

# Guardians of the West Fork Watershed

December 2010



## JAPANESE KNOTWEED

Japanese knotweed (*Polygonum cuspidatum*, *Fallopia japonica*) this invasive species was brought here from Asia in the late 1800s. It is native to Eastern Asia mainly, China, Japan and Korea. Knotweed is a very successful large herbaceous perennial plant. This plant is considered as one of the world's 100 worst invasive species. It is now found in 39 of the 50 states. This plant has been prohibited for planting in several states.

Some of the local names for this plant are: monkey weed, Japanese bamboo, and bamboo (although it is not a bamboo). Amazingly this plant belongs to the buck wheat family

The stalks are hollow with regular nodules that give it the appearance of bamboo. Growing densely along riverbanks, it crowds out all native plants except for trees. The leaves are broadly oval and large. The flowers are sort of creamy white, very small, with a, very distinct musky smell.

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## GUARDIANS



The Marcellus "Gold Rush" by S. Thomas Bond

About the hottest business around is Marcellus Shale drilling for natural gas. This is true both economically and environmentally. It has been widely known at least since the 70's that there is a vast quantity of natural gas locked up in various "Devonian Shales," around the country. Only now is the technology coming out that can recover it.

The drilling program for gas might be considered a grand experiment to determine "what's down there." Nobody knows right now. There is little interest in objective, scientific information. Wealth is the motivation, and the corners get rounded off in the hurry to get it. Comparatively, almost no money is going into getting information and collecting it in a useful way with regard to health and the services provided by our environment.

Engineers are particularly disingenuous in this matter, in the opinion of the author. They know they are working with incomplete knowledge – they know the Marcellus as a type of source rock they are not very familiar with, one that they have been working in for few years, and have only indirect ways of getting information about. Indeed, they have been concerned with the single objective of getting the gas out. The best interest of the public is not only concerned with getting the fuel, but also protecting the health and welfare of inhabitants of the area. This properly includes the people and their businesses, including agriculture, and what is necessary to preserve the environment so that it can continue to provide clean water and other services.

Right now it appears to be pretty much up to the public to protect itself. New sources of gas are experimental, possibly environmentally risky, but the problems have not been acknowledged yet. Like the early oil and coal production, the entrepreneurs are getting the benefit of destroying the environment without paying for the loss. Obviously, the money makers are in a hurry, but the gas has been there for hundreds of millions of years and isn't going anywhere on its own.

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**Hackers Creek Initiative-The U.S. Fish and Wildlife Service's efforts to recover the clubshell mussel from the brink of extinction.**

The West Fork River watershed has historically supported populations of the endangered clubshell mussel (*Pleurobema clava*). Today, there is a remnant population in Hackers Creek near Jane Lew. The clubshell mussel (Figure 1) is medium-sized mussel that depends on clean flowing water and sand/ gravel substrate with relatively little silt to survive and breed. Clubshell mussels like to burrow deeply into the substrate.



**Figure 1. clubshell mussel (*Pleurobema clava*)**

Mussels feed by gleaning food particles from the water and they have an unusual breeding strategy. Adult females, in the process of drawing in water for respiring and feeding, ingest sperm released from adult males located upstream. Fertilized eggs become larval mussels called glochidia that develop and are stored in brood chambers in the gills of the females. When conditions are right, the female will expel glochidia into the water in an effort to attach the glochidia to a host fish. Once attached, the glochidia absorbs some nutrients from the fish's tissue as it grows into a juvenile mussel and drops off the fish. If the juvenile mussel drops off in good sand and gravel substrate it may survive to adulthood.

Some mussels can only utilize certain fish species others are more general. The clubshell utilizes four fish species have been identified in laboratory studies as suitable hosts for the clubshell; these are the blackside darter (*Percinamaculata*), central stoneroller (*Campostoma anomalum*), logperch (*Percina caprodes*), and stripedshiner (*Luxilus chrysocephalus*).

Threats to water quality in the West Fork River basin are primarily from increased sediment resulting from poor land use practices and sedimentation caused by impoundments. Land use practices contributing sediment in the basin include timber harvest, oil and gas exploration, coal mining, and farming. The first three are industries regulated by state and/or federal law. Compliance with best management practices by farmers is done on a voluntary basis.

In 2008 the U.S. Fish and Wildlife Service's West Virginia Field Office-Partners for Fish and Wildlife (PFW) Program began a threat assessment for freshwater mussels in the Hackers Creek watershed. The program hired Jennifer Haney as a temporary biologist to conduct the assessment. Jennifer's job was to locate and document all sediment sources in the watershed and work with the regulated public and regulatory agencies to gain compliance. Jennifer and I worked with our USDA partners and interested landowners in the watershed to effect conservation measures on private lands and farms in the watershed.

In 2010, the U.S. Fish and Wildlife Service (Service) was asked by the Clarksburg Water Board to assist them in their efforts to decommission and remove three dams on the West Fork and create a fish passage structure on a fourth. We agreed as we believe removing the three upstream dams will return more of the West Fork River to a free-flowing system and improve the habitat for mussels in general and the clubshell mussel in particular. It is the goal of the Endangered Species Act to recover this species and remove it from the Endangered Species list.

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Bees and insects are very fond of these blooms.

Japanese knotweed grows in temperate weather zones. This is very tolerant weed that can survive low temperatures, a very wide range soil types, pH and salinity. It is found here in Harrison County on roadsides and stream banks. There are many miles of it growing along the West Fork River.

The root system grows to a depth three or more feet, making it difficult to be frozen out in winter. The roots can extend horizontally 10 to 23 feet.

The roots when dug out, smell vile, and are an orange color. Did I say the roots smell? They have a terrible stink to my nose.

The young stems are edible, but contain oxalic acid, which is not good for people with rheumatism, arthritis, gout, kidney stones or acid reflux. It is a spring vegetable tasting similar to mild rhubarb. The tart, tangy shoots can be steamed and simmered in soups, sauces, fruit compotes, and jam. The best time for picking the tenderest shoots is from mid-April to early May.

Control of this weed is by spraying with a glyphosate solution. There is research on Leaf Spot fungus for controlling this plant in Japan. This is another example of a plant brought to America, but the controlling diseases and insects were not. Man always outdoes himself with good intentions.

While researching this weed, I would like to say a least one good word about it. The plant does hold the soil along the riverbanks that would be eroded during high water and floods.

Jim Nedrow

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New sources of gas are experimental, possibly environmentally risky, but the problems have not been acknowledged yet. Like the early oil and coal production, the entrepreneurs are getting the benefit of destroying the environment without paying for the loss. Obviously, the money makers are in a hurry, but the gas has been there for hundreds of millions of years and isn't going anywhere on its own.

Slow down, as New York State and New York City is doing. Drilling, fracing and transportation needs to be done right to minimize damage to the environment. That means recognizing the new technique is a vast experiment, doubtless with some consequences not anticipated, but one that can be vastly rewarding without destroying people and the services that clean land can provide: water, air, food, timber and recreation.

Internet Sites for Marcellus (as done now)

<http://marcelluscoalition.org/>

<http://www.marcellus.psu.edu/> Penn State Marcellus Center for Outreach and Research

<http://www.marcellusfacts.com/blog/> Facts by Independent Oil and Gas Assn

[http://gomarcellusshale.com/leaderboards/topmembers/day?xg\\_source=shorten\\_twitter](http://gomarcellusshale.com/leaderboards/topmembers/day?xg_source=shorten_twitter) All people, companies & places related to the Marcellus Shale

<http://www.ugcenter.com/Shales/US/Marcellus/?qlink> Emphasis on the business of drilling shale

Internet Sites with information only

<http://geology.com/articles/marcellus-shale.shtml>

<http://www.marcellus-shale.us/> lots of pictures

To date the PFW program has completed twelve projects and initiated three more in the Hackers Creek/West Fork River watershed. One 2009 project involved using Natural Channel Design techniques to stabilize a severely eroding reach of Hackers Creek near its confluence with Lifes Run. This reach was located between two known populations of clubshell mussels. We recently completed a second streambank stabilization project in the headwaters of Hackers Creek in Upshur County using Natural Channel Design. Additional projects in the watershed have utilized livestock exclusion fencing to restore and enhance upland forest and riparian areas. A crew of Trout

Unlimited staff using U.S. Fish and Wildlife Service vehicles and equipment construct these fences at little or no charge to the landowners. These projects are partially funded through various USDA cost share programs.

The U.S. Fish and Wildlife Service has also been active in the watershed by assisting landowners with treating non-native invasive species like Autumn olive, bush honeysuckle, multi-flora rose, and others. We have been using a specially adapted skid-steer loader (Figure 2) with a brush mulching attachment to remove these large woody invasive species to assist landowners with rehabilitating their upland pastures. In doing so we hope to convince landowners to assist us in creating riparian buffers to stabilize the streambanks and improve water quality for livestock, humans, and fish and wildlife



**Figure 2. Specially equipped skid-steer loader with brush mulching attachment for treatment of large woody non-native invasive species**

## Section 319

# NONPOINT SOURCE PROGRAM SUCCESS STORY

### Partnership Uses Passive Treatment to Reduce Acid Mine Drainage

**Waterbody Improved** Remnants of past mining activities contributed metals and acidity to the 4.4-mile-long Lambert Run. As a result, the West Virginia Department of Environmental Protection (WV DEP) added the run to the 1996 Clean Water Act (CWA) section 303(d) list of impaired waters. In 2002 a partnership of academia, private citizens, and state and federal agencies collaborated to assess and remediate the mine drainage issues in the watershed. Partners implemented passive treatment systems at four sites to reduce the metal and acidity loads. Water quality has improved, and WV DEP expects to remove the upper reaches of Lambert Run from the CWA section 303(d) list of impaired waters in 2012.

### Problem

West Virginia's Lambert Run drains an 8-square-mile watershed in Harrison County and empties into the West Fork River near the town of Spelter. Unregulated abandoned mines leached metals and acidity into Lambert Run, causing it to fail to meet its designated use of aquatic life support. As a result, WV DEP added the entire length of Lambert Run (4.4 miles) to the 1996 CWA section 303(d) list of impaired waters for pH and metals. The run has remained on the impaired waters list since then. The impairment begins in the headwaters and continues down to the stream mouth (Figure 1).

In 2002 WV DEP completed a total maximum daily load (TMDL) for the West Fork River (the receiving stream for Lambert Run) and identified Lambert Run as impaired for both pH and metals. The TMDL establishes necessary load reductions for three metals: aluminum (81 percent reduction), iron (97 percent reduction) and manganese (99 percent reduction).

### Project Highlights

In 2002 a partnership of WV DEP; the Office of Surface Mining, Reclamation, and Enforcement; the West Virginia University National Mine Land Reclamation Center; and the Guardians of the West Fork was formed with the goal of restoring Lambert Run. In 2003 a watershed-based plan for Lambert Run was developed and approved. This allowed the partners to pursue two CWA section 319 grants. Since 2004 the partners have identified, assessed, designed and installed four passive treatment systems to remediate abandoned mine drainage. The partners plan to implement two additional projects to address remaining sources of loadings of metals to Lambert Run.

### Results

The four new treatment systems have reduced metal and acidity loadings into Lambert Run. In 2006 the partners installed the first treatment system at Site 3, also known as the Muzzleloader Club site. Before construction, the site's drainage had a pH of 3.5 and discharged approximately 12 tons per year of acidity, 1.57 tons per year of iron, and 0.72 ton of aluminum into Lambert Run. The new passive treatment system at Site 3—a leach bed filled with steel slag (calcium alumino-silicate oxide)—has neutralized the 12 tons per year of acid and is producing approximately 4 tons per year of



Figure 1. Stained water from Lambert Run (entering at left) flows into the West Fork River.

alkalinity (Figure 2). The average pH is 7.1, and the iron and aluminum loads have been reduced by 1.52 and 0.7 tons per year, respectively.

In 2007 the partners installed a treatment project at Site 8, also called the Oldaker Property (Figure 3). Before construction, the abandoned mine portal drainage had a pH of 6.1 and discharged approximately 0.8 ton per year of acidity, 17 tons per year of iron, and 1 ton of aluminum into Lambert Run. The new passive treatment system has neutralized the 1 ton per year of acid and is producing approximately 23.5 tons per year of alkalinity. The pH of the discharge is 7.2. The iron and aluminum loads have been reduced by 16.8 and 0.95 tons per year, respectively.

Partners installed a project in 2008 at Site 5, also known as the Alan Meadows property. Before treatment, the water discharging from the mine portal had a pH of 6.4. It contributed 26.4 tons per year of acidity, 0.76 ton per year of aluminum and 5.6 tons per year of iron. The new passive treatment system's discharge is 7.4. It has also neutralized all the acidity and is producing approximately 115 tons per year of alkalinity. The iron and aluminum loads have been reduced by 5.54 and 0.6 tons per year, respectively.

In 2009 the partners completed a project at Site 9, also known as the Cox property. Before treatment, the water discharging from the portal had a pH of 4.8. Each year it was contributing 123 tons of acidity, 9 tons of aluminum and 34 tons iron. The discharge from the new passive treatment system has a pH of 7.1. It has neutralized all the acidity and is producing approximately 107 tons per year of alkalinity. The iron and aluminum loads have been reduced by 33.7 and 103.32 tons per year, respectively.

Partners have also reported an increased number and diversity of benthic macroinvertebrates in the Lambert Run mainstem. The treatment systems have helped to restore approximately 2.3 miles of Lambert Run's 4.4 miles of impaired stream. Partners are designing treatment projects at two additional mine drainage sites. Treating those sites should completely restore Lambert Run and make it eligible for removal from the state's list of impaired waters in 2012.



Figure 2. Water gains alkalinity as it flows through a leach bed at Site 3



Figure 3. Water flows through a passive treatment system at Site 8.

## Partners and Funding

The following partners collaborated on the projects: WV DEP's Department of Water and Waste Management and Office of Surface Mining and Reclamation, West Virginia University's National Mine Land Reclamation Center and the Guardians of the West Fork.

A total of \$628,052 in U.S. Environmental Protection Agency CWA section 319 funding supported a variety of project-related expenses, including surveying, engineering and construction. WV DEP's Division of Water and Waste Management administered the funding. In all, partners leveraged \$622,103 in matching funds. The Office of Surface Mining's Watershed Cooperative Agreement Program supplied matching funds for three of the four projects. The final project (Site 9) had matching funds provided by a private company that was required to provide compensatory mitigation for stream and wetland impacts elsewhere within the West Fork Watershed. U.S. Environmental Protection Agency Office of Water Washington, DC  
EPA 841-F-10-001KK  
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## For additional information contact:

**J. Brady Gutta**  
West Virginia University National Mine Land Reclamation Center  
304-293-2867 x5445 • jbgutta@mail.wv.edu

## **A CALL TO ACTION: ECRR RESPONSE TO “THE KEELEY DECISION”**

November 23, 2010

On January 9, 2009, the federal court in Clarksburg, WV ruled in the case of WV Highlands Conservancy and WV Rivers Coalition vs. Randy Huffman. Known as “The Keeley Decision” the outcome could imply that anyone who installs and/or operates a passive or active AMD treatment system and creates a point source discharge to obtain a NPDES permit. The 4th Circuit Court of Appeals upheld Judge Irene Keeley’s decision on November 8, 2010.

The 4th Circuit Court of Appeals ruling states in part: “The trial court’s ruling was correct. The text of the CWA (Clean Water Act), as well as the corresponding regulations issued by the Environmental Protection Agency, confirm that the permit requirements apply to anyone who discharges pollutants into the waters of the United States. Under the CWA, it does not matter that a mining company may have created the conditions that call for reclamation. What matters is that an entity, private or public, is currently discharging pollutants into the waters of the United States. In fact, the statute contains no exceptions for state agencies or watershed organizations engaging in reclamation efforts to the contrary, it explicitly includes them within its scope.”

Continuing: “In furtherance of those goals, the CWA bans, among other things, the discharge of any pollutant by any person, 33 U.S.C. § 1311(a). On its face, the ban is sweeping in scope: the Act defines “person” to include not just private individuals and companies, but also states, municipalities and organizations, see 33 U.S.C. § 1362(5), and covers “any addition of any pollutant to navigable waters from any point source,” see 33 U.S.C. § 1362(12)(A).”

The word “any” could very well include Good Samaritan organizations, including watershed groups. Although some states have Good Samaritan legislation in place, Judge Keeley and the 4th Circuit Court of Appeals ruled that state legislation cannot grant exemptions to the CWA - only Congress can do that.

If watershed organizations must acquire NPDES permits, they will be liable for monthly monitoring and reporting and they will be subject to fines if they are discharging water that is out of compliance. Very few AMD treatment systems installed by watershed organizations would be in compliance, so, the most obvious solution is the creation and passing of Federal Environmental Good Samaritan legislation designed to protect those who were not responsible for the original discharge from liability under the Clean Water Act. Unless volunteers who are not responsible for the pollution discharge are protected from liability under the Clean Water Act, they remain vulnerable to these permit stipulations.

We are providing two documents on our website <http://www.astercoal.org/regulations.html> one is a talking paper developed by Paul Ziemkiewicz of the WV Water Resources Institute, and Andy McAlister of Western Pennsylvania

## A Day On The West Fork Written by Bill Murphy

Destination Good Hope to Kincheloe - Thursday, September 23, 2010

My father and I put the boat in the water about 8:30 am; it was about 70 degrees and the sun was shining. The water was approximately 2-3 feet deep with some holes that are four to five feet deep along this stretch of the West Fork. Logs and riffles are abundant. My lures for the day were a "Chatter Bait" and a "Smallie Beaver" (a crayfish imitator). I started with the Chatter Bait paralleling a big log in about two foot of water. I made three casts with this lure and I had no response. I switched poles to the Smallie Beaver; I casted so I would start at the head of the log and hopped it down about half way when the lure was picked up by something. I immediately set the hook and the fish leaped out of the water. The fish turned out to be an eighteen inch Smallmouth Bass. After releasing the fish, I casted out to the other side of the log, starting out at the top and working it down the side, I hooked a ten inch Kentucky Spotted Bass. After this great start we moved on upstream to the next log. I switched back to the Chatter Bait paralleling this log, immediately hooking a fourteen inch Smallmouth Bass. I then picked up the pole with the Smallie Beaver and casted out and caught a Rock Bass. Moving up stream to next the log, my father caught a fifteen inch Smallmouth Bass using a Golden Spinner Bait. As we ventured farther upstream, Dad caught a thirteen inch Smallmouth Bass on a Baby Mann's crayfish colored shallow runner. Advancing through the riffle, I had to get out and pull the boat on through. During this process, I ending up falling in and getting my cell phone and wallet wet. After a few choice words, I got back in the boat and we proceeded to the next log pile. Pitching the Smallie Beaver, at the first tree root ball, I caught a fourteen inch Kentucky Spotted Bass. At the next tree root ball, I pitched the beaver again and I caught an eighteen inch Smallmouth Bass. We caught four more fish off of this log pile — all were between thirteen and fifteen inches. Advancing to the next riffle, Dad caught a fourteen inch Kentucky Spotted Bass on the Golden Spinner Bait. Our luck changed as we continued upstream; going for about an hour with catching a fish. We came to the first of several rocky sections and fished the one log that is located in the middle of the river. I ran the Chatter Bait parallel along this log and hooked an eighteen inch Smallmouth Bass. Dad caught two shorter Smallmouth Bass on his Mann's lure. Advancing to another log laid down, I pitched my Smallie Beaver to the slow water behind the log jam. This led to an immediate strike from a stubborn fish that didn't want to surface. As I finally got a glimpse of the fish I told my dad to get the net. This fish turned out to be a four pound Smallmouth Bass that was nineteen inches long. Proceeding upstream until it got too shallow to continue we turned around but during this process we caught a few small fish. After noticing how much time had elapsed, we basically just motored back down stream, not stopping very much to fish on the way back. Another great day on the West Fork!



## **Officers, Directors. Contact Information**

John Eleyette, Executive Officer  
830 Benoni Avenue  
Fairmont, WV 26554  
(304) 363-4111, [JMELEYETTE@rocketmail.com](mailto:JMELEYETTE@rocketmail.com)

Bob Rector, Vice President  
50 Maple Lake  
Bridgeport, WV 26330  
(304) 842-7009

Wanda F. Ashcraft, Secretary  
602 Highland Street  
Shinnston, WV 26431  
(304) 592-2015

Non-officer board members: Dr. Thomas Bond  
(President, Board of Directors) Jane Lew; Elaine  
Lucente,  
204 Church Street, Clarksburg, WV 26301  
(membership coordinator), Clarksburg; Mike  
Murphy,  
PO Box 396, Lumberport, John Stenger, and James  
E Nedrow, 502 Morris Ave, Shinnston WV

## **Mark your Calendars**

### **Monthly Meetings**

*Meetings are held the third Tuesdays of the month, 6:30 p.m., at the Nutter Fort emergency services (911) building, about 200 feet south of the Joyce St./Rt. 98 intersection, on the right.*

January 18, 2011

February 15, 2011 (Board Mtg)

March 15, 2011

April 19, 2011

The Guardians alternate general meetings with speakers and refreshments and board meetings where business is discussed. Feel free to attend any meeting and also bring interested friends and family.

## **To Join and Receive this Newsletter ...**

If you would like to join and receive a mailed copy of our quarterly newsletter, you can join Guardians of the West Fork Watershed for \$5.00 per calendar year (or at a voluntary, higher level). Send your membership check and address information to Elaine Lucente, membership coordinator, (Her address can be found on the Officers and Board Members page.), or simply join during one of our monthly meetings. To receive a free e-mail copy of the quarterly newsletter, please e-mail John Eleyette, at [JMELEYETTE@rocketmail.com](mailto:JMELEYETTE@rocketmail.com)

## **GWFW MISSION STATEMENT**

***Guardians of the West Fork Watershed is a volunteer 501(c)(3) organization dedicated to the preservation and improvement of the ecological integrity of the West Fork River, its tributaries, and its watershed. It will monitor and assist agencies in monitoring the biological, physical, chemical and cultural characteristics of the watershed to identify sources of degradation and suggest their elimination. It will publicize the status of the watershed and encourage education and recreational enjoyment of the watershed. It will seek wide membership and outside funding to support its activities.***

