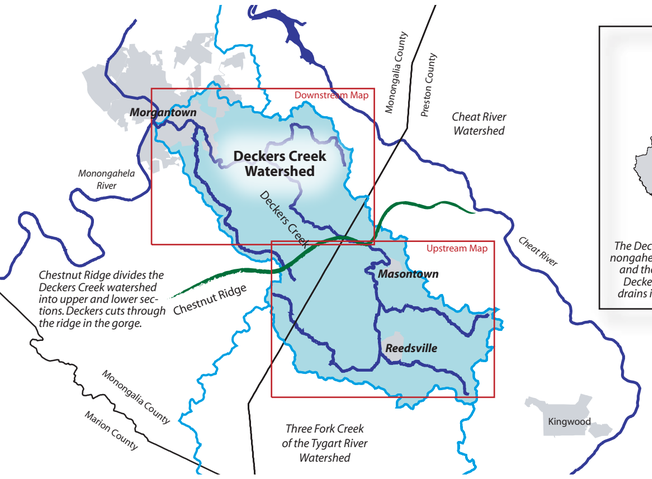
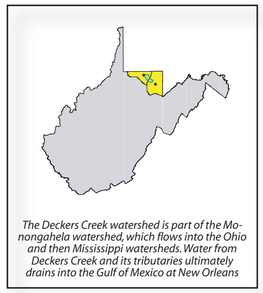
the DECKERS CREEK watershed





The Deckers Creek watershed is part of the Monongahela watershed, which flows into the Ohio and then Mississippi watersheds. Water from Deckers Creek and its tributaries ultimately drains into the Gulf of Mexico at New Orleans

About Deckers Creek

Deckers Creek starts on Chestnut Ridge near the Kingwood Pike in Monongalia County. It flows through the Valley District of Preston County to Masontown, where it turns to the northwest and cuts a gap back through Chestnut Ridge. After passing through the gorge it has cut in the ridge, it charges through Morgantown to the Monongahela River.

The 23-mile creek drains more than 60 square miles and should contain many habitats and support a variety of fish and other organisms. Unfortunately, **acid mine drainage** (AMD) and other kinds of pollution completely eliminated fish from much of the creek and several of its tributaries for much of the 20th century.

Friends of Deckers Creek (FODC) has been studying the watershed since 1995, and has sampled fish communities in various places annually since 2002. Fish can now be found in almost every part of Deckers, and some of those spots contain enough fish to support enjoyable fishing.

This brochure will describe the communities of fish and other organisms that are gradually recovering in Deckers Creek, along with the factors that affect which fish appear where. You can learn about these communities in three ways. First, read ***A Trip Down Deckers Creek*** below; then read more of the details about each of our sampling sites; finally, visit Deckers Creek at all the points with public access and discover the communities for yourself, either by fishing, catching bugs, or merely sitting and watching.

FODC also assesses the creek by studying the chemistry of the water. Based on these data, FODC, along with state and federal agencies, have brought about many projects to decrease the damage from AMD. However, much work on AMD and other forms of pollution remains to be done. Read about the water quality issues that impact the Deckers Creek watershed below (***Water Quality Issues in the Watershed***). Contact FODC for more information, and to see how you can help!

Water Quality Issues in the Watershed

Time and human effort are slowly reducing the damage AMD has done to the aquatic communities in Deckers Creek and there are many more fish now than there have been in decades. Additional improvements in Deckers Creek will require careful assessments of many different kinds of pollutants, and a broad array of experts and resources to address those problems. Here is a list of the most damaging water pollutants in the Deckers Creek watershed.

AMD: Pyrite is a mineral which can be found in some coal seams. When exposed to air and water, it generates dissolved iron and sulfuric acid. The acid can dissolve additional metals from the soil. The polluted water that contains these chemicals is acid mine drainage. Fish and invertebrates cannot survive in streams containing too much AMD.

AMD can be identified by low pH (see meter, above), high iron concentrations (iron colorimeter at right) and/or red sediments (yellow-boy) which coat streambeds.

Sewage: The water from drains and toilets in homes and businesses contains bacteria that can sicken aquatic creatures and humans who come in contact with it. Wastewater also contains chemicals that consume so much oxygen that there is not enough to support fish.

Stormwater: In undeveloped areas, rain seeps into the ground and slowly discharges through the soil to the stream. In developed, especially paved, areas, rain runs into a stream immediately, carrying everything from motor oil to cigarette butts. Clean water seeping out of the soil slowly and steadily makes better stream habitat than flashy pulses of water coming from storm drains and roadways.

When Morgantown was built, pipes were laid so heavy rain caused sewage to overflow into Deckers. The Morgantown Utility Board, state, and federal partners are now working to separate sewer water and stormwater.

Sediment: Solid materials, including grains of sand, rocks, logs and leaves move down stream channels just as water does. Changes to streams and their banks will change how all those objects—the sediment—moves. Straightening the channel in one place can make the stream eat away at a stream bank in another place. The sediment from the bank can make the stream shallower, and increase flooding in a third location.

Litter: Streams have enough work to do without having to clean up trash. Trash is ugly, and should not be in a stream or in a place where it might be washed into a stream! Litter in a stream indicates that watershed residents do not value streams and the life they contain.

FODC has conducted trash cleanups in the watershed since 1996.

A Trip Down Deckers Creek

Source to Reedsville Farm Pond: ***In the headwaters,*** *Deckers Creek is small and so mildly acidic it is difficult to distinguish effects of acid rain and AMD. The fishery is poor: usually only a few creek chubs are found in this area.*

Farm Pond to Kanes Creek: *Deckers Creek receives acid neutralizing chemicals and nutrients from the Reedsville Farm, houses and lawns, or some other source. The fish are larger and more diverse: there are suckers and bullhead catfish along with creek chubs, and a few, small bass.*

Kanes Creek to Masontown: *Kanes Creek is the first large AMD source. Until the last few years, Kanes dramatically decreased water quality, and mines in the next three miles added even more. Dillan Creek diluted the acidity somewhat. For many years, no fish were caught at Masontown.*

The trip continues on the reverse side

Left: An aerial view of channelized Deckers Creek. Right: Acid mine drainage can be treated in many ways. The WV DEP built this SAPS (successive alkalinity producing system) to treat a small flow of AMD in the upper watershed.

7 DECKERS CREEK AT THE COUNTY LINE

ACCESS This stretch of the creek can be seen from Route 7 as it crosses the Monongalia/Preston County line. From the Rail-Trail, walk downhill in the area between miles 11 and 12.

WATER QUALITY This reach usually smelled of sewage before construction of Masontown's sewage treatment plant. It is better now, although it still sometimes violates pH standards because it is too acidic.

Deckers Creek cuts through snow and ice near the county line.

FISH Creek chub dominate the communities, but bullhead catfish are sometimes found as well. We caught a crappie here once, probably an escapee from a private pond.

Creek chubs

INVERTEBRATES Benthic invertebrates are difficult to sample: the streambed is extremely tough to disturb because of years of iron deposits and other materials. Netspinner caddisflies dominate the community.

6 MASONTOWN

ACCESS Deckers Creek flows right by the trailhead in Masontown. From Route 7, find the trailhead near mile 13 by turning down Depot Street.

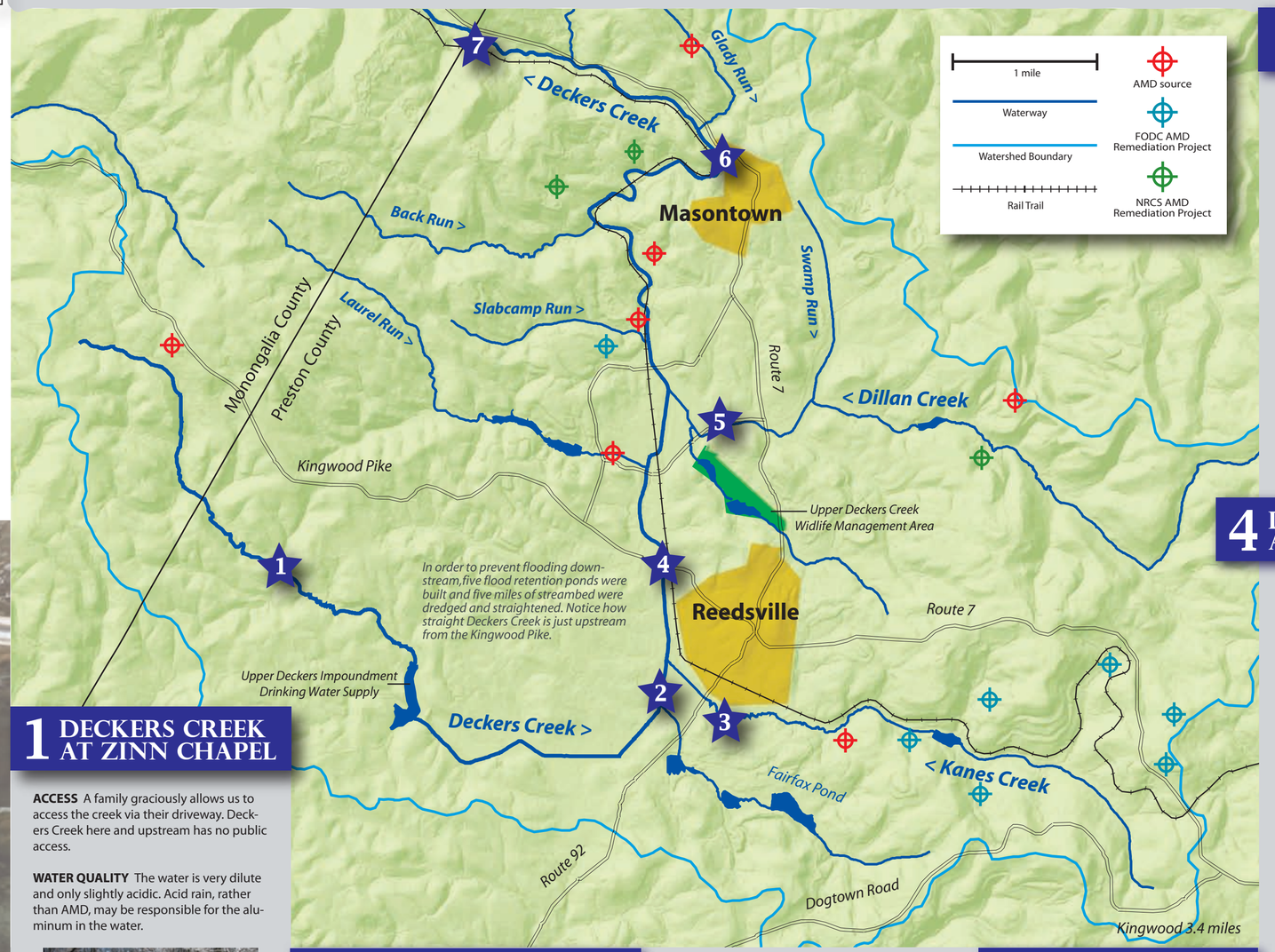
WATER QUALITY Masontown usually has low pH values. It is expected to improve due to remediation projects by the Natural Resource Conservation Service and FODC.

FISH On those occasions when the water is not acidic, the stream contains many minnows and a few large fish. Many surveys, however, yield no fish aT all because of AMD.

INVERTEBRATES Benthic invertebrates indicate poor water quality. Net-spinners and aquatic earthworms predominate.

Aquatic earthworms

Acid Mine Drainage is frequently treated with limestone channels and settling ponds. This Natural Resources Conservation Service project treats an AMD discharge just upstream from Masontown.



5 DILLAN CREEK AT BURKE ROAD

ACCESS Route 7 crosses Dillan Creek and intersects Burke Road 1.6 miles south of Masontown. The Deckers Creek Rail-Trail intersects Burke Road just past mile 16.

WATER QUALITY In its upper reaches, Dillan Creek is severely damaged by AMD. At Burke Road, however, it is close to neutral. Bacteria counts are occasionally high. The creek held a thick algal bloom in 2005, indicating nutrient enrichment.

FISH We find fish in Dillan Creek every year. Creek chub, sunfish, and bullhead catfish are usually present. They may swim into Dillan when Deckers has bad water.

INVERTEBRATES Like the algae, the invertebrates indicate an enriched community. Netspinners are most common, but we also find many riffle beetles. An average of ten varieties of benthic macroinvertebrates appear each year.

4 DECKERS CREEK AT KINGWOOD PIKE

FODC VISTA James Nutaitis monitoring Deckers Creek among the cattails near the Kingwood Pike.

ACCESS The Kingwood Pike crosses Deckers Creek and the Rail-Trail (near mile 17) within approximately 300 feet of each other.

WATER QUALITY Measurements of water quality vary widely in this area. pH measurements range from 4 to above 7. The changes in Kanes Creek, 0.6 miles upstream, account for the changes here.

FISH In bad years, there are no fish here. In good years, we find a few minnows. One or two small bass often blend in with the other fish.

INVERTEBRATES We find few invertebrates in the sandy substrate in this area. In the few areas with decent invertebrate habitat, we find sparse communities with dragonfly larvae, sowbugs, snails, riffle beetles, and other organisms.

Dragonfly larva

1 DECKERS CREEK AT ZINN CHAPEL

ACCESS A family graciously allows us to access the creek via their driveway. Deckers Creek here and upstream has no public access.

WATER QUALITY The water is very dilute and only slightly acidic. Acid rain, rather than AMD, may be responsible for the aluminum in the water.

Deckers Creek near Zinn Chapel in winter.

FISH Our first two annual surveys yielded very large (>10") bullhead catfish and largemouth bass for such a small stream. More recently however, only a few small creek chub and sunfish have been found in the pool, which is getting filled in with stone from a ford for gas trucks.

INVERTEBRATES Netspinners are the most common, but a variety of mayflies and stoneflies are also present. Crayfish seem to love the large cavities between the stones for the ford.

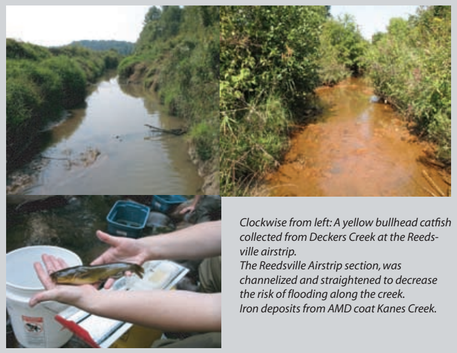
2 DECKERS CREEK AT REEDSVILLE AIRSTRIP

ACCESS This site has no easy access. When visiting it, we park next to Kanes Creek on Route 92, and walk three tenths of a mile through a field to Deckers.

WATER QUALITY The water here is not acidic, but occasionally has low dissolved oxygen and high bacteria counts.

FISH In many years, there are more large (>6") fish per acre at this site than at any other site on Deckers Creek. The fish seem to camp out in the good water just upstream from Kanes Creek and the AMD it carries.

INVERTEBRATES The mix of non-acidic water and the sandy bottom at this site makes for an unusual community for Deckers: it is dominated by midges, but also contains damselflies, riffle beetles, and snails.



Clockwise from left: A yellow bullhead catfish collected from Deckers Creek at the Reedsville airstrip.
The Reedsville Airstrip section, was channelized and straightened to decrease the risk of flooding along the creek.
Iron deposits from AMD coat Kanes Creek.

3 KANES CREEK

ACCESS The Rail-Trail bends near the confluence of Kanes and Deckers. Upstream, the trail parallels Kanes rather than Deckers. Route 92 crosses both trail (near mile 18) and Kanes Creek one-half mile from Reedsville.

WATER QUALITY Kanes Creek is usually a major source of AMD to Deckers Creek. Its pH has been as low as 3.

FISH Until recently, the water in Kanes was so bad we did not dare survey fish for fear the backpack shocker would short-circuit. In 2005, however, six fish were found there. In 2007, we found 74 fish of eight different species.

INVERTEBRATES Few invertebrates live in the acid waters. Typically, only four or five insects are found even after several kicks in the sediment.