



Friends of the Cheat

Amanda Pitzer, Executive Director
Joint Commission on Water Resources
Watershed Celebration Day 2014 ~ Sept. 8, 2014

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THE CHEAT RIVER WATERSHED



Friends of the Cheat

You are standing in one of the most unique watersheds in the eastern United States. The headwaters of the Cheat begin high in the Allegheny Mountains and flow north to the mouth of Point Marion where the Cheat flows into the Monongahela River (see right). The Cheat Watershed has the highest average elevation of any watershed east of the Mississippi River and the Cheat River itself is the longest free flowing river in the East.

The story of the Cheat is one of both ecological wonder and environmental devastation. The headwaters of the Cheat once consisted of vast red spruce and eastern hemlock forests that held large populations of bison, black bear, panther and elk. Clear cut logging operations of the late 19th and early 20th centuries left the mountainsides bare and resulted scorched earth, [literally] and massive flooding and sedimentation downstream. Unregulated coal mining had a similar impact in the Thomas area and in the lower Cheat Watershed in central Preston County. Acid mine drainage from the coal operations left streams and the Cheat River itself stained orange from iron and lifeless. The watershed is recovering from our sins of the past, thanks in part to groups like Friends of the Cheat, Friends of the Blackwater, Trout Unlimited, numerous federal and state agencies, and committed citizens. The beauty of the Cheat watershed is difficult to match and it should be conserved and appreciated by both its residents and visitors.



photo by dng ferns



photo by andrew miller

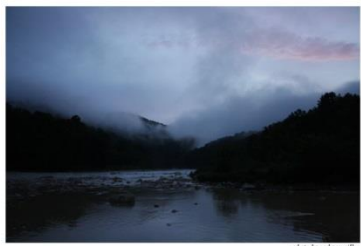


photo by andrew miller

THE CHEAT RIVER CANYON

The Cheat Canyon begins at the mouth of Muddy Creek in Albright and ends as the Cheat River broadens into the manmade Cheat Lake outside of Morgantown. Rugged and remote, the canyon walls rise as much as 1,200 feet above the river. The canyon is one of the largest pieces of contiguous forest in north central West Virginia. Because of its wilderness, the canyon is home to populations of black bear, coyotes, bobcat, and bald eagles. The endangered Cheat three-toothed snail and Indiana bat also call the canyon home.

Water quality in the canyon has greatly improved in the past twenty years. Acid mine drainage from mid-20th century coal mining left the canyon nearly dead by the mid-1990s. Restoration efforts by Friends of the Cheat, the WV Department of Environmental Protection, and many others have allowed fish to return to the canyon.



BLACKWATER FALLS

The Blackwater River starts as a meandering, low gradient stream that drains the expansive high elevation wetlands of Canaan Valley. The Blackwater owes its name to the tannic acids that leach from decomposing red spruce, hemlock, rhododendron, and laurel foliage which give the river amber and tea-colored hues.

After passing the historic mining town of Davis, the bottom drops out of the quiet river, first falling over the iconic 62 foot Blackwater Falls then dropping 1,343 feet in 9.4 miles through the rugged Blackwater Canyon before it joins with the Dry Fork to form the Black Fork River. Although the canyon has spent a vast majority of its history uninhabited, humans have had their impact: a clear cut of the canyon walls in the early 1900s left the area devoid of trees.

Today, timbering and condo development still threaten the canyon. Meanwhile, the endangered West Virginia northern flying squirrel, Indiana bat, Virginia big-eared bat, the threatened Cheat Mountain salamander, and numerous black bear, deer, and foxes that reside in the canyon quietly go about their business while humans wrestle over their fate.

CHEAT MOUNTAIN

This is where it all begins: Cheat Mountain. With an elevation of 4,848 feet at its highest point, Cheat Mountain is the 3rd highest peak in West Virginia. Shavers Fork forms in the valley below and starts its course well above 4,000 in elevation, making it the highest elevation river in the eastern United States.



photo by jessalynn jones



photo by merrilee blackburn

MUDDY CREEK

Nowhere can the impact of acid mine drainage (AMD) be seen more than on Muddy Creek, in its upper reaches (above, right). Muddy Creek is a healthy trout stream, boasting brook, brown, and rainbow trout populations. A series of AMD sources, including the T&T mine whose blowout sparked the formation of FOC, leave the creek lifeless by the time it reaches its confluence with the Cheat (above, left). FOC is currently working to restore Muddy Creek; FOC has installed 5 AMD treatment sites in the watershed.



photo by jill macklin

BIG SANDY CREEK

Big Sandy Creek, forms in the Laurel Highlands of Pennsylvania and flows south into the town of Bruceton Mills, where a stone dam was constructed to operate a mill. Below Bruceton, the Big Sandy is home to class III-V whitewater, including Wondewalls (above) and the more technical (and dangerous) Big Split.



photo by st. jeffrey henry

CANAAN VALLEY

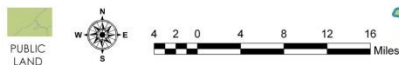
Canaan Valley (above) stretches about 13 miles long and three to five miles wide in the Allegheny Mountains. The average elevation of the valley floor is 3,200 feet, making it the highest valley of its size east of the Mississippi River. Canaan Valley's high elevation and broad wetlands make it a marvel of biodiversity; 580 plant species and 280 different fish and animal species have been identified. Many plant species more commonly associated with the sub-arctic bogs and conifer forests of Canada can be found in the valley.

DOLLY SODS / FLATROCK PLAINS

Much like Canaan Valley, Dolly Sods (near left) represents a ecosystem from another place. The rocky, windswept plateau is characterized by exposed sandstone boulders. "flagged" trees whose branches only grow on one side of the stem due to powerful winds, heath barrens, grassy meadows, and sphagnum bogs. The plant and animal communities found on the sods are more commonly associated with more northern landscapes of Canada.

The history of Dolly Sods is similar to the surrounding areas of the Allegheny Forest. Once a mighty conifer forest, boasting spruce and hemlock trees with 12 foot diameter trunks, the sods was clear cut in the early 20th century. The nearly 8 foot thick layer of humus created by the decomposing spruce and hemlock needles quickly burned, leaving the Sods as an ecological waste land. After Dolly Sods was used as a mortar training range by the US Army during World War II, serious conservation efforts and ecological recovery began. Though it will likely never return to the pure stand of hemlock and spruce of its past, the scenic views and unique landscape of Dolly Sods is enjoyed thousands of visitors each year.

The Flatrock Plains (far left) are separated from Dolly Sods by Cheat Creek. The Flatrock Plains are a mosaic landscape where pure stands of red spruce, northern hardwood forests, windswept grasslands, small heath barrens, and bogs rest side by side.



1,422 square mile watershed spanning five WV counties – Mon, Preston, Tucker, Randolph & Pocahontas – and small portions of MD and PA

Monongahela River/Ohio Basin

North running river with dam at Lake Lynn (Cheat Lake). Low-head dam at Albright Power Station. *Free-flowing.*

The Five Forks of the Cheat
Shavers Fork, Dry Fork (Gandy & Red creeks), Gladly Fork, Laurel Fork & Blackwater River



Friends of the Cheat

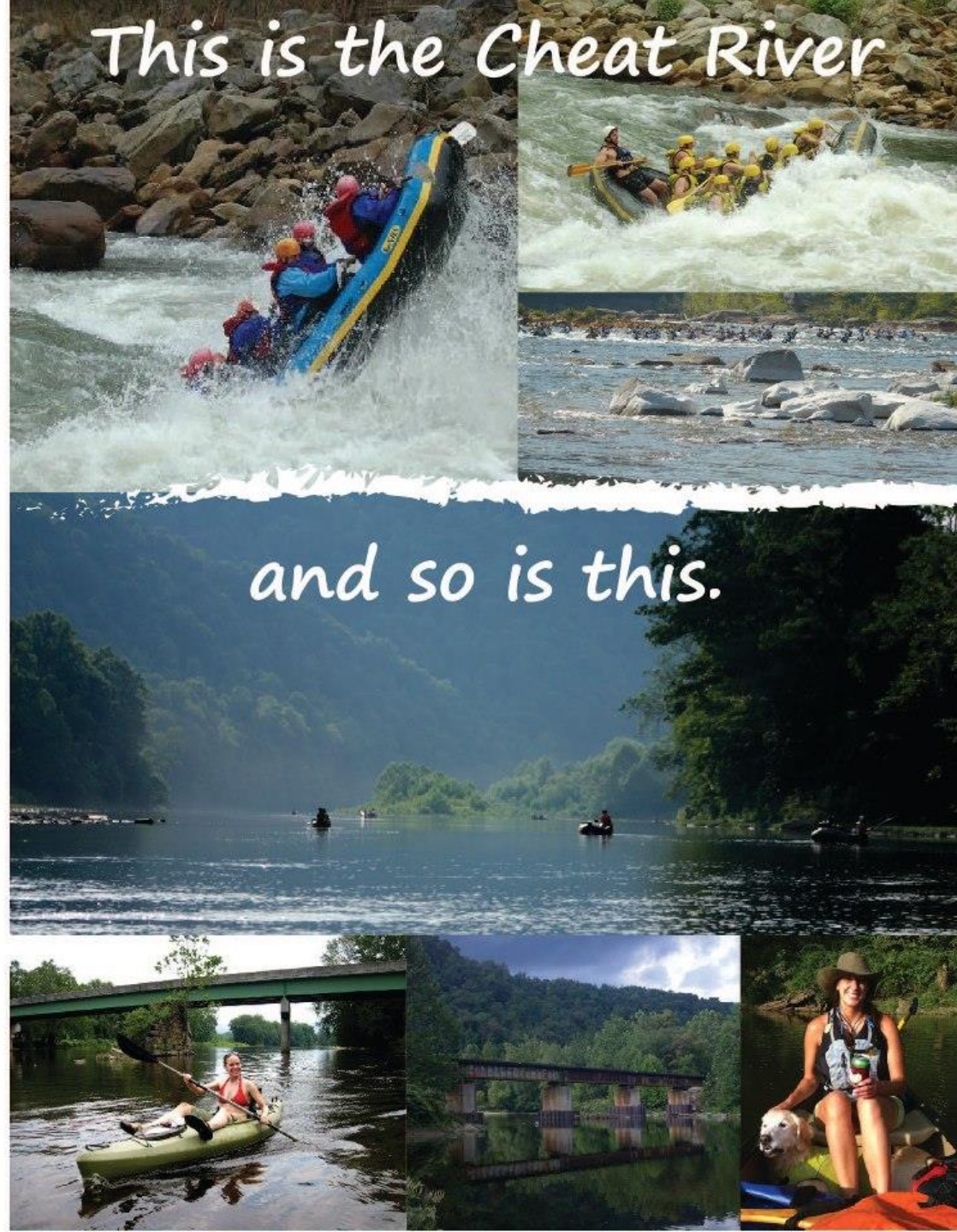


© Kathy Jenkins



Comeback Kid

Once named one of America's "Most Endangered" rivers, the Cheat has rebounded from years of abuse & once again supports fish through its 162 mile main stem.



This is the Cheat River

and so is this.

Threats to Water Quality

#1 Acid Mine Drainage (AMD)

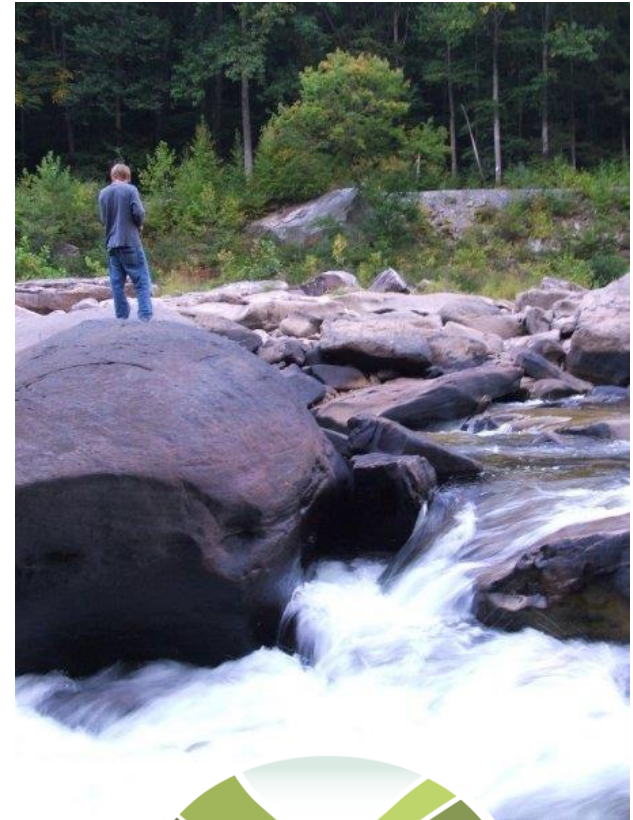
...and everything else

- sedimentation (natural & man-made*)
- acidification of headwater tributaries
- bacteria from inadequate sewage treatment
- chemical spills/leaks – hauling (road & rail) and on-site storage/use*

* The Cheat watershed has yet to see rapid oil & gas expansion due to market factors.

Twenty Years of Friends of the Cheat

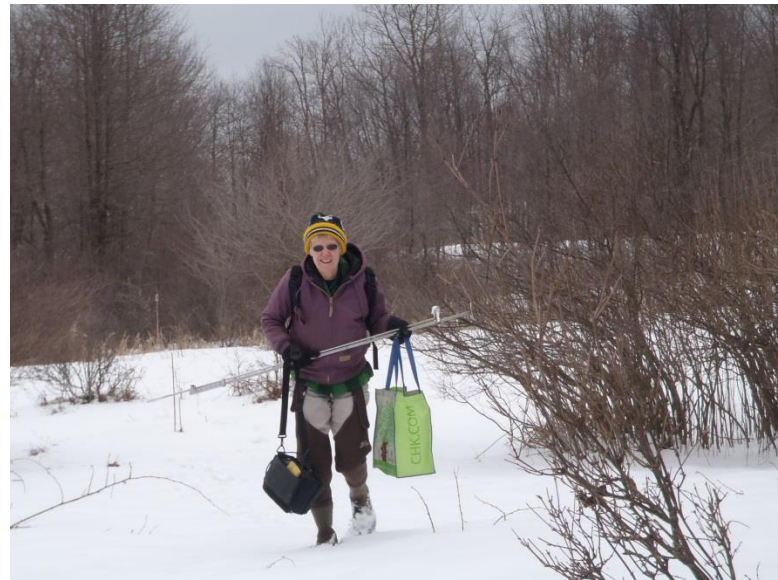
- Cheat River Restoration
 - Abandoned mine land remediation projects
 - Office of Special Reclamation pilot partnership
 - CAPABLE volunteer monitoring program
 - Brownfields revitalization
- Recreation & River Access
 - Whitewater river access
 - Preston Rail-Trail Committee
 - Cheat River Water Trail Committee
- Land & Water Conservation
- Community Outreach & Place-Based Education



THE NEXT TWENTY YEARS: WHAT NEXT?

Acid Mine Drainage (AMD) Remediation

- 15 treatment systems implemented by FOC in cooperation with private landowners with over \$8 million in funding
- **26 ½ miles of the Cheat River main stem slated for removal from the state's list of impaired streams for poor pH due to AMD**
- WVDEP Office of Special Reclamation (OSR) retrofitting the majority of their lower Cheat treatment systems
- Year 2 of FOC's Pilot Partnership Project with WVDEP OSR – 4 new employees serving 27 sites in Mon & Preston Co
- New funding for Sovern England & Lick Run Portals projects
- Seeking support for Fickey Run in-stream dosing effort



Clockwise from top left: Open mine portal polluting Lick Run, refuse pile along Lick Run, installing FOC's first active lime doser at the Pase treatment site, FOC volunteer Devra.

The Future of AMD Treatment & System Operations & Maintenance

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This AML site contains 4 portals discharging hundreds of gallons of water with pH less than 3 and loaded with, literally, tons of metals EVERY MINUTE into Lick Run. Lick Run joins the Cheat River above Kingwood's municipal drinking water intake.



Reclamation Estimate - Land & Water = \$2,000,000 PLUS annual O&M costs for water treatment exceeding \$50,000/month

What's the Plan?

“The Re-do”

Re-authorize SMCRA and re-examine and re-prioritize work to be done: What does the public want?

“Pass the Buck”

States such as PA and NE are collecting revenue from the booming gas industry for future needs, including AMD treatment system O&M.



“Do Nothing”

AML completes the land reclamation they can with dwindling funds.

AML invests no more money into collaborative water treatment projects.

We pass the AMD problem onto yet another generation with even fewer resources to combat.

We give up.

Threats to ^{Source} Water Quality

#1 Acid Mine Drainage (AMD)

...and everything else

- sedimentation (natural & man-made*)
- acidification of headwater tributaries
- bacteria from inadequate sewage treatment
- chemical spills/leaks – hauling (road & rail) and on-site storage/use*
- + NPDES permitted discharges
- + leaking underground storage tanks
- + unregulated water withdrawals*

(* oil & gas exploration and production related)

The Cheat is a Drinking Water Source!

- City of Parsons
- Town of Rowlesburg
- City of Kingwood
- Bruceton Mills PSD#4 (Big Sandy Creek/wells)

These public utilities have SWPPs - some are more thorough than others.

They are members of the River Alert Information System (RAIN).

FOC has been engaged in the development of Kingwood's and PSD#4's SWPP.

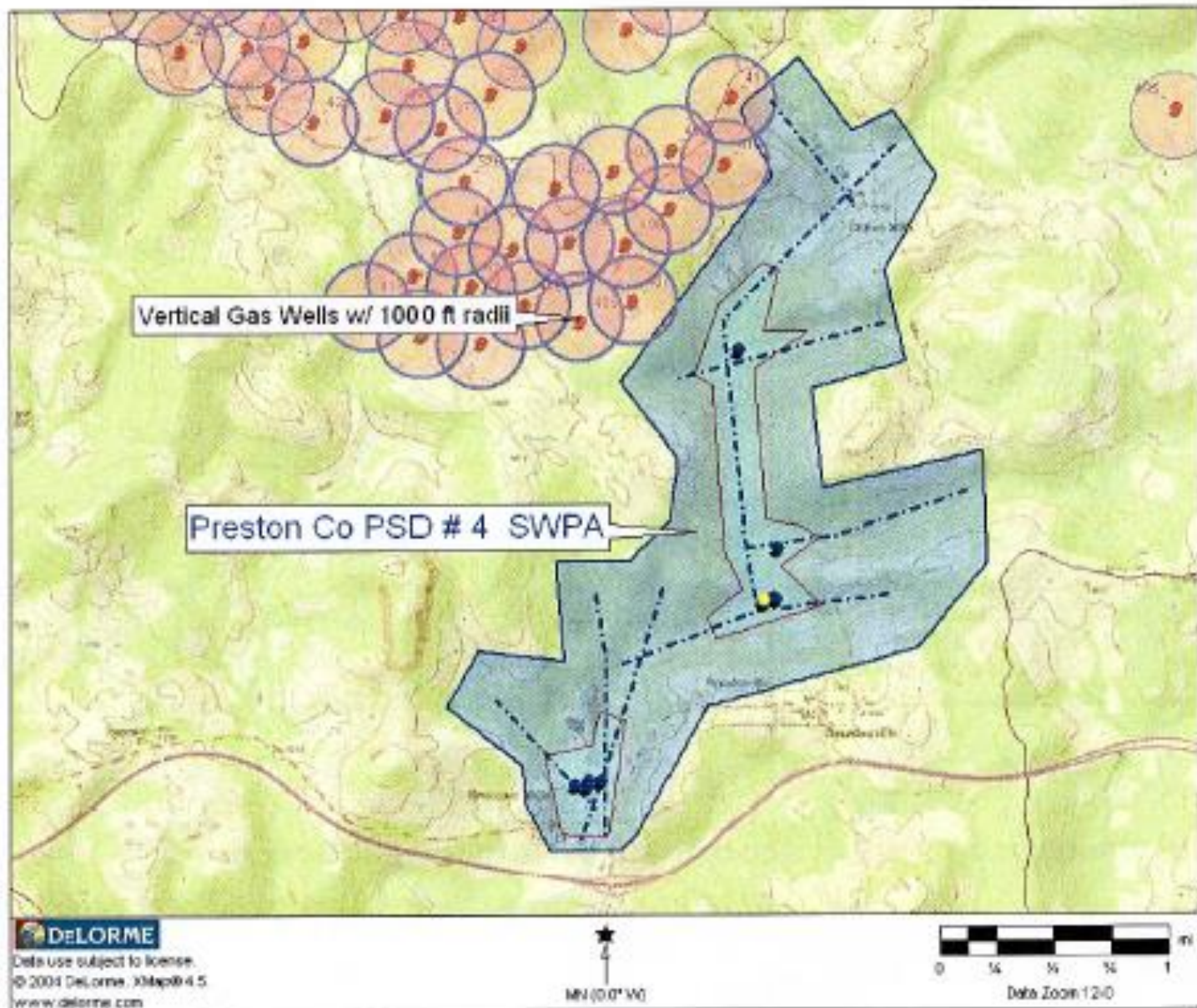


Figure 3 Source Water Protection Area for Preston County PSD #4 water wells, including the wellfield at Bruceton Mills. The SWPA shape is based on assumed fracture traces, expanded outward

Meet Bob



A Few Ideas on SB373 Implementation...

- The utilities need the resources to do a good job - \$\$\$\$, training, technical support
- Engage the public - “every effort possible” – make it EASY to be involved
- No folder warmers – the plans should be practiced and updated regularly

Do not delay or weaken the rule.

What Will Be Our Legacy?





West Virginia

The Outdoor Recreation Economy

TAKE IT OUTSIDE FOR WEST VIRGINIA JOBS AND A STRONG ECONOMY

Outdoor recreation is essential to the American economy.

Every year, Americans spend **\$646 billion** on outdoor recreation—on gear, vehicles, trips, travel-related expenses and more. This creates jobs, supports communities, generates tax revenue and helps drive the economy. Throughout America, people recognize that outdoor recreation and open spaces attract and sustain families and businesses, create healthy communities and foster a high quality of life.



In West Virginia

OUTDOOR RECREATION GENERATES...

\$7.6 BILLION in consumer spending	82K direct West Virginia jobs ¹
\$2.0 BILLION in wages and salaries	\$532 MILLION in state and local tax revenue

Preserving access to outdoor recreation protects the economy, the businesses, the communities and the people who depend on the ability to play outside.



Nationally

OUTDOOR RECREATION GENERATES...

\$646 BILLION in consumer spending	6.1 MILLION direct American jobs ¹
\$39.9 BILLION in federal tax revenue	\$39.7 BILLION in state and local tax revenue



At least **59%** of West Virginia residents participate in outdoor recreation each year.¹

West Virginia offers spectacular outdoor recreation opportunities at treasured destinations, including the **Monongahela National Forest**, **Gauley River National Recreation Area** and many others, bringing in dollars from residents and out-of-state visitors alike.

View all 50 states and learn more at:
outdoorindustry.org/recreationeconomy

¹ Participants in hunting, fishing and wildlife viewing were estimated separately and are not part of this figure.
² Direct employment in the outdoor recreation sector—as opposed to indirect, implied, multiplier or ripple effects that include impacts of spending, jobs and wages as they circulate throughout the economy.

Except as noted here, all results are based on national surveys of outdoor recreation conducted for OIA in 2011 and 2012. Monongahela Industry Council and National Marine Manufacturers Association contributed funding and data to support this study. Methodology and full report available at www.outdoorindustry.org.



4909 PEARL EAST CIRCLE, SUITE 300

Recent Cheat River Highlights

- New Upper Cheat River Water Trail website to launch this week (*or next*)
www.cheatwatertrail.org
- \$24K in DOH funding awarded for ADA access site in Rowlesburg



Recent Cheat River Highlights

Bull Run Road campaign

- Outfitters contemplating cancelling spring Cheat Canyon trips
- FOC approached DOH with a partnership plan
- FOC raised nearly \$12K in less than 2 weeks

*Demonstrates public interest
& investment in recreation!*

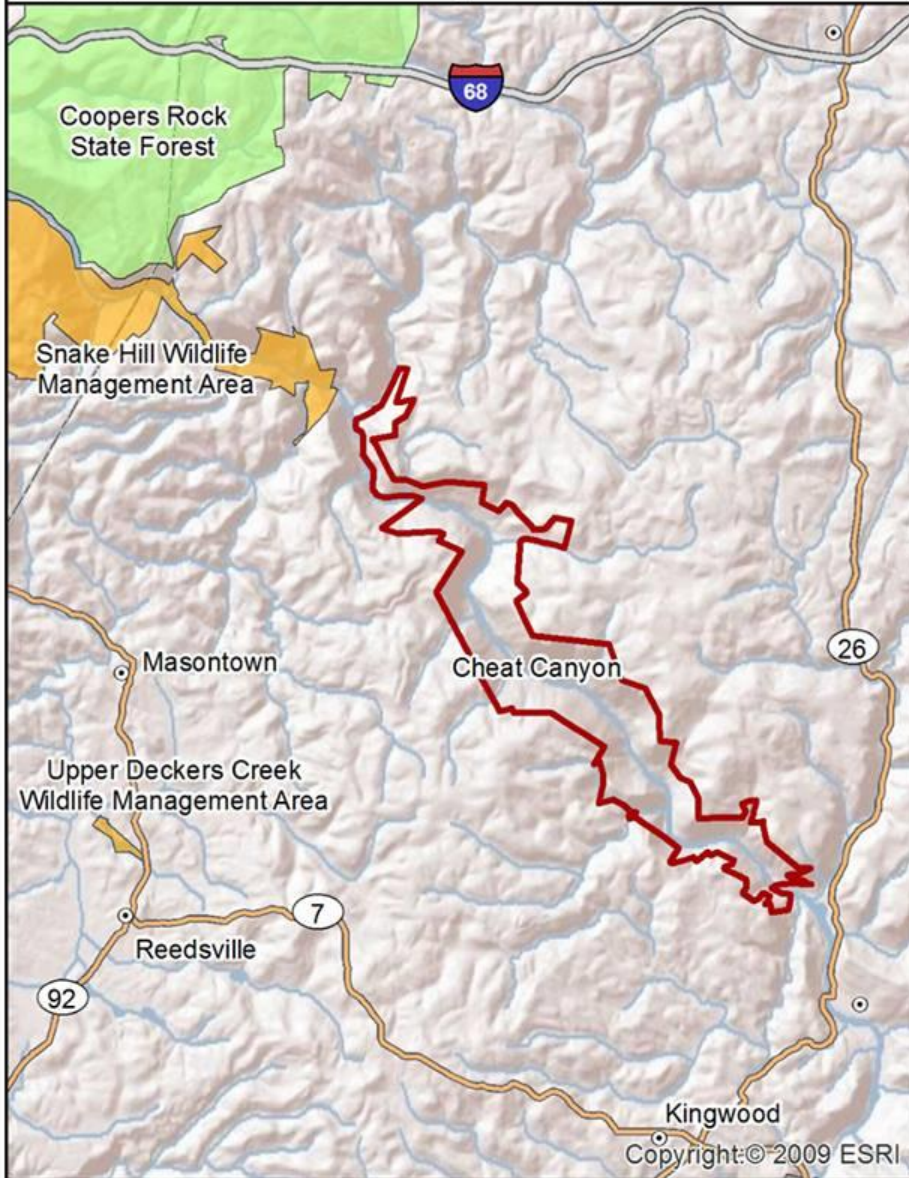


Cheat River Canyon Protected!



[Cheat River Canyon Video](#)

Cheat Canyon Project



- Cheat Canyon Property
- Cities or Towns
- Interstate
- US Highway

0 0.75 1.5 3 Miles



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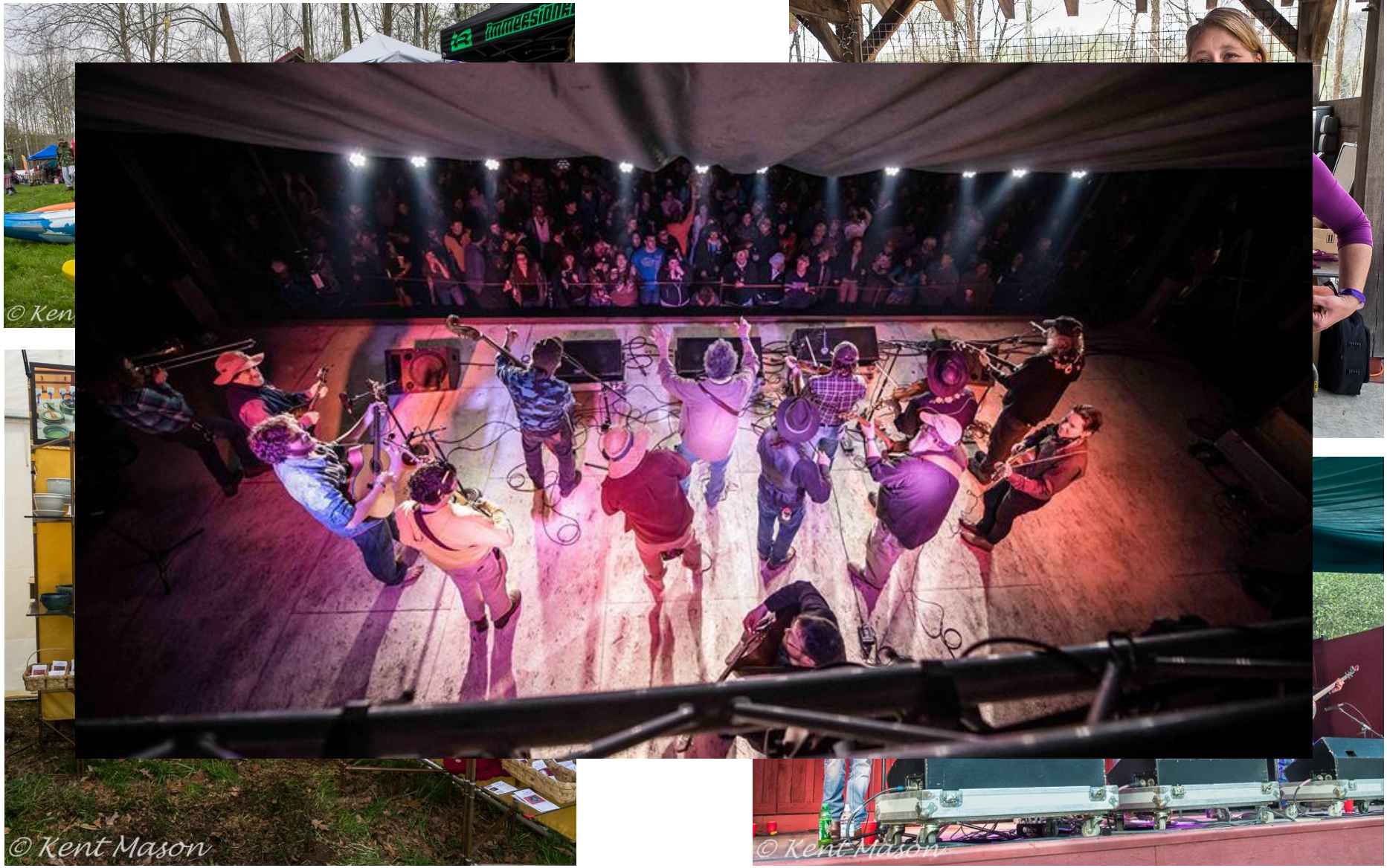
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Cheat Canyon Public Opening

Friday, September 12th - 11am at Coopers Rock State Forest main overlook



Friends of the Cheat Celebrates 20 Years!



Friends of the Cheat featured on NPR's All Things Considered:



ENVIRONMENT

Fish Return To A Mining County River

All Things Considered
Jul 22, 2013 | [Summary](#)

Coal has been an economic boost, but often at a cost to the environment. The Cheat was one casualty.

Click to hear the full story.



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Friends Of The Cheat

Friends of the Cheat is a non-profit watershed group working to restore, preserve and promote the Cheat River watershed in West Virginia.

They have collaborated with industry, local, state, and Federal agencies; and the public, including nearly 40 volunteer landowners, to remediate acid mine drainage from both abandoned coal mines and forfeited mine sites. To date, the group has implemented 15 treatment systems with over \$6.5 million in grant funding.



FOC staff poses along the bank of Fickey Run, one of the Cheat watershed's most polluted streams. Although significant progress has been made, there is much more acid mine drainage (AMD) remediation work to be done. Pictured (left to right): Jeremy Sidebottom, Garrett Thompson, and Chris Bern.

Once named one of *America's Most Endangered Rivers*® (1995), the Cheat is once again alive with fish and

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Friends of the Cheat announces the protection of 3,836 acres in the Cheat River Canyon

[Home](#)


Posted: 06/17/2014

[Friends of the Cheat](#) (FOC) is excited to announce the protection of 3,836 acres in the Cheat River Canyon. The landmark \$7 million purchase was completed through the combined efforts of [The Conservation Fund](#) and [The Nature Conservancy](#), and includes the eight mile stretch of river cherished by paddling aficionados for its [world-class whitewater](#). This designation will conserve the spectacular scenic qualities and recreation opportunities of the Cheat while improving public access to its rugged, forested hillsides.



The Cheat River is a 78.3-mile-long tributary to the Monongahela River, with its [watershed](#) draining approximately 1,422 square miles in northeastern West Virginia, western Maryland, and southwestern Pennsylvania. The health of the watershed is primarily impacted by acid mine drainage (AMD) from the region's extensive network of underground and surface coal mines.

Based out of Kingwood, West Virginia, [FOC's mission](#) is to restore, preserve, and promote the outstanding qualities of the Cheat River watershed. The nonprofit is heavily engaged in [AMD remediation](#) in the Cheat watershed through construction and maintenance of active and passive AMD treatment sites. FOC manages [water quality monitoring](#) programs that enlist volunteers to keep tabs on the river's recovery and new threats. FOC also implements [recreational river access and regional rail-trail projects](#). Since the group's inception twenty





Friends of the Cheat

Best Local Nonprofit

EXPLORE YOUR WEST VIRGINIA

discover something new
about an old friend



Friends of the Cheat

Cheat Fest 2014
photo by Donnie Riggs

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