Project locations spanned much of the county including Two Mile, Ice Pond Brook, UNT to Potato Creek, Bloomster Hollow, UNT to Bennett Brook, Sinnemahoning/Portage, and Willow Creek.

**Morrison Run Restoration Project**

Partner - Sponsor: Cornplanter Chapter of Trout Unlimited

Morrison Run is classified as an Exceptional Value stream by the Pennsylvania Department of Environmental Protection and holds a good population of native brook trout. It is also a major tributary to Browns Run and ultimately the Allegheny River, which is a federally designated Wild and Scenic River. The forests and waters of the drainage are recovering from decades of past exploitation from unsustainable timber harvest and industrial development. Today the watershed is prized by the local community for its recreational resources, timber base, and native brook trout fishery.

The goal of the project is to restore and improve riparian and instream habitat along Morrison Run through the reduction of sedimentation, rehabilitation of riparian areas, and removal of fish passage barriers from the main stem.



*Morrison Run before and after removal of a low-head at the lower end of the drainage*

Specific objectives of this project include:

- 1) Expanding the range and numbers of the native brook trout populations, currently confined to isolated pockets throughout the drainage
- 2) The elimination of all four fish passage barriers from the main stem
- 3) Decommissioning or hardening two fords on the main stem
- 4) Reconstructing portions of FR156 to improve drainage and reduce sedimentation
- 5) Improving and promoting recreational opportunities (e.g., fishing) in the drainage.

Partners in the project include the Cornplanter Chapter of Trout Unlimited, Western Pennsylvania Conservancy, Warren County Conservation District, PA Fish and Boat Commission, US Forest Service, and four private landowners.

**South Branch Kinzua Creek Acid Remediation Project**

Partner - Sponsor: Pennsylvania Fish and Boat Commission and US Forest Service

Acid precipitation is negatively affecting streams throughout the Allegheny National Forest (ANF). Over time, chronic acidification leaches base *cations* (positively charged ions) from soils and decreases a watershed's natural buffering capacity. Eventually, changes in the watershed's soils are manifested in stream water quality degradation: pH and alkalinity levels decrease and dissolved aluminum levels often rise to a point where a stream can no longer support a healthy aquatic community.

In 2005 a study comparing soil samples from 1967 and samples collected between 1997 and 1999 found that watersheds in and around the ANF are becoming more acidified due to a significant reduction in base *cations*.

South Branch Kinzua Creek (SBKC) Acid Remediation Project (a.k.a., "The Road to Brook Trout Recovery") included construction of innovative alkaline road runoff channels (ARRC), which were completed in concert with routine Forest Service road maintenance.



*Alkaline road runoff channel in road ditch lines along Forest Road 279 to supply buffering capacity to tributaries of South Branch Kinzua Creek.*

The ARRC's supply buffering capacity to the watershed via the road ditch lines. Buffering materials included in roadside channels serve as a means of adding alkalinity during rain and snowmelt events, using the road and its storm water system as a passive treatment system. CDGR designed the road segments and Dr. Rachel Brennan, Penn State University (PSU),

analyzed the Acid Neutralizing Media (limestone sand and crab shell chitin) to be used within the passive treatment systems.

Construction was completed in July of 2009 with several sections of Forest Road 279 resurfaced using a limestone based Driving Surface Aggregate (DSA). In addition, roadside ditches were retrofitted with passive treatment systems containing either limestone sand or crab-shell chitin as a treatment media to adjust water quality.

In the summer of 2011, the US Forest Service utilized stewardship contracting and Eastern Brook Trout Joint Venture funding obtained by our partner the Pennsylvania Fish and Boat Commission to expand the ARRC treatments in this watershed. An additional 10,000 feet of new ARRC's passive treatments were constructed in one tributary of the SBKC watersheds. Almost 400 tons of limestone sand and 100 tons of R4 limestone rip rap were placed in the passive treatment ditch lines.

The design consisted primarily of 400 tons of limestone sand placed in ditches 12" wide and 4 to 6" deep. Additional materials were placed on 1800 feet of the existing ARRC's originally constructed in 2009 to bring them up to specification and improve performance. Finally, road surfaces were improved by placing limestone DSA at select locations. Selection locations were concentrated where road segments are within 300 feet on either side of the stream crossing and provided the added benefit of reducing sedimentation from road surfaces near stream crossings (see Center for Dirt and Gravel Roads report). A total of 7800 feet of limestone DSA (3572 tons) was applied to Forest Road (FR) 279, FR279G, FR279H, FR295, and FR587 at 13 perennial, intermittent, or ephemeral stream channels.

Biological and water quality monitoring efforts continue with the assistance of the McKean County Conservation District (MCCD), Clarion University of Pennsylvania (CUP), Western Pennsylvania Conservancy (WPC) and a collection of WINS volunteers.

The results have been promising. Improvements in water quality have been documented in each of the treated stream reaches. Alkalinity and pH levels rose sharply and then leveled off to adequate levels during the first year following treatment.

Key Partners included Center for Dirt and Gravel Roads, MCCD, PSU, CUP, US Forest Service, WPC, and the Cornplanter Chapter of Trout Unlimited.

### **Accomplishments**

Project is helping to re-establish brook trout recruitment in acid precipitation impaired stream reaches, and also attempting to establish new storm water Best Management Practices for maintenance or new construction of roads in watershed impacted by acid precipitation.

Water quality parameters show sustained improvement in all treatment reaches. Brook trout young of the year production has begun in two of three treatment reaches. Two native minnow species have re-colonized one treatment reach. Brook trout *redd* surveys documented spawning effort in treatment reaches.

**South Branch of Kinzua Creek - Stream Connectivity and Road Decommissioning Project**

Partner – Sponsor: US Forest Service

In conjunction with the alkalinity remediation, four Forest Road 279 stream crossing were replaced to allow for aquatic organism passage. All four crossings were instream barriers that prevented fish and other aquatic organisms from moving upstream to available habitat. As a result of the project fish, including eastern brook trout, are now able to access two additional miles of stream.



*Aquatic organism passage restored on a tributary to SBKC*

In addition, a fifth aquatic organism barrier was removed on FR485, where it crossed an unnamed tributary to South Branch Kinzua Creek. This project decommissioned ½ mile of road and returned the road bed to the natural topography of the area.

Key Partners included Center for Dirt and Gravel Roads, McKean County Conservation District, Pennsylvania State University, Clarion University of Pennsylvania, US Forest Service, Western Pennsylvania Conservancy, and the Cornplanter Chapter of Trout Unlimited.

***CLARION RIVER WATERSHED PROJECTS***



Photo courtesy of US Army Corp of Engineers

*East Branch Clarion River Lake near Wilcox, Pennsylvania*

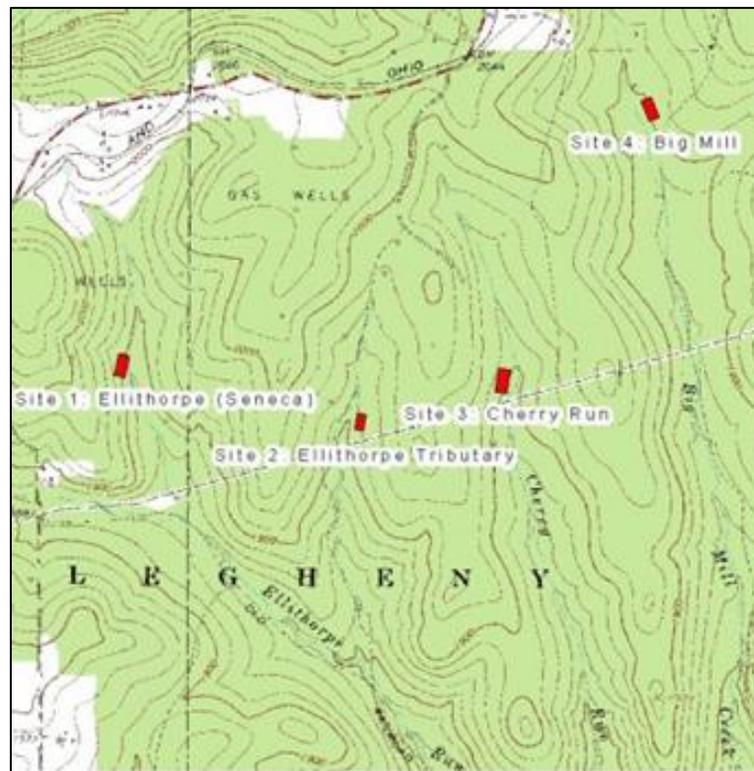
**Big Mill Creek Watershed Restoration Project**

Partners – Sponsors: Elk County Freshwater Association and Elk County Conservation District

The Elk County Conservation District and the Elk County Freshwater Association (ECFA) are proud to report that the Big Mill Creek Watershed Restoration Project is complete!

Big Mill Creek is located in Elk County, PA, and is a tributary to the Clarion River. Historically, the watershed supported a population of wild brook trout and large numbers of stocked trout (Brown, Brook and Rainbow). Unfortunately, Pennsylvania Fish and Boat Commission records dating back to the 1940’s reveal over time the long-term acidification of Big Mill Creek and its tributaries have resulted in marked decline in fish populations.

With the help of many partners, the group decided to install four Passive Treatment Systems on the headwaters of Big Mill Creek and several tributary headwaters where the acidification effects were most severe. ECFA and partners rounded up enough funds to build all four-treatment systems and the project was complete in December of 2011.



*Locations of (4) Passive Treatment Systems constructed in the headwaters of Big Mill Creek*

The technology used in this passive treatment approach involved a combination system utilizing aerobic limestone basin (AeLB) and anaerobic vertical flow wetland (AVFW). The combination system involves diversion, treatment, and return of a portion of the stream flow at several headwater tributary locations in the Big Mill Creek watershed. The diverted and treated stream

flow contain elevated alkalinity sufficient to mitigate both chronic and episodic acidification in the tributaries with the combination of projects preventing episodic acidification in the lower Big Mill Creek; maintain base flow pH > 6.5 and storm flow pH > 6. The combination of systems will restore water quality and aquatic life to at least 20 miles of Big Mill Creek and tributaries.

The following describes this process:



*1<sup>st</sup> - Water from the stream channel enters the treatment system through an intake pipe on the upstream side of a low-head dam.*



*2<sup>nd</sup> - Stream water enters the first pond (aerobic limestone basin) where it flows through limestone and begins the chemical reactions that will neutralize its acidity.*



*3<sup>rd</sup> - The partially treated water then flows into a second pond (anaerobic vertical flow wetland) lined with limestone and a mushroom compost substrate, where additional alkalinity is generated by both dissolution and bacterial sulfite reduction reactions.*



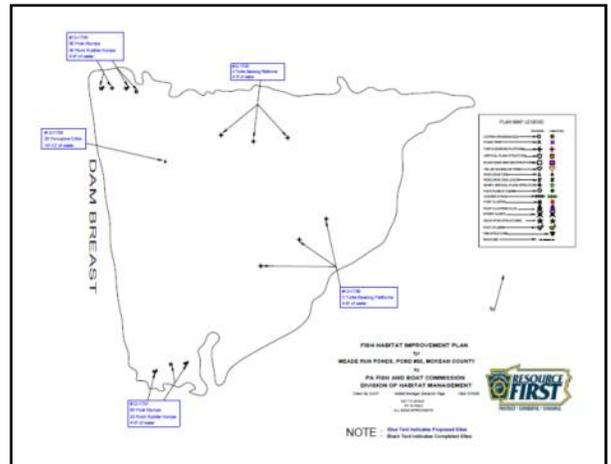
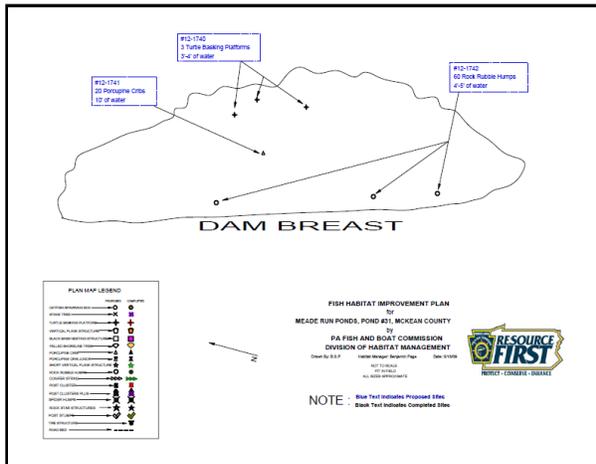
*4<sup>th</sup> - Treated flows back into the stream channel where the alkaline based water mixes with the calciteun treated acidic water, thus neutralizing the water that bypassed the system.*

### Meade Run Ponds Project

Partner Sponsors: Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, and US Forest Service

US Forest Service received funding from a Sinnemahoning Creek Watershed Restoration Grant to replace/repair outflow boxes and intake pipes that control water levels at three impoundments known as the Meade Run ponds. While the ponds were lowered for repairs, the funds were used to 1) install 21 duck boxes, 2) install fish structures (rock rubble humps, posts for vertical structure, and porcupine cribs), 3) improve/surface access for fisherman, 4) install osprey nesting platforms, 5) install turtle basking platforms, and 6) reshape/reseed the dam breasts.

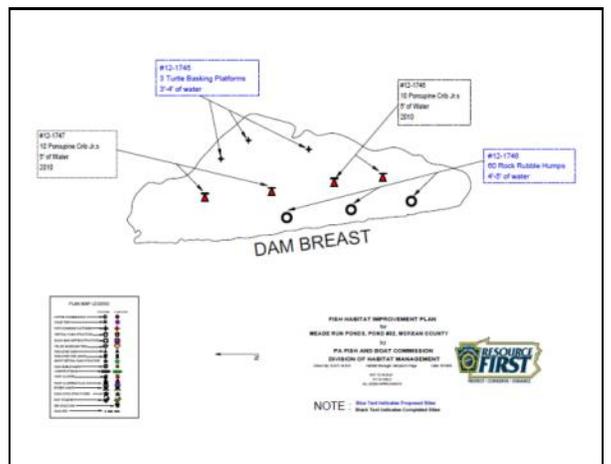
Partners in the project included the PA Fish and Boat Commission, Pennsylvania Game Commission, Mt. Jewett Sportsmen’s Club and the Boy Scouts.



Funds were used to purchase supplies and rent equipment. Partner work days were scheduled to complete habitat projects. The project is ongoing through 2012.

Presently, partners have installed 21 duck boxes, fish structures through 200 posts and 180 tons of R4 riprap, two osprey nesting poles and a perch pole, 65 porcupine cribs (total for two of the three ponds), repaired/reseeded the dam breasts, installed culverts, surfaced entry ways to ponds and are working on surfacing the parking areas.

A work day with the Mt. Jewett Sportsmen’s Club is scheduled in February 2012 to build the remaining porcupine cribs on the third pond. Boy Scouts are currently building and will install the turtle basking platforms.



**Spring Creek Watershed Restoration Project**

Partner – Sponsor: Western Pennsylvania Conservancy and US Forest Service

The Spring Creek watershed in Forest and Elk Counties is a major tributary of the Clarion River, a federally designated Wild and Scenic River that forms the southern boundary of the Allegheny National Forest. The forests and waters of the Spring Creek watershed are recovering from decades of unsustainable timber harvest and industrial development. Today the watershed is prized for its recreational resources, its timber base, and its coldwater fishery.

The goal of Spring Creek Watershed Restoration Project is to restore and improve riparian and instream habitat throughout the drainage by reducing sedimentation, rehabilitating riparian areas, and removing barriers to fish passage. Specific objectives of the project included: 1) reconstructing Forest Roads to improve drainage and reduce sedimentation; 2) eliminating multiple fish passage barriers associated with inadequate road crossings; 3) hardening and decommissioning dispersed camp sites; 4) hardening existing parking to reduce sedimentation while improving access to the stream; and 5) addressing soil and water impacts associated with approximately 80 miles of user- created horse trails.



*Multi-Log Vane Deflectors and Modified Mudsills*



*Culvert to be replaced on ATV Trail for Aquatic Organism Passage*

Since 2006, partners of the WINS Coalition have completed numerous projects including fish habitat projects, culvert replacement for aquatic organism passage (AOP), correcting runoff and erosion problems related to roads, and correcting horse trails. Future activities include:

- US Forest Service (USFS), Western Pennsylvania Conservancy, and Pennsylvania Fish and Boat Commission (PFBC) have begun planning for a second fish habitat improvement project on Spring Creek in October 2012.
- In 2012, USFS will decommission 0.4 miles of snowmobile trail along a tributary to Wolf Run and reconstruct this trail away from this stream to reduce sedimentation.
- In 2013, USFS will replace 10 road-stream crossings for AOP using stewardship contracting.

***TIONESTA CREEK WATERSHED PROJECTS***



Photo courtesy of US Army Corp of Engineers

*Tionesta Dam near Tionesta, Pennsylvania*

**Bobbs Creek Aquatic Organism Passage Project**

Partner - Sponsor: US Forest Service

Bobbs Creek is classified as a High Quality Coldwater stream by the Pennsylvania Department of Environmental Protection and holds a good population of native brook trout. It is also a major tributary to Tionesta Creek and ultimately the Allegheny River, a federally designated Wild and Scenic River. The drainage is recovering from decades of past exploitation and is now prized by the local community for its recreational resources and trout fishery.

The goal of the project is to restore and improve fish passage on three tributaries to Bobbs Creek. US Forest Service, US Fish and Wildlife Service, and Eastern Brook Trout Joint came together in 2011 to replace undersized crossings on two of the three streams with open-bottom culverts. At each crossing multiple round culverts were removed and replaced with open bottom arch culverts reopening approximately 3.5 miles of headwater streams to brook trout and associated cold-water species.

The third crossing is slated to be replaced in 2012.

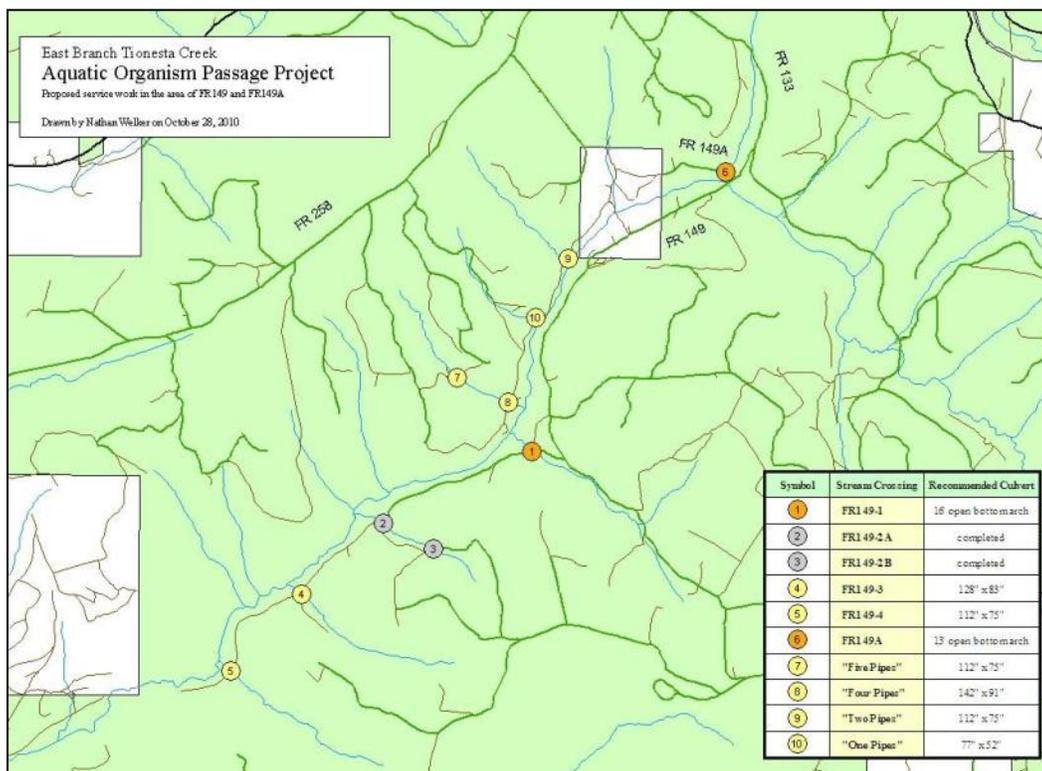


*Newly reconstructed stream crossing on an unnamed tributary to Bobbs Creek now allows for aquatic organism passage up into the headwaters*

**East Branch Tionesta Creek Aquatic Organism Passage Project**  
 Partner - Sponsor: US Forest Service and Western Pennsylvania Conservancy

The Martin Run project area on the Bradford Ranger District encompasses 20,300 acres of public and private land in the Tionesta Creek Watershed, Warren and McKean Counties. Home to a wide variety of fish, birds, and mammals, Martin Run plays an important role in maintaining the biological diversity on the Allegheny National Forest.

Working with the National Forest Foundation (NFF) and El Paso Corporation, US Forest Service identified 1,200 acres for restoration activity in the East Branch Tionesta Creek watershed. They then teamed up with the National Wild Turkey Federation, Western Pennsylvania Conservancy, and National Fuel Gas to implement a series of restoration activities within the Martin Run area including replacing eleven undersized stream crossings to allow for aquatic organism passage to nine tributaries.



*Stream crossings scheduled for replacement in the East Branch Tionesta Creek drainage*

Slated for completion in 2012 this collaborative project will:

- Decrease erosion and sedimentation improving water flow and quality
- Restore passage for native fish, increasing spawning and nesting habitat
- Improve stream habitat and increase native fish populations

**Ross Run Fish Habitat Improvement Project**

Partner – Sponsor: PA Fish & Boat Commission and Kellettsville Sportsmen’s Club

In August of 2011, Kellettsville Sportsmans Club (KSC) completed the third of three projects in the Ross Run fish habitat improvement project in Kingsley Township, Forest County. This year’s project was located immediately downstream of last year’s project and involved the placement of log and stone devices within a 400 foot reach of the main stem. Approximately 30 club members provided volunteer labor and were supported by other partners including, Collins Pine Company, Trout Unlimited, and US Army Corps of Engineers.



*Log devices placed in Ross Run*

Key Partners included KSC, Pennsylvania Fish and Boat Commission (PFBC), US Army Corps of Engineers (USACE), and Collins Pine Company.

**Accomplishments**

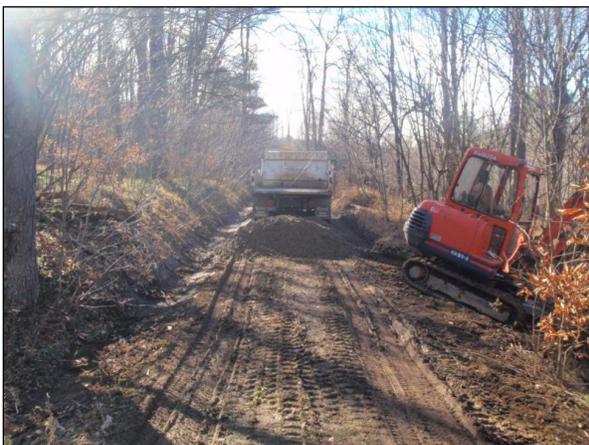
- KSC and PFBC completed the first three Phases of construction in 2009 - 2011.
- In 2011, KSC submitted an application for additional funding to continue future projects on the stream and USACE is considering a “Hand Shake Agreement” to make the area ADA accessible.

**West Branch Tionesta Creek Headwaters Restoration - North Country Connector Trail Project**

Partner – Sponsor: Pennsylvania Game Commission, Pennsylvania DCNR Bureau of State Parks, and US Forest Service

The North Country Connector Trail (NCCT) project is a large piece of the overall strategy to remediate environmental problems and enhance recreational opportunities in the headwaters of West Branch Tionesta Creek.

In 2007, WINS Coalition partners completed a survey of the headwaters area and identified ten areas of concern on State Game Lands 29 (SGL29) and the Allegheny National Forest. The most significant of these was Forest Road 536 (FR536) which parallels the main stem from Chapman State Park to the Heart’s Content National Scenic Area and the North Country Trail system. The roadway was found to be impacting water quality in the West Branch and its tributaries at numerous locations, largely through sedimentation.



*Crowning the road and cleaning the ditch lines on the Chapman State Park portion of the NCCT*

FR536 has fallen into disrepair from lack of maintenance and is now heavily rutted and pot-holed, requiring a four-wheel drive vehicle to traverse. The problem is exacerbated by the fact that FR536 follows a historic road grade which parallels the main stem through a wet bottomland area. In total, 5.7 miles of roadway and 120 culverts need to be reconstructed and replaced or decommissioned.

This was a concern because the West Branch is classified as a High Quality Cold Water Fishery (HQ-CWF) by the Pennsylvania Department of Environmental Protection, and its six main tributaries in the project area, Adams Run, Slater Run, Shaw Run, Toms Run, Jones Run and Wildcat Run, are either HQ-CWF or Exceptional Value streams.



*DCNR and Penn DOT work together to apply DSA limestone surfacing on the Chapman State Park portion of the NCCT*

The NCCT project will reconstruct FR536 linking and enhancing access to the collective recreational resources of Chapman State Park, SGL29, and the Allegheny National Forest via a 5.7 mile connector trail. The roadway is currently designated as a horse and bike trail on SGL29, but upgrades in road surfacing, stream crossings, and ADA-accessible parking are needed to enhance year-round recreational opportunities including hiking, biking, wildlife watching, cross-country skiing, horseback riding, hunting, and fishing.

Of equal importance, these very same upgrades will also provide much needed environmental improvements along FR536. Multiple fish passage barriers will be eliminated and the volume of sediment flowing to streams and nearby wetlands will be greatly reduced. The NCCT is a model project that demonstrates how recreational improvements and ecological restoration can be implemented jointly to benefit the resource, the user, and the region.

Pennsylvania Game Commission (PGC) engineers in consultation with US Forest Service (USFS) will have a bid package prepared by March 2011 for the repair of the USFS and PGC portions of the road. Work will begin in late spring and should be finished before the end of summer 2011.

Key partners in this project include the Allegheny Outdoor Club (AOC), Pennsylvania Department of Conservation of Natural Resources (DCNR), DCNR Bureau of Forestry, PGC, Penn Soil Resource Conservation and Development Council, Northwest Commission, Warren County Planning and Zoning Commission, Western Pennsylvania Conservancy, and the USFS.

### **Activities and Accomplishments**

- WINS pre-project monitoring fish surveys were completed in July of 2008 and macroinvertebrate surveys were completed in the spring of 2009.
- The NCCT was added to Warren County's Greenways Plan in August of 2008.
- DCNR, Pennsylvania Fish and Boat Commission, and USFS completed a shoreline stabilization project in Chapman State Park in October of 2008.
- USFS, PGC, AOC, and Western Pennsylvania Conservancy completed a road decommissioning project on SGL29 in May 2009 (see Earth Day 2009).
- In May 2010, DCNR partnered with Penn Soil RC&D Council to obtain a \$10,000 Northwest Greenways Grant to reconstruct the Chapman State Park portion of the NCCT.
- In May 2011 Chapman State Park personnel worked with Penn DOT crews through an Agility Agreement to place 200 tons of limestone along the portion of the trail through Chapman SP. This portion of the trail is now complete.

***MONITORING and ASSESSMENTS***



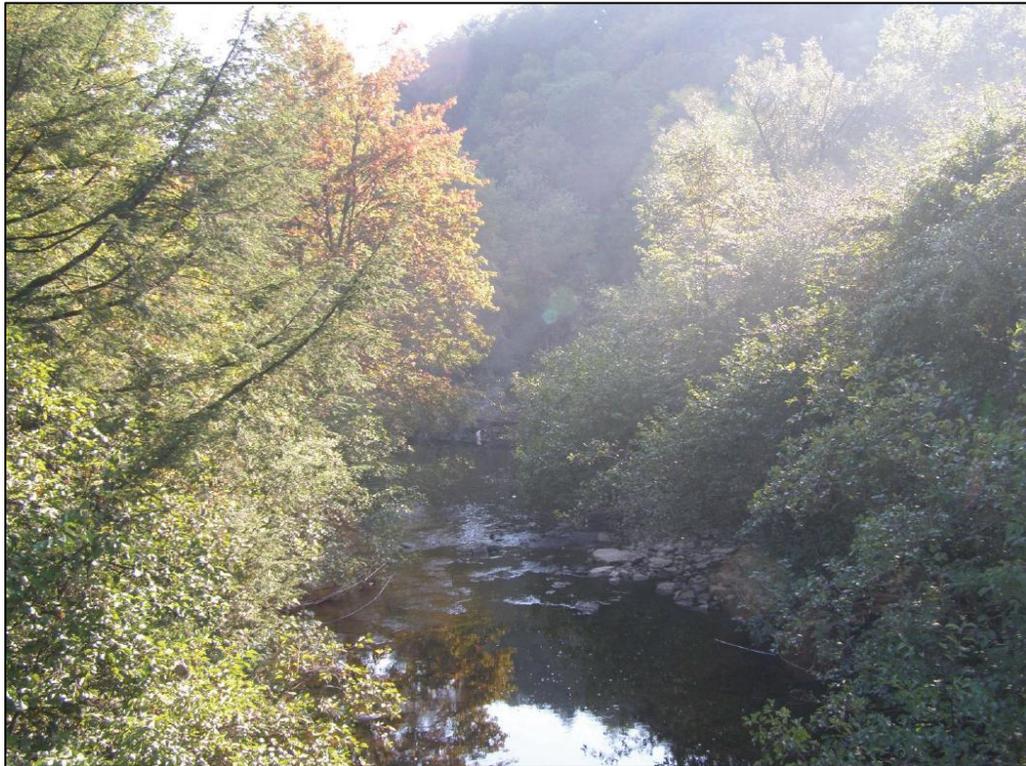
*Measuring water quality in Meade Run, tributary to Kinzua Creek*

**Brokenstraw Creek Watershed Conservation Plan**

Partner - Sponsor: Western Pennsylvania Conservancy

A major tributary to the Allegheny River, Brokenstraw Creek flows 37 miles from its headwaters in Chautauqua County, New York to the Allegheny National Forest – Buckaloons Recreation Area in Warren County, Pennsylvania.

Located within Crawford, Erie, and Warren counties in Pennsylvania and Chautauqua County, New York, the project area includes 327 square miles in 15 municipalities and six towns.



*Morning on Brokenstraw Creek*

The Brokenstraw Creek Watershed Conservation Plan is a comprehensive study that compiles broad-based data about recreational, historical, socio-economic, and natural resources throughout the region. The plan involves a strong community participation element through the identification of local needs and concerns.

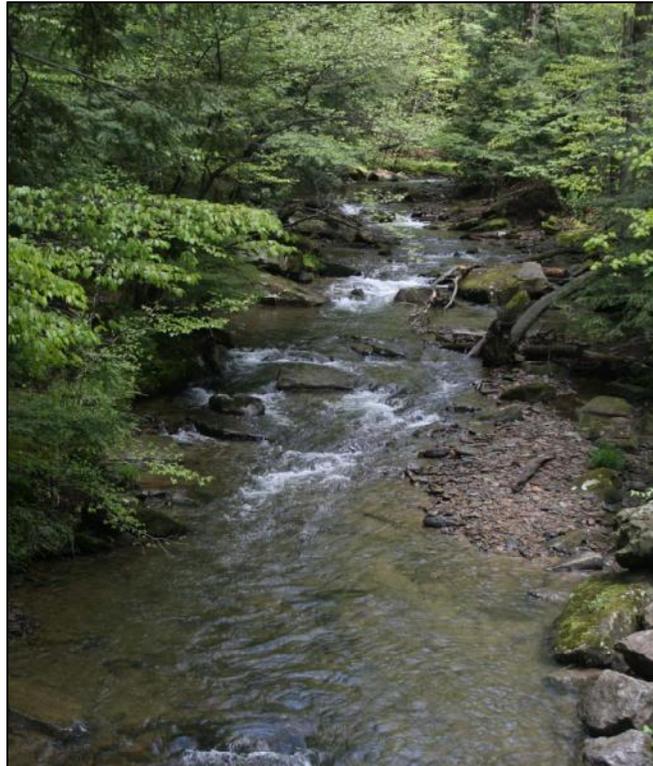
The Plan was conducted to document current conditions that identify initiatives to improve the livability and attractiveness of the region. Through public perception of current conditions and future expectations, the plan engages community involvement to develop a future vision for the watershed and create a prioritized list of recommendations to achieve this vision.

Key participants in the study include the Western Pennsylvania Conservancy, Brokenstraw Watershed Council, Warren County Conservation District, and the US Forest Service.

**Browns Run Coldwater Conservation Plan**

Partner - Sponsor: Western Pennsylvania Conservancy

Located within Mead and Pleasant townships near the City of Warren in Warren County, the Browns Run basin contains three streams classified as Exceptional Value (EV): Browns Run, Morrison Run, and Dutchman Run.



*Browns Run is home to good population of wild brook trout*

This project was a comprehensive assessment of the Browns Run watershed to collect baseline data on water quality and aquatic health. The Plan documents current conditions and identifies initiatives to improve the livability and attractiveness of the region. Through public perception of current conditions and future expectations, the plan engages community involvement to develop a future vision for the watershed and create a prioritized list of recommendations to achieve this vision.

Key participants in the study include the Western Pennsylvania Conservancy, Warren County Conservation District, Complanter Chapter of Trout Unlimited, and the US Forest Service.

**Eastern Hellbender Surveys and Assessment**

Partner: Western Pennsylvania Conservancy

Eastern hellbenders can grow to 30 inches long and are the largest salamander species found in the United States. Hellbenders are a totally aquatic species that inhabit large streams and rivers. Their distribution in Pennsylvania is within the Ohio, Allegheny, and Susquehanna watersheds, with most animals being found in tributaries to these large systems due to water quality issues and habitat degradation. In the Allegheny Nation Forest, we found hellbenders in four previously unknown locations, which add greatly to our knowledge of this reclusive animal's distribution in Pennsylvania.

Hellbenders are difficult to find for several reasons. First, hellbenders require exemplary water quality in order to survive and reproduce. Habitat loss due to dams, poor agricultural practices, heavy logging, and acid mine drainage has greatly reduced hellbender populations. Second, hellbenders live under large, heavy rocks that require numerous people to lift.



*Catching a hellbender is similar to blindly trying to grab a water balloon covered with mucus underwater — definitely a learned skill.*

Western Pennsylvania Conservancy (WPC) is spearheading efforts to study and protect the eastern hellbender salamander by working with partners to ascertain the status of the hellbender in western Pennsylvania. In addition to WPC's academic partners, 15 volunteers representing eight organizations donated 276 hours to aid with survey efforts in 2011. In addition to documenting hellbender locations, WPC is also working to protect and improve the quality of streams that harbor hellbenders.

**Sediment Production from Shallow Oil & Gas Access Roads in the Allegheny National Forest**

Partner: PSU Center for Dirt and Gravel Roads, US Department of Energy-National Energy Technology Laboratory, US Forest Service Allegheny National Forest, and US Forest Service Northern Research Station.

This project quantified sediment production from 14 sections of road impacted by the shallow oil and gas industry within the Allegheny National forest. In 2012, four of those sites then had a new surface applied and the testing was repeated on the new surfaces. The purpose of this research was to quantify and compare sediment production rates from existing roadways, and to determine potential reductions in sediment runoff after placement of various aggregate on the road.

*The full report is available at [www.dirtandgravelroads.org](http://www.dirtandgravelroads.org) under “research”.*

**Rainfall Simulator:** A rainfall simulator, or “Rainmaker”, was used in this study in order to create a controlled and repeatable rain event. This makes it possible to compare sediment production between sites, or to compare sediment production “before” and “after” projects are completed on a section of road. The Rainmaker is a rainfall simulator developed by the Center that creates a 0.6” rainfall event in 30 minutes over a 100’ length of road. The Rainmaker creates a rainfall event that is equivalent to a 1-month return interval for a 30 minute storm for most of Pennsylvania. The Rainmaker was used on each of the fourteen 100’ road test segments in this study. Each site test consisted of three 30-minute runs of the rainmaker, with 60 minutes of drying time and 20 vehicle passes between runs. Flow and sediment samples were taken at regular intervals to determine the total sediment loss for each section of road. The three test runs were combined for each section of road to determine the average sediment loss for one 30 minute event.



*Rainfall simulator running on site C in the Allegheny National Forest.*

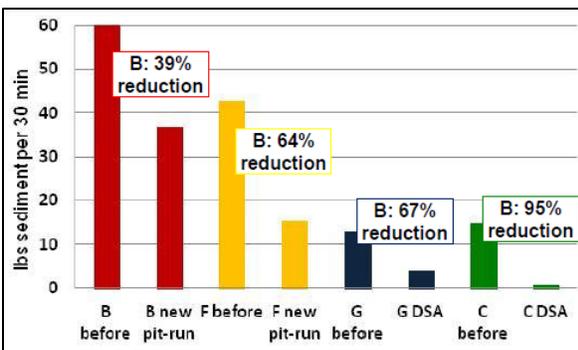
**Part I: Sediment Production from Existing Roads**

Sediment production was measured on 14 existing roads in the Allegheny National Forest. **The average sediment production from the 1,400 feet of road tested in this study was 25 pounds for a single 30 minute rain event of 0.6". This equates to 1,300 pounds of sediment production per mile of roadway for a single rain event.** Some other trends in the data include:

- Site A, partially covered by grass, had least amount of sediment production.
- A significant “first flush” effect was seen on all sites where most of the sediment left during the first 5-10 minutes of runoff.
- Without traffic stress, the best indicators of sediment production from the roads tested were road slope combined with road width. If the road is stressed by traffic, then sediment production becomes less dependent on road width and slope, and more dependent on road strength as measured by the California Bearing Ratio.

**Part 2: Sediment Production after Use of New Aggregate**

Four of the sites detailed above (sites B, F, G, and C) had a new aggregate surface placed on them in 2011 (two with “pit-run aggregate” and two with Driving Surface Aggregate). The newly placed pit-run material reduced sediment production by 39% and 64% (note that these two sites happened to have a higher “before” sediment production). The newly placed Driving Surface Aggregate material showed sediment reductions of 67% and 95%. A direct comparison between pit-run and DSA sediment production shows that the two pit-run sites produced 10 times the amount of sediment of the two DSA sites (avg 26.1 lbs. and 2.5 lbs. respectively). The sediment reductions found from DSA placement were similar to previous studies conducted by the Center. Previous research conducted in 2007 showed sediment reductions from DSA placement of 75% after one month and 90% after one year in a similar study.



*Average sediment runoff per 30 minute event both before and after aggregate placement.*



*Runoff collection point from site C both before (2010) and after (2011) DSA limestone placement*

**Water Quality Monitoring Network**

Partner: Trout Unlimited - Iron Furnace, Cornplanter, and Seneca Chapters, and Elk, McKean, and Warren County Conservation Districts

The rapid expansion of Marcellus extraction activities on primarily public lands has prompted WINS Coalition partners to initiate a three tiered program to help monitor activities and protect important water resources where needed. Our first effort (Tier I) in this initiative is the deployment of TU trained Coldwater Conservation Corps volunteers to monitor local watershed activities in our region. In addition, more intensive water quality monitoring will be conducted in the Allegheny National Forest through the operation of a network of stations in smaller sub-watersheds using data loggers (Tier II) and in larger basins using permanent multi-parameter real-time stations (Tier III) in areas targeted for Marcellus development. The monitoring approach is based on the successful network currently in use in the Susquehanna River watershed by the Susquehanna River Basin Commission.



*Stake and data logger (left) and real-time monitoring station (right).*

In support of these efforts the Colcom Foundation has provided grants to Iron Furnace Chapter of Trout Unlimited (\$150,000), Elk Co. Conservation District (\$211,000), and McKean Co. Conservation District (\$23,600) to continue monitoring water quality in at-risk watersheds. TUIFC's network will initially consist of five (5) real-time monitoring stations and upwards of 10 data loggers in sub-basins in the Clarion River and Tionesta Creek drainages covering the eastern half of Forest County. ECCD plans to set up 11 real-time monitoring stations in municipal drinking water watersheds and 12 data loggers throughout Elk County. MCCD will install 10 data loggers throughout McKean County.

The ColCom Foundation *Marcellus Environmental Fund* was established in 2010 to provide assistance to western Pennsylvania communities as they work to assess and mitigate negative impacts of development and drilling in Marcellus Shale Regions, and to preserve natural resources.

***ENVIRONMENTAL EDUCATION and OUTREACH***



*Guru Dr. Jack Williams enlightens the next generation*

***Earth Day 2011 Events***

WINS Coalition partners organized a broad range of events in observance of the 41st Anniversary of Earth Day. For more information or to volunteer for upcoming events, contact information is provided.

**Trout and Clean Streams Expo, 4<sup>th</sup> Annual** (April 9): This annual event is hosted by the Cornplanter Chapter of Trout Unlimited and takes place on the Saturday before opening day of Pennsylvania's trout season. It is held at the Sheffield Lions Den from 10:00 a.m. to 5:00 p.m. Next year's date is set for Monday, April 9, 2011. Contact: Gary Kell, TUCC, at 814-723-4689 or [garyffc1@verizon.net](mailto:garyffc1@verizon.net).

**Tionesta Reservoir Cleanup - WINS Coalitions 3<sup>rd</sup> Annual Earth Day Event** (April 23): US Army Corps of Engineers observed Earth Day by organizing the first annual Tionesta Reservoir Cleanup. Contact: Jason Quinn, USACE, at 814-755-3512 or [jason.quinn@usace.army.mil](mailto:jason.quinn@usace.army.mil).

**Beaty Warren Middle School** (Earth Day, April 20): Freshwater resources presentations were provided for each of the 6th grade science classes. Students learned about how much fresh water is available globally, freshwater habitats, and threats to freshwater resources. Presenters also used National Geographic's on-line water consumption calculator to learn how much water it takes to produce a single cow, goat, or sheep or non-food products like a pair of jeans. Contact: Barb McGuinness, US Forest Service (USFS), at 814-563-1040 or [bmcguinness@fs.fed.us](mailto:bmcguinness@fs.fed.us).

**Envirothon Study Day** (April 22): Elk Co. Conservation District worked with USFS to organize an "Envirothon Study Day" at the USFS Marienville Office on Earth Day. Contact: Kim Bonfardine, ECCD, at 814-776-5373 or [kbonfardine@countyofelkpa.com](mailto:kbonfardine@countyofelkpa.com).

**Warren County Envirothon** (May 6): Jean Gomory, Warren Co. Conservation District, organized the annual Envirothon this year at Chapman State Park. The current issue was "Salt & Freshwater Estuaries." Contact: Jean Gomory, WCCD, at 814-726-1441 or email [jgomory@wconconservation.net](mailto:jgomory@wconconservation.net).

**Allegheny Reservoir Cleanup**, 6th Annual (June 11): 65 volunteers collected 12 cubic yards of trash and litter from the shoreline of the Allegheny Reservoir. Contact: Nathan Welker, USFS, at 728-6163 4689 or email [nwelker@fs.fed.us](mailto:nwelker@fs.fed.us).

**Sugar Grove Elementary School 'Green Day'** (May 16): This year's event played host to over 250 elementary school students who travelled to a small farm in Sugar Grove where they learned about the outdoors and farms. Twenty-six presenters from a various organizations covered topics including: composting, wildlife sounds, farm animals, tree identification, plus many more. Next year's date is set for Monday, May 29, 2012. Contact: Katie Keeports, SGES, can be reached at [Katie.Keeports@wcdpa.org](mailto:Katie.Keeports@wcdpa.org).

**St. Joseph Catholic School 'Green Day'** (May): Similar to Sugar Grove Elementary "Green Day", this full-day field trip included all of St. Jo's students traveling to the same small farm in Sugar Grove to explore agriculture and conservation related issues. Contact: Barb McGuinness, USFS, at 814-563-1040 or [bmcguinness@fs.fed.us](mailto:bmcguinness@fs.fed.us).

**Trout in the Classroom**

Partner: Trout Unlimited - Cornplanter and Iron Furnace Chapters

In 2006, Pennsylvania Council of Trout Unlimited (PATU) and the Pennsylvania Fish and Boat Commission began to lay the groundwork for a statewide Trout in the Classroom program. The Pennsylvania Department of Education (PDE) - Department of Environment and Ecology is also a supporter of the program through funding and curriculum assistance.

Through this program, Allegheny WINs partners and TU members team up to work with the youth to ensure that they understand why it is important to protect and restore our coldwater resources. Trout Unlimited chapters currently sponsor 167 classrooms statewide, 29 of which are located in the northwest region.



*Keystone High School students, Knox, Clarion County*

Trout in the Classroom (TIC) is an environmental education program in which students in grades 3 through 12 raise trout from eggs to fry, monitor tank water quality, study instream habitat, learn to appreciate water resources, begin to foster a conservation ethic, and grow to understand ecosystems. Trout Unlimited members work hand-in-hand with teachers and students to implement the program.

Most programs end the year by releasing trout in a state-approved stream near the school or within a nearby watershed (not into Class A trout streams). During the year, each teacher tailors the program to fit his or her curricular needs; therefore, each program is unique. TIC has

interdisciplinary applications in science, social studies, mathematics, language arts, fine arts, and physical education.

TU provides the school with funding for all of the necessary equipment and training to start the program through grants. PATU offers two different grant opportunities, startup grants and existing program grants. Grants are awarded to applicants who are (501)c3 organizations that have developed a partnership with a teacher.

A start-up grant provides all equipment needed to begin the program except for an aquarium and lid. There is a \$350 cash match required. All equipment is mailed directly to the school. The \$350 cash match and aquarium can be acquired through grants, community fundraising, and/or personal donations.

Grants are also available to applicants who have functioning TIC programs. The Existing Program grant provides existing TIC programs with up to \$500 for specific replacement aquarium equipment, curriculum materials (books/videos), and field trips.

Each new grant provides the school with \$1,000 worth of equipment and supplies, half of which is supported by the local TU chapter. Additional grants may be awarded in subsequent years of up to \$300 for replenishment materials and equipment so projects can continue in the next school year.

<b>ALLEGHENY WINS PROJECT FUNDING</b> (April 2007 – December 2011)				
<b>CLARION RIVER WATERSHED PROJECTS</b>				
Big Mill Creek Acid Remediation	Improve water quality and aquatic ecosystem health by constructing passive treatment pond systems	Elk County Freshwater Association	PA Dept. of Env. Protection (DEP) - Growing Greener	\$ 414,000
			PA Dept. of Conservation of Natural Resources (DCNR)	\$ 250,000
			Stackpole Hall Foundation	\$ 50,000
			DEP Growing Greener	\$ 393,000
Clarion River Dispersed Recreation	Address erosion, sedimentation, and sanitation concerns	Elk County Commissioners	DCNR	\$ 107,700
Spring Creek Watershed Restoration	Eliminate aquatic organism passage (AOP) barriers and improve stream crossings, decommission roads, repair and add limestone to dirt and gravel roads to improve drainage and reduce sedimentation; improve instream and riparian habitat	US Forest Service (USFS)	USFS - Knutson-Vandenberg (KV) and watershed funds	\$ 118,860
			Garden Club Federation	\$ 7,500
			USFS - Stewardship Contracting	\$ 110,000
		Western Pennsylvania Conservancy (WPC)	National Forest Foundation (NFF)	\$ 15,000
			WPC	\$ 50,000
		PA Fish & Boat Commission (PFBC)	PFBC Cooperative Habitat Improvement Funds (CHIP)	\$ 6,000
PA Game Commission (PGC)	WPC	\$ 20,000		
<b>Clarion River Watershed Subtotal</b>				<b>\$ 1,542,060</b>

*table continues on following page*

<b>TIONESTA CREEK WATERSHED PROJECTS</b>				
<b>Project</b>	<b>Objectives</b>	<b>Sponsor</b>	<b>Grantor</b>	<b>Funding</b>
Bobbs Creek	Eliminate (3) AOP barriers, reduce erosion and sedimentation	USFS	USFS - Stewardship Contracting	\$ 200,000
			National Wild Turkey Fed.	\$ 10,000
E Br. Tionesta Creek Aquatic Organism Passage (AOP) Project	Eliminate (10) AOP barriers on tribs	USFS	NFF	\$ 211,000
			National Fuel Gas	\$ 90,000
Ross Run	Fish habitat improvement	Kellettsville Sportsmans Club (KSC) PFBC	KSC	\$ 4,230
			Collins Pine	\$ 650
			PFBC CHIP	\$ 11,315
2011 Tionesta Reservoir Cleanup	Remove trash & litter from impoundment	US Army Corps of Engineers (USACE)	Penn Soils RC&D	\$ 100
			Private Donations	\$ 100
West Branch Tionesta Creek Watershed Restoration	Eliminate AOP barriers, reduce erosion and sedimentation, link and enhance local rec. resources	USFS	USFS - American Recovery and Reinvestment Act	\$ 250,000
			PGC	\$ 50,000
			DCNR / Penn Soils RC&D	\$ 11,300
	Chapman lake bank stabilization project	DCNR	DCNR	\$ 12,510
			PFBC	\$ 2,000
	Fish Habitat Improvement Project (FHIP)	USFS (Farnsworth)	USFS - NFWF	\$ 5,914
			PFBC CHIP	\$ 1,500
			PGC	\$ 1,680
			PFBC CHIP	\$ 2,138
			DCNR (Chapman State Park)	\$ 1,640
		PFBC CHIP	\$ 1,076	
<b>Tionesta Creek Watershed Subtotal</b>				<b>\$ 867,153</b>

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UPPER AND MIDDLE ALLEGHENY RIVER WATERSHED PROJECTS				
Project	Objectives	Sponsor	Grantor	Funding
2011 Allegheny Reservoir Cleanup	Remove trash & litter from impoundment	USFS	Veolia	\$ 400
			Walmart	\$ 100
			Warren County Chamber of Business & Industry	\$ 100
2011 Allegheny River Cleanup	Remove trash & litter from impoundment	USFS / Allegheny Outfitters	Allegheny Outfitters	\$ 1,000
			Veolia	\$ 2,000
			USFS - National Public Lands Day Grant	\$ 1,000
			PNC Bank	\$ 1,000
			Whirley DrinkWorks!	\$ 1,000
			Northwest Savings	\$ 750
			Mangiones Beverage	\$ 500
			Tim Horton's	\$ 500
			Dominos	\$ 200
			Walmart	\$ 150
			Bilo	\$ 60
Big Bend Recreation Area  (project continues on next page)	Bird Viewing Platform - construct a bird-viewing platform and a Riverside Watchable Wildlife Trail overlooking the Kinzua Dam and Allegheny River to provide an environmental education and recreation opportunity	Allegheny Outdoor Club (AOC)	DCNR Lumber Heritage Region Grant	\$ 25,000
			FirstEnergy Foundation	\$ 20,000
			Community Foundation of Warren County	\$ 7,500
			Northern Allegheny Conservation Assoc.	\$ 2,000
			Boy Scouts of America	\$ 1,950
			Warren County Council of Sportsman	\$ 1,500

			<table border="1"> <tr> <td>Beets Foundation</td> <td>\$ 1,000</td> </tr> <tr> <td>Whirley DrinkWorks!</td> <td>\$ 1,000</td> </tr> <tr> <td>Private Donations</td> <td>\$ 1,880</td> </tr> <tr> <td>AOC</td> <td>\$ 955</td> </tr> <tr> <td>Eastern National Forest Interpretive Association (ENFIA)</td> <td>\$ 500</td> </tr> <tr> <td>Water Resources Education Network</td> <td>\$ 280</td> </tr> </table>	Beets Foundation	\$ 1,000	Whirley DrinkWorks!	\$ 1,000	Private Donations	\$ 1,880	AOC	\$ 955	Eastern National Forest Interpretive Association (ENFIA)	\$ 500	Water Resources Education Network	\$ 280	
Beets Foundation	\$ 1,000															
Whirley DrinkWorks!	\$ 1,000															
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AOC	\$ 955															
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Water Resources Education Network	\$ 280															
		USACE	<table border="1"> <tr> <td>USACE</td> <td>\$ 18,683</td> </tr> <tr> <td></td> <td>\$ 3,000</td> </tr> </table>	USACE	\$ 18,683		\$ 3,000									
USACE	\$ 18,683															
	\$ 3,000															
	Boat Launch - improve boater access and address safety concerns	AOC & USACE	<table border="1"> <tr> <td>Community Foundation of Warren County</td> <td>\$ 15,000</td> </tr> <tr> <td>FirstEnergy Foundation</td> <td>\$ 10,000</td> </tr> <tr> <td>Beets Foundation</td> <td>\$ 1,000</td> </tr> <tr> <td>Sokolski Foundation</td> <td>\$ 1,000</td> </tr> <tr> <td>USFS</td> <td>\$ 7,500</td> </tr> </table>	Community Foundation of Warren County	\$ 15,000	FirstEnergy Foundation	\$ 10,000	Beets Foundation	\$ 1,000	Sokolski Foundation	\$ 1,000	USFS	\$ 7,500			
Community Foundation of Warren County	\$ 15,000															
FirstEnergy Foundation	\$ 10,000															
Beets Foundation	\$ 1,000															
Sokolski Foundation	\$ 1,000															
USFS	\$ 7,500															
Brokenstraw Creek Conservation Plan	Establish baseline dataset, document threats, develop recommendations	WPC	Coldwater Heritage Program	\$ 5,000												
Browns Run Conservation Plan				\$ 5,000												
McKean County FHIP Efforts	Stabilize 7,618 feet of streambank, create 2 miles of riparian area, plant 900 trees	McKean County Conservation District (MCCD)	<table border="1"> <tr> <td>DEP Growing Greener II County Environmental Initiative</td> <td>\$ 150,000</td> </tr> <tr> <td>DEP - Stream Improvement Program</td> <td>\$ 117,020</td> </tr> <tr> <td>PFBC - Sinnemahoning Watershed Grant</td> <td>\$ 255,000</td> </tr> <tr> <td>Casella</td> <td>\$ 52,300</td> </tr> </table>	DEP Growing Greener II County Environmental Initiative	\$ 150,000	DEP - Stream Improvement Program	\$ 117,020	PFBC - Sinnemahoning Watershed Grant	\$ 255,000	Casella	\$ 52,300					
DEP Growing Greener II County Environmental Initiative	\$ 150,000															
DEP - Stream Improvement Program	\$ 117,020															
PFBC - Sinnemahoning Watershed Grant	\$ 255,000															
Casella	\$ 52,300															

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<b>Project</b>	<b>Objectives</b>	<b>Sponsor</b>	<b>Grantor</b>	<b>Funding</b>
Meade Run Ponds Project	Replace/repair outflow boxes and intake pipes, fish and wildlife habitat improvements	USFS / PFBC / PGC	PFBC - Sinnemahoning Watershed Grant	\$ 20,000
			PFBC / PGC	\$ 18,480
			USFS watershed funds	\$ 6,968
Morrison Run Watershed Restoration	Decommission heavily eroded ford	Cornplanter Chapter of Trout Unlimited (CCTU)	First Energy	\$ 1,000
			PA General Energy	\$ 1,000
			CCTU	\$ 800
	Fish habitat improvement	PFBC	CHIP (2009 - 2011)	\$ 3,200
	Streambank stabilization (BPRR trestle)	USFS	USFS	\$ 2,500
			Gas & Oil Management, Inc.	\$ 500
	Dam removal (lower) and bridge replacement	CCTU	PGC	\$ 25,000
USFWS			\$ 16,000	
CCTU			\$ 1,200	
Rain Barrel Workshop	Environmental education	Warren County Conservation District	DEP Environmental Education Grant	\$ 1,019
South Branch Kinzua Creek	Phase I - construct acid precipitation PTS, reduce sedimentation, and replace undersized culverts	PFBC	PA Fish and Boat Commission	\$ 120,000
			EBTJV	\$ 25,000
	Phase II	USFS	Capital improvement and road maintenance funds	\$ 104,482
			Capital improvement and road maintenance funds	\$ 60,000
Willow Bay	Fish habitat improvement and wetland restoration	WPC	USFS - KV and watershed funds	\$ 44,650
<b>Upper and Middle Allegheny River Watershed Subtotal</b>				<b>\$ 1,165,818</b>

*table continues on following page*

<b>MONITORING AND ASSESSMENT</b>				
<b>Project</b>	<b>Objectives</b>	<b>Sponsor</b>	<b>Grantor</b>	<b>Funding</b>
"Rainmaker" Sediment Production Study	Quantified sediment production from roads impacted by shallow oil and gas production in the Allegheny National Forest	USFS	US Dept. of Energy - National Energy Technology Laboratory	\$ 75,000
			USFS, Northern Area Research Station	\$ 5,000
			USFS, ANF	\$ 12,000
Water Quality Monitoring and Stream Assessments	Monitoring water quality and flow and assessing streams before, during, and after Marcellus Shale gas drilling operations	Elk County Conservation District	Stackpole Hall Foundation	\$ 65,000
			Colcom Foundation	\$ 146,000
		MCCCD	Colcom Foundation	\$ 23,600
			SM Energy	\$ 6,151
			DEP Environmental Education Grant	\$ 7,500
		Trout Unlimited - Iron Furnace Chapter	Colcom Foundation	\$ 150,000
Hellbender Surveys	Ascertain the status of the hellbenders in western PA	WPC	DCNR Wildlife Resource Cons. Grant	\$ 36,000
<b>Monitoring and Assessment Subtotal</b>				<b>\$ 552,206</b>
<b>TOTAL EXTERNAL FUNDING</b>				<b>\$ 4,127,238</b>

<b>ALLEGHENY WINS VOLUNTEER CONTRIBUTIONS</b> (April 2007 – December 2011)				
<b>Project</b>	<b>Objectives</b>	<b>Partners</b>	<b>Volunteers</b>	<b>Hours</b>
<b>CLARION RIVER WATERSHED PROJECTS</b>				
Big Mill Creek	Acid Remediation	ECCD and ECFA	166	300
<b>TIONESTA CREEK WATERSHED PROJECTS</b>				
Ross Run	Fish habitat improvement	Kellettville Sportsmen’s Club, PFBC, and USACE	32	256
Tionesta Reservoir Cleanup (1st Annual)	Collect trash from 12.6 miles of reservoir shoreline	USACE, USFS, and others	85	595
<b>UPPER &amp; MIDDLE ALLEGHENY RIVER WATERSHED PROJECTS</b>				
Allegheny Reservoir Cleanup (7th Annual)	Collect trash from 38 miles of reservoir shoreline	USFS, USACE, PFBC, and 9 other organizations	65	520
Allegheny River Cleanup (3rd Annual)	Collect trash from 31 miles of the river and two major tributaries	CCWA, USACE, USFS, WCAPP, and 68 other orgs.	403	3,224
Meade Run Ponds	Fish and wildlife habitat improvement	USFS, PGC, PFBC, and others	21	63
Morrison Run Watershed Restoration	Fish habitat improvement	CCTU, PFBC, and USFS	14	84
<b>MONITORING AND ASSESSMENT</b>				
Water Quality Monitoring and Stream Assessments	Monitoring water quality and flow and assessing streams before, during, and after Marcellus Shale gas drilling operations	ECCD	12	58
		MCCD	14	112
		TUFC	8	32
Hellbender Surveys	Ascertain the status of the hellbenders in western PA	WPC	15	135
<b>TOTAL VOLUNTEERS &amp; HOURS DONATED</b>			<b>835</b>	<b>5,379</b>

**Allegheny WINS Partners**

Partnerships and volunteers have made the WINS coalition the success that it is. Credit is due to various individuals from the organizations and government agencies listed below along with many others.

**Non-profits****Acronyms**

Allegheny Outdoor Club	AOC
Brokenstraw Watershed Council	BWC
Conewango Creek Watershed Association	CCWA
Elk County Freshwater Association	ECFA
Kellettville Sportsmans Club	KSA
Kinzua Fish and Wildlife Association	KFWA
Penn Soil Resource Conservation and Development Council	PSRC&D
Pennsylvania Council of Trout Unlimited	PATU
Pennsylvania Council of Trout Unlimited – Cornplanter Chapter	CCTU
Pennsylvania Council of Trout Unlimited – Iron Furnace Chapter	IFTU
Pennsylvania Council of Trout Unlimited – Jim Zwald Chapter	JZTU
Western Pennsylvania Conservancy	WPC

**County Agencies**

Elk County Conservation District	ECCD
Forest County Conservation District	FCCD
McKean County Conservation District	MCCD
Warren County Adult Probation and Parole	WCAPP
Warren County Chamber of Business & Industry	WCCBI
Warren County Conservation District	WCCD
Warren County Planning and Zoning Commission	WCPZC

**State Agencies**

Clarion University of Pennsylvania	CUP
Pennsylvania Department of Conservation of Natural Resources – Bureau of State Parks and Bureau of Forestry	DCNR
Pennsylvania Department of Environmental Protection	DEP
Pennsylvania Fish and Boat Commission – Division of Habitat Management	PFBC
Pennsylvania Game Commission – Bureau of Wildlife Habitat Management	PGC
Pennsylvania State University – School of Forest Resources	PSU

**Federal Agencies**

US Army Corps of Engineers – Kinzua and Tionesta Dams	USACE
US Forest Service – Allegheny National Forest	USFS ANF
US Fish and Wildlife Service – Lower Great Lakes Conservation Office	USFWS