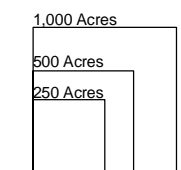


- Legend**
- Study Area Boundary
 - Watershed Boundary
 - County Boundary
 - Municipal Boundary
 - Rivers/Streams/Lakes
 - Highways
 - Major Roads
 - Minor Roads
 - Forested Areas (within 50 feet of rivers or streams)
 - Wetland Areas (within 50 feet of rivers or streams)

- Sub-Watersheds**
1. Hamilton Run
 2. Beaver River
 3. McKinley Run
 4. Block House
 5. Brady Run
 6. Grimms Run
 7. Walnut Bottom Run
 8. Bennett Run
 9. Wallace Run
 10. Thompson Run
 11. Clarks Run
 12. Stockman Run
 13. Wampum Run
 14. Eckles Run
 15. Snake Run
 16. McKee Run
 17. Jenkins Run
 18. Edwards Run



**RIPARIAN BUFFER ANALYSIS
BEAVER RIVER CONSERVATION
AND MANAGEMENT PLAN**
Prepared for: Pennsylvania Environmental Council
Prepared by: Environmental Planning and Design, LLC

Sensitive Resource Threatened Habitat

A compilation of the watershed's sensitive resources can be seen as part of the Sensitive Resources Inventory. This map identifies lands within the Study Area that may suffer serious environmental consequences if disturbed. Sensitive resources include steep slopes, flood-prone areas, wetlands, Biological Diversity Areas (as identified by the Western Pennsylvania Conservancy), and exceptional/high quality watersheds (as identified through Southwestern Pennsylvania Commission's Natural Infrastructure analysis). The Study Area's steep slopes and flood prone areas lie in close proximity to the Beaver River. Biological diversity areas are generally located in close proximity to the Beaver River as well as along its tributaries including the Brady's Run sub-watershed - classified as an exceptional/high quality watershed. The Wallace Run sub-watershed and Block House Run sub-watershed possess Prime and Good Warm Water Fish Habitats.

State Gamelands

The Pennsylvania Game Commission has purchased land for inclusion in the State Game Lands system since 1920. Each State Game Land has an individual management plan designed to improve wildlife habitat and provide recreational opportunities. Hunters, anglers, hikers, birdwatchers and other wildlife enthusiasts are welcome on State Game Lands.²³ There is only one State Gameland within the Beaver River corridor. Gameland 148, Possum Hollow, is 369 acres and is home to pheasant, rabbits, and squirrels.

Recreational Resources

Trails

Land

Greenways

Greenways are defined as dedicated corridors of open space. They vary in terms of size, purpose, and amount or quality of green. Some serve mainly as recreational corridors, as in rail trails, while others may be environmental corridors, like riparian (streamside) buffers. Greenways provide many environmental benefits, including improved air and water quality, habitat for wildlife, and the protection of environmentally sensitive areas like wetlands and steep slopes. Greenways are also economically beneficial; they increase property values, attract local businesses, connect communities, and improve the quality of life.

The Pennsylvania Greenways Partnership Commission, a coalition of government and private organizations established by Governor Tom Ridge in 1998, has produced an action plan for developing a statewide greenway network by 2020. Called *PA Greenways: An Action Plan for Creating Connections*, the document calls for connecting "hubs" of public lands with national, state, local, or regional greenways.²⁴ The Plan also encourages each county to apply greenways as a land use strategy and to map these important areas.

²³ www.pgc.state.pa.us

²⁴ www.dcnr.state.pa.us/pagreenways/index.htm

Beaver County completed a County Comprehensive Greenways and Trails Plan in 2007, and Lawrence County completed their County Greenways and Open Space Plan in 2008. The Beaver County Greenways Plan identifies twelve potential greenways. Of these, the Brady's Run watershed area and the southern portion of the Beaver River Study Area Watershed possess areas of sensitive natural resources that are commonly identified in Beaver County's Greenway Plan and in the Beaver River Conservation and Management Plan. The Lawrence County Greenway Plan identifies eight potential conservation greenways. Included among these eight are the Beaver/Mahoning River Greenway, which includes corridors along Jenkins Run and Edwards Run, and the McKees Run Greenway. These areas have been identified in the Beaver River Conservation and Management Plan as having sensitive natural resources, particularly areas of dense forests. Contact the County Planning Offices for information about these documents.

Rails to Trails

Rail trails are examples of recreational greenways. Abandoned rail beds provide an ideal starting point for cycling or walking trails: they are free from traffic, have a gentle grade, are close to many communities, and provide closer access to the rivers. Rail trails are made possible due to a 1983 amendment to the National Trail System Act of 1968. The amendment allows old railroad beds to be used by the public and allows for rail banking, which authorizes a railroad company to reclaim the abandoned railways if needed.

In 2006, the Beaver River Rails-to-Trails Association completed Phase 1 of the Beaver River Trail from 11th Street to 23rd Street in Beaver Falls. Phase 2 will involve Geneva College and extend from 28th Street to the northern edge of the College.

The Railbanking Act

In 1976, the federal government deregulated the railroads with the Railroad Revitalization and Regulatory Reform Act. The purpose of this act was to make it easier for the railroad companies to get rid of unprofitable lines freely, either by sale or abandonment, allowing it to become part of the adjacent property.

In 1983, Congress passed the National Trails System Act "to provide for the ever-increasing outdoor recreation needs...and in order to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation" through trail creation. The National Trails System Act is also known as the "railbanking act." Under "STATE AND METROPOLITAN AREA TRAILS," Section 8 (d) of the National Trails System Act, 16 U.S.C. §1247(d), the Act calls for encouraging State and local agencies and private interests to establish appropriate trails using the provisions of the National Trails System Act in administering the Railroad Revitalization and Regulatory Reform Act. Section 8 (d) spells out the "national policy to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use." The act allows rails-to-trails groups to take over the railroad land, assume responsibility for them, and promise to sell the land back to the railroads if they are ever needed again. As a way to straighten out the railroad transferring process and as a way to preserve the right-of-way for the future, Congress created the railbanking act.

Private Landowners

Commonly, the railroad right-of-ways are acquired through outright purchases, easements, condemnations, and land grants. Usually, it is a combination of all four types. After a railroad "abandons" the line, people may question ownership. At this point a lawyer should be retained

to do a title search to sort through the conflicting ownership claims. Many families who have owned the surrounding land for generations contend that the land was essentially borrowed subject to railroad use. When that use ceased, they believed the land would revert back to the family. This is essentially how an easement works. An easement is “the right to use the real property of another for a specific purpose.” Legal title is retained by the original owner. When that specific purpose ceases, such as an abandonment of the line, the land reverts back to the original owner.

Now, however, the National Trails System Act allows the government to hold onto that land in case railroads are needed in the future, while making productive recreational use of the land in the present. The U.S. Congress was concerned about losing the existing rail network to abandonment, so now a line proposed for abandonment is preserved through interim conversion to trail use. What happened to the private landowners’ rights? Sometimes, a line proposed for abandonment contains sections that are easements as opposed to the railroad outright owning the section. If an abandonment occurs, the land reverts back to the family who owns the land. However, if a line is railbanked, the line is not considered abandoned. Therefore, the land does not revert back to the family. The line can not be broken into segments. The railbanking act deposits the landowners’ interests into a fictitious National Rail Bank, which holds them in public trust for future use.

Constitutionality

In 1990, the U.S. Supreme Court ruled that railbanking was constitutional, but it also allowed property owners to seek damage claims through the U.S. Court of Claims in Washington, D.C. Right now, seeking a damage claim seems to be the only redress for a private landowner, and the landowner can only take such action after the trail is created, because there must be an injury to the landowner in order for him or her to bring a claim in court. While private landowner groups have fought rail trails and held up the trail creation process in court, more times than not the trail wins out. The law favors productive use of the land.

Water

Water trails are boat routes suitable for canoes, kayaks and small motorized watercraft. Like conventional trails, water trails are recreational corridors between specific locations. Water trails are comprised of access points, boat launches, day use sites, and -- in some cases -- overnight camping areas. Each water trail is unique, a reflection of Pennsylvania's diverse geology, ecology and communities.

Pennsylvania Water Trails embrace the "Leave No Trace" code of outdoor ethics that promotes the responsible use & enjoyment of the outdoors. Contact the Pennsylvania Fish and Boat Commission (PFBC) or visit www.fish.state.pa.us for more information.

As part of the development of this Plan, the Pennsylvania Environmental Council (PEC) has conducted preliminary field work related to the development of the Beaver River Water Trail. The biggest challenge to the development of the Beaver River Water Trail is the lack of public boat access. The PFBC and PEC recommend that there be one public boat access point every ten miles and the current system does not support this.

Additionally, much of the riverfront is steeply sloped or has existing active railroads, which limits emergency access to the river. Also, there are three dams that present safety concerns (Eastvale, Beaver Falls and New Brighton). Additional work is required to identify safe portages

around these dams. Despite the challenges to the development of the Beaver River Water Trail, this river presents opportunities for recreational use.

Potential put-ins include:

- Ellwood City at the sewage treatment plant. This is along the Connequenessing Creek. The municipality controls this property; however they have interest in developing a boat access point at this location.
- Rock Creek Boat Club. This is at the confluence of the Connoquenessing Creek and Beaver River. Recently acquired by the Wild Waterways Conservancy this presents opportunities for development of a public access point.

Existing take-outs include:

- Fishing Park in New Brighton.
- Rochester Riverfront Park.
- Bridgewater Riverfront Park.
- On the Ohio River there is a boat access point in Monaca.

Boating

River Access

Access	Ownership	Location	Amenities/Comments
New Brighton	PFBC (public)	New Brighton, Beaver River	Unlimited horsepower, open 24/7, shore fishing, parking, surfaced ramp, loading dock, best for deep-draft high-powered boats
Rochester	PFBC (public)	Rochester Borough, Ohio River	Unlimited horsepower, open 24/7, shore fishing, parking, surfaced ramp, loading dock, best for deep-draft high-powered boats
Monaca	PFBC (local government)	Monaca Borough, Ohio River	Limited horsepower, large parking lot, surfaced ramp, loading dock, primary boating – deep draft, high powered recreation boats

Source: www.fish.state.pa.us

Boating Registrations

The PFBC tracks and regulates all boat and fishing registrations and related activities. Recreational traffic on the river may include motorized (pleasure boats or personal watercraft – see definition below) or non-motorized (canoes, kayaks, or sculls) craft.

Recreational boat registrations by county for 2007:

Beaver – 5,912

Lawrence – 3,573

See www.fish.state.pa.us for a list of boat registrations since 1995 for all counties.

Boating Safety

Conflicts among boaters occur in public waterways. The PFBC has established regulations and educational courses to deal with the conflicts. Beaver County is within the Southwest Region PFBC Law Enforcement Headquarters, which can be reached at 814-445-8974. Lawrence County lies within the Northwest Region; that number is 814-337-0444. A complete guide to boating regulations can be found at www.fish.state.pa.us. A summary of boating regulations can be found at the end of this chapter.

Some safety problems arise when pleasure boaters are not educated about the rules of the river or when alcohol is involved. To help alleviate this problem, mandatory boating safety education for operators of motor boats became effective in February 2003. The regulation requires people born after January 1, 1982, to complete a boating education course and obtain a certificate to operate an internal combustion motor greater than 25 horsepower or to operate a personal watercraft. The certification lasts for a lifetime, and there are exemptions for the owners of private ponds. More information is available from the Pennsylvania Fish and Boat Commission.

"Personal watercraft are often referred to by their trade names such as jet skis or skidoos. PFBC regulations define "personal watercraft" as a boat less than 16 feet in length that uses an internal combustion motor powering a water jet pump as its primary means of propulsion and is operated by a person sitting, standing, or kneeling on the craft. Under proposed regulations, it is an unacceptable boating practice to:

- Cause a boat to become airborne while crossing the wake of another boat within 100 feet of the boat causing the wake.
- Weave through congested traffic.
- Follow too closely to another boat at other than slow, minimum height swell speed. For purposes of this regulation a boat is deemed to follow too close if within 100 feet of the rear of the boat or within 50 feet of the side of another boat (except in a narrow channel.)"²⁵

Fishing

Access

No formal inventory of fishing spots along the Beaver River and its tributaries exists. However, there are many informal and some formal fishing areas that are known to local anglers. One popular formal area is the southern end of Big Rock Park, below the Townsend Dam.

Fishing Registrations

See Table 4-13 for information on fish stocking and Table 4-7 for fish consumption advisories.

Fishing license sales/trout stamps by county for 2007:

²⁵ www.fish.state.pa.us

Beaver – 10,176 / 5,188
Lawrence – 7,662 / 3,716

See www.fish.state.pa.us for information on fishing registration sales per county in 2006.

Fishing Tournaments

During the summer months there are many fishing tournaments in the region. Most are small club tournaments with no prizes or fees and are limited to a small number of boats. While all tournaments are required to get a permit from the PFBC, a single list of the tournaments for the region does not exist. Anglers need to watch for notices in the newspaper and search the Internet for tournament notices. The PFBC is exploring ways to create a comprehensive list.²⁶

Recreation and Economics

The Recreation Map illustrates the region's diverse recreation facilities, including several hunting and camping areas in Daugherty Township and Big Beaver Township, as well as golf courses in Patterson Heights, North Sewickley Township, New Beaver Township and Wayne Township. Noteworthy is the limited number of larger-scale formal outdoor recreation facilities within the Study Area.

Advocates for a healthy environment often point to the economic benefits that outdoor recreation can bring to a community. While there are no specific estimates available for this study area, there are national and state figures that illustrate the contribution of outdoor recreation to the local economy.

In a 2001 survey, the U.S. Fish and Wildlife Service calculated that 82 million Americans age 16 and older participated in a wildlife-related activity (fishing, hunting, photography, wildlife watching, etc.) and spent 110 billion dollars on these activities.²⁷ For Pennsylvania, the figures and their expenditures are broken down in Table 4-15.

Activity	Participants	Expenditures*
Fishing	982,000	\$ 1,252,380,000
Hunting	1,027,000	\$11,446,014,000
Wildlife Watching	3,503,000 (resident) 1,185,000 (non-resident)	\$1,269,927,000
* Includes permits, licensing, food, lodging, trip related expenses, equipment, magazine subscriptions, land leasing, etc.		

²⁶ Personal interview with Dennis Tubbs, PA Fish and Boat Commission, 2003

²⁷ 2001 Survey of Fishing, Hunting, and Wildlife Associated Recreation State Overview. July 2007. U.S. Fish and Wildlife Service.

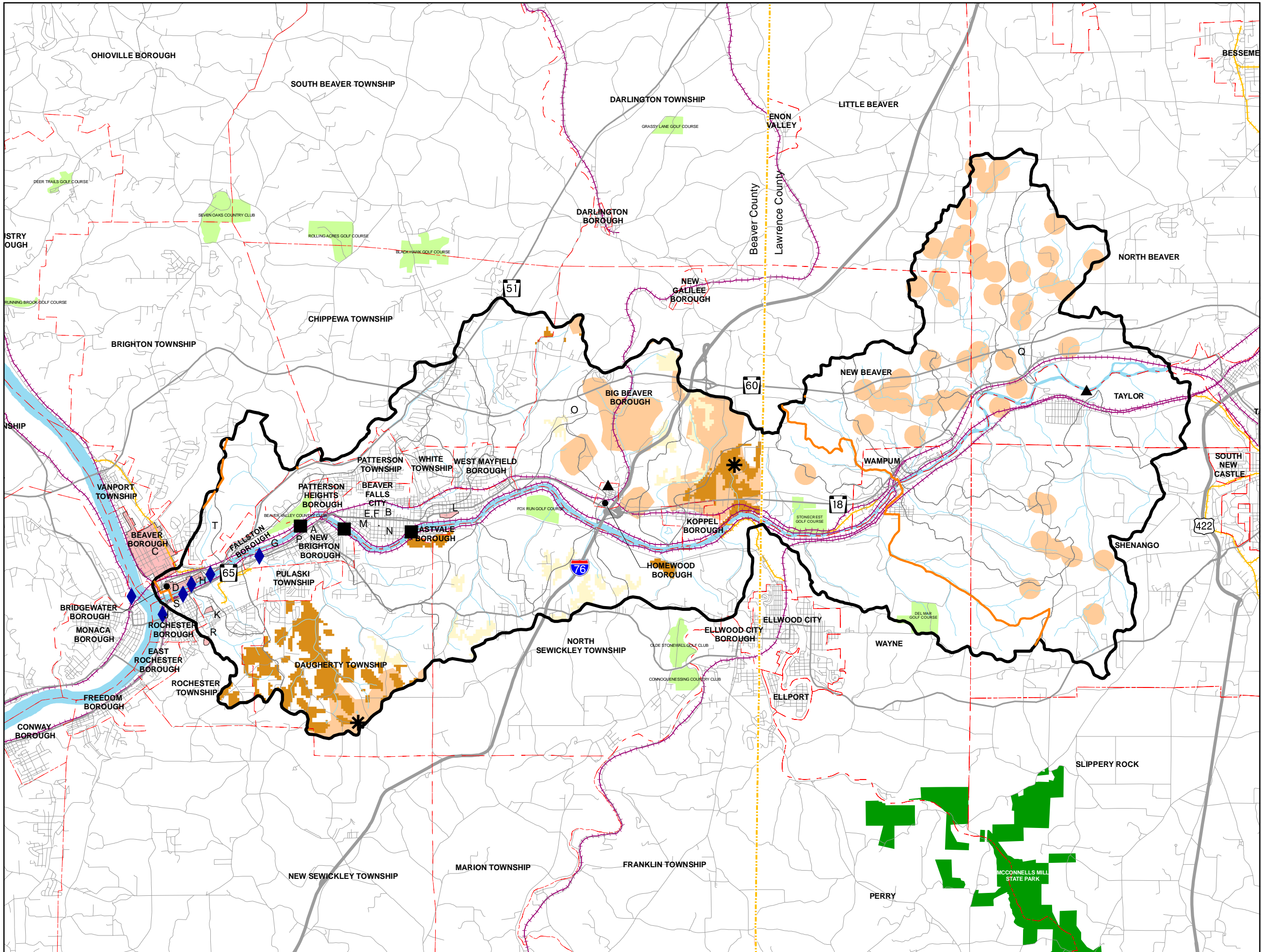
According to the PFBC, Pennsylvania residents age 12 and over spend \$1.7 billion annually on boating, including an average expenditure per recreational boater of \$274.²⁸

In addition to these expenditures, wildlife activities generated worker earnings, state sales taxes, state income taxes, and federal income taxes.

Similarly, trails and greenways improve local economies through tourism and recreation-related spending. A 1998 study on the economic impacts of the Great Allegheny Passage, the trail that is under construction between Pittsburgh and Washington D.C., showed that trail users spent \$14.1 million near six trail heads as well as between \$8.9 and \$12.2 million on bikes and biking equipment.²⁹ Businesses predict that the completion of the trail will have an extremely positive impact on them, and nearly half of the businesses plan to expand.

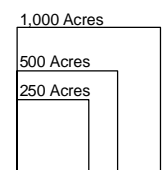
²⁸ PA Fish and Boat Commission Fact Sheet, Economic Value of Fishing and Boating in Pennsylvania.

²⁹ www.atatrail.org/news/econ-study-99.htm



- Legend**
- Watershed Boundary
 - County Boundary
 - Municipal Boundary
 - Rivers/Streams/Lakes
 - Highways
 - Major Roads
 - Active Railroads
 - Inactive Railroads
 - Pennsylvania Historic and Museum Commission Historical Areas
 - Marinas/Boat Launches
 - State Parks
 - Golf Courses
 - Hunting Areas
 - Land Most Suitable for Primitive Camping
 - Land Most Suitable for Non-Primitive Camping
 - Existing Trails
 - Land Most Suitable for ATV Area
 - Hydroelectric Dams
 - Other Dams

- Historic Sites**
- A. New Brighton Armory
 - B. Beaver Falls Firehouse
 - C. Beaver Historic District
 - D. Broadhead Hotel/Broadhead District
 - E. Carnegie Free Library, Beaver Falls
 - F. County Bridge No. 26
 - G. William B. Dunlap Mansion
 - H. Eastvale Dam Complex
 - I. Farmer & Producers Market
 - J. H.C. Frye Glass Company
 - K. Geneva College
 - L. Granada Theatre
 - M. Hotel
 - N. Log House
 - O. Merrick Art Gallery
 - P. North Beaver Grange
 - Q. Passavant Memorial Homes
 - R. Pennsylvania Canal: Girard Locks No. 16 & No. 17
 - S. Wray House



RECREATION MAP
BEAVER RIVER CONSERVATION AND MANAGEMENT PLAN

Prepared for: Pennsylvania Environmental Council
 Prepared by: Environmental Planning and Design, LLC

Date: September 2006
 1989.05.222



Historic and Cultural Resources

Regional History

The Beaver River area was originally settled by the Monongahela people, of whom little is known, except that they vacated the region by the 1600s and were replaced by members of the Delaware, Shawnee, and Iroquois Tribes. These native people called the river Amockwi-Sipu, or “Beaver Stream.” They remained in the area until the late 1750s when farmers settled much of the region. Although the native people no longer lived in the area, they left behind important travel routes, or trails, along many of the major waterways. The Mahoning Trail followed along the Beaver River and was used to connect people from Pittsburgh to Akron, Ohio, and eventually Detroit, Michigan. The Sandusky Trail followed the Beaver River for a short distance before turning west toward Sandusky, Ohio. These trails eventually became the network used for roads and railroads that are used today. Route 18 follows the approximate path of the Mahoning Trail, and the Sandusky Trail is now Route 51.³⁰

Then, as it became important to establish trade routes with other areas of the country, canals were established. In the 1830s, the Beaver and Erie Canal was built and became one of the more successful canals in Pennsylvania. By the 1850s, however, it was replaced by the faster, more efficient railroads, which were built on both sides of the Beaver River.

The railroads and industrial revolution fueled the increase in population as immigrants came to work in the steel mills. The turn of the nineteenth century saw the largest population in the region. By the late 1900s, much of the industry disappeared along the river. The river now is being viewed for its recreation potential as parks and waterfront developments spring up along its banks.

More history of the region can be found in the book *Rivers of Destiny*, published in 1999, and in the *Inventory and Assessment of Historic and Heritage Sites in Beaver County*, published in 1998. Local historical societies also are excellent sources of information. The website www.bchistory.org contains community histories, historical essays by subject, and a list of local historical societies.

The National Register of Historic Places³¹

The Historical and Cultural Sites Map highlights important resources relating to life in the Beaver River Valley. Featuring historical residences, businesses, and institutions, these sites are almost exclusively concentrated in the more populated areas of the region. These resources can also be viewed in context of other recreation-oriented activities in the region as illustrated on the Recreation Map.

The PA Historical and Museum Commission (PHMC) manages the National Register of Historic Places for Pennsylvania. The program was established by the National Historic Preservation Act of 1966. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. National Register properties are distinguished by having been documented and evaluated according to uniform standards. These criteria recognize the accomplishments of all

³⁰ Rivers of Destiny, 1999, Beaver County Planning Commission.

³¹ Supported and published by the Pennsylvania Historical and Museum Commission (PHMC) www.phmc.state.pa.us Summary taken from PHMC.

people who have contributed to the history and heritage of the United States and are designed to help state and local governments, federal agencies, and others identify significant historic and archeological properties worthy of preservation and of consideration in planning and development decisions. Listing in the National Register, however, does not interfere with a private property owner's right to alter, manage, or dispose of property. It often changes the way communities perceive their historic resources and gives credibility to efforts to preserve these resources as irreplaceable parts of the communities.

Listing in the National Register contributes to preserving historic properties in a number of ways:

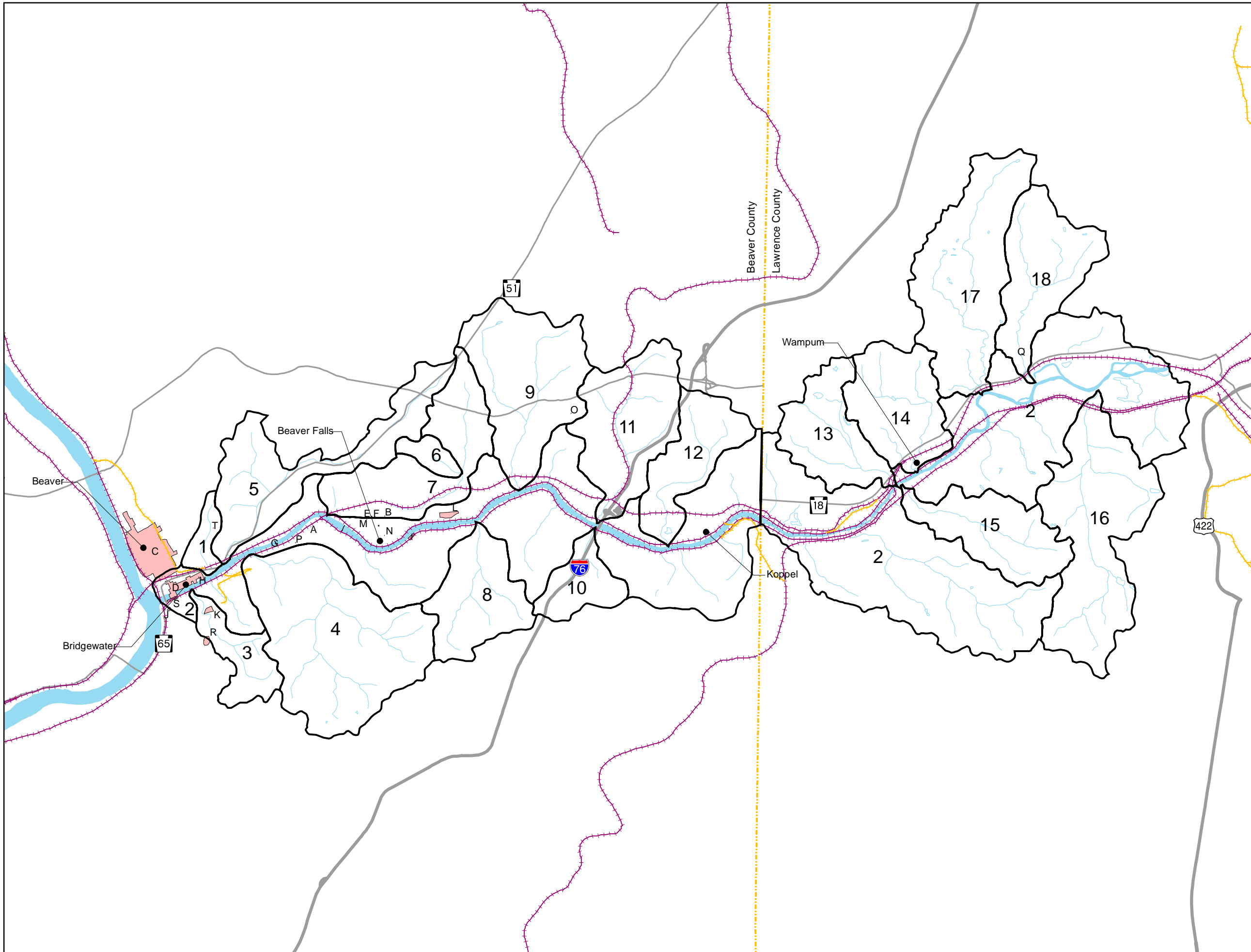
- Recognition that a property is of significance to the nation, the state, or the community.
- Consideration in the planning for federal or federally assisted projects.
- Eligibility for federal tax benefits.
- Qualification for federal assistance for historic preservation, when funds are available.

The Historical Marker Program³²

The historical marker program, established in 1946, is one of PHMC's oldest and most popular programs. The blue and gold markers located throughout the state highlight people, places, and events significant in state and national history. Presently, nearly 1,800 markers recognize Pennsylvania's history - from William Penn's country home, to the bloody Homestead Strike of 1892, to the Pennsylvania Turnpike, the nation's first long-distance superhighway.

See the list of historical places and markers in Appendix 4.

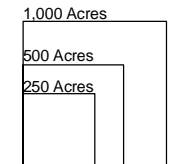
³² Summary taken from PHMC



- Legend**
- Watershed Boundary
 - County Boundary
 - Municipal Boundary
 - Rivers/Streams/Lakes
 - Highways
 - Major Roads
 - Active Railroads
 - Inactive Railroads
 - Pennsylvania Historic and Museum Commission Historical Areas

- Notable Sites**
- A. New Brighton Armory
 - B. Beaver Falls Firehouse
 - C. Beaver Historic District
 - D. Broadhead Hotel/Broadhead District
 - E. Carnegie Free Library, Beaver Falls
 - F. County Bridge No. 26
 - G. William B. Dunlap Mansion
 - H. Eastvale Dam Complex
 - I. Farmer & Producers Market
 - J. H.C. Frye Glass Company
 - K. Geneva College
 - L. Granada Theatre
 - M. Hotel
 - N. Log House
 - O. Merrick Art Gallery
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 - S. Wray House

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 15. Snake Run
 16. McKee Run
 17. Jenkins Run
 18. Edwards Run



**HISTORIC AND CULTURAL SITES
BEAVER RIVER CONSERVATION
AND MANAGEMENT PLAN**

Prepared for: Pennsylvania Environmental Council
Prepared by: Environmental Planning and Design, LLC

CHAPTER 5: PUBLIC PARTICIPATION

Public comments are an important component of the planning process, as they help to form the basis for the watershed analysis and management recommendations. Comments were gathered from an advisory committee, the municipalities, and the general public.

Advisory Committee

The advisory committee's role was to assist in research, guide the direction of the Plan, suggest ideas for recommendations, act as liaisons to their community/group, and to review the draft Plan and maps. Advisory committee members are listed in the introduction under acknowledgements.

At the first committee meeting in March 2005, members were asked to answer some questions about the river. The responses are found in the following survey.

What special or important places should be recognized and protected in the Beaver River Corridor?

- Isolated gorge between Wampum Dam and Eastvale Dam (mature growth hardwoods on steep slopes)
- Islands in Lawrence County
- West Pittsburgh swamps
- Connecting greenway from Little Beaver Creek to Beaver River
- Native American caves, paintings at Beaver/Lawrence County line
- Buttermilk Falls and Quarry in Homewood
- James Wood/Homewood Iron Furnace in North Sewickley
- Rock Point Park in Wayne Township
- Steep slopes/rock ledges in North Sewickley/Big Beaver
- Large trees located along the river
- Islands
- Natural areas on the county NHIs
- River in northern Beaver County
- Bridgewater Riverfront Park and extension
- Big Rock Park in New Brighton
- New Brighton fishing park
- Girard Lock wall in Rochester Borough
- Flag Plaza in Rochester Borough

What are the major problems or issues affecting the natural quality and recreational potential of the Beaver River?

- Steep slopes and railroad right-of-way prevents access
- No access between Beaver Falls and Wampum
- Hot water outfall affecting water quality – from Orion Energy
- No access on upper River
- Logging on steep slopes in watersheds
- Difficult access in Big Beaver (steep slopes and railroad)

- Potential development impacting the visual integrity of the river valley
- Uncontrolled logging practices
- Privately-owned lands in Beaver Falls
- Dams
- Blockhouse Run sediment
- Steep topography in Rochester Township
- McKinley Run sediment
- Sediment deposits at mouth of River
- Brady's Run sediment
- Privately-owned land in Fallston
- Beaver Falls/New Brighton bridge pier

How are these problems or issues being addressed or how would you propose to address them?

- Negotiations with railroad
- Upper Beaver Valley Region is addressing uncontrolled development and logging
- Funding
- County and municipal support
- Vision plan

Are you aware of any current projects and studies along the river?¹

- Route 18 Corridor Plan
- Multi-municipal comprehensive plan for Big Beaver, New Galilee, Homewood, and Koppel
- Beaver River Rails-to-Trails from Beaver Falls to Wampum

What projects/improvements would you like to see in the Beaver River corridor in the next 10 years?

- Create access to the river for recreation purposes
- Conservation of the forested slopes
- Boat access
- Wetland opportunities from sand and gravel operations
- Greenway with trails
- Rails-to-trails system
- Connector trail to Buttermilk Falls Park site and other heritage sites
- Mixed use development along Route 18 with recreational linkage to the river valley
- Beautification projects and communication with industries
- Dredge lower Beaver River
- Historical and informational markers in parks and riverfronts

How can we make the plan a useful document for you?

- Explain how to use the river valley in Big Beaver
- Create feasible goals that can be implemented

¹ A complete list of plans, including those not mentioned at this meeting, appears in Chapter 1.

Municipalities

Twenty-six communities are located within the Beaver River watershed study area. Nine of these communities responded to a Watershed Protection Inventory survey intended to identify existing policy and land patterns relevant to potential watershed planning and management. This Inventory was developed by the Center for Watershed Protection (www.cwp.org). A copy of the Inventory is shown in Appendix 5.

Issues

In analyzing survey responses, a series of issues and observations emerge. Many of the responses confirm concerns expressed by the public that communities of the Beaver River Watershed possess few controls to manage/conservate existing natural resources. Municipal responses illuminate the following issues:

- Communities generally lack natural resource-related development controls.
- Control of stormwater run-off/erosion & sedimentation is minimal and property owners are primarily responsible for its management.
- Besides State and/or Federal controls that may apply, few local provisions exist to control impacts on stream edges.
- There are currently no formal policy mechanisms that control the ability or location of infrastructure expansion within the Study Area.
- Although oriented toward grey infrastructure, some multi-municipal planning collaboration currently occurs among communities in the Watershed.

The following observations related to development patterns/policies, environmental resources, infrastructure and outreach also emerged from the communities' responses.

Observations

Development Patterns/Regulations

- All respondents expressed that they do not take into account (or do not know) the impacts of their land use decisions on water resources.
- Development flexibility in regard to coverage, massing (clustering), and open space preservation/conservation is generally not encouraged and most times is not permitted as part of community policy.
 - a. Big Beaver Borough allows conservation developments
 - b. Brighton Twp. encourages developers to design for existing conditions
 - c. Patterson Twp. features open space management techniques such as consolidation of open space, minimum percentages of managed natural areas, etc.

- Several, but not all, respondents require Erosion and Sedimentation (E & S) controls as part of the site development process.
- Two of the responding communities carry the responsibility of maintaining stormwater run-off. In the remaining municipalities, land owners are responsible for such maintenance.
- Requirements for the use of porous materials (e.g. driveway paving) to reduce stormwater runoff is not widespread.
 - a. Several communities permit porous materials for single-family homes' driveways.
 - b. One of the responding communities allows "two track" designed driveways; nearly half of responding communities allow shared driveways in residential areas.
- No responding communities require parking lot landscaping.

Environmental Resources

- Only one responding community addresses open space conservation (via conservation easements) and is aware of the presence of critical habitats.
- Several, but not all, responding communities require developers to identify environmental issues before engineering and site planning is done.
- Half of the responding communities restrict development based on steep slopes or sliding soils and mining. Half also require or currently possess information related to soils and mining discharge.
- Road salt is the primary substance used for winter de-icing.

Infrastructure

- Almost all responding communities have a stormwater ordinance and participate in some sort of infrastructure-oriented (water/sewer) multi-municipal effort (need design years used).
- Only one community (Big Beaver) limits infrastructure extension to control development in specific areas.

Outreach

- None of the responding communities has GIS capabilities.
- When watershed education occurs, the primary recipients are residential land owners; no one currently aims outreach toward non-residential uses.

General Public

The first two public meetings were held in October 2005 to introduce the public to the Beaver River Conservation and Management Plan and to gather information about the River. Questions similar to those asked in the advisory committee's questionnaire were asked, and responses are summarized below.

**Public Meeting
October 3, 2005
Beaver Falls
(10 people)**

- There is a siltation problem in the lower Beaver River due to silt from Brady's Run, Hamilton Run, and Blockhouse Run. Siltation impacts docks and fishing. Army Corps of Engineers did a reconnaissance study on dredging the area. The cost-benefit ration for having the Corps dredge the area was not reached. Local match money to complete the project would be needed as well. Lower 2.5 miles needs to be dredged.
- Gorge through Beaver Falls and Big Beaver should be protected. Limited access to upper river has secured its scenic quality. A trail is needed for hikers. The riverbanks are in good shape. Big Beaver has a RR bridge crossing the river, but no way to get there. There is a problem gaining access because of the railroads. Hillsides have been logged in the past, but the railroad has preserved many of the trees. Geneva College could use an access to the river to establish a rowing program (Eastvale docks – Beaver Falls Boat Club). Historic points of interest should be noted along with notable flora, fauna, and geologic features by way of informative signage. Non-intrusive overlooks are possible. A water trail is possible, but motorized boats should be kept to a minimum. Limited camping and fishing access points may be added.
- Link riverfront projects and enhance pedestrian access. Create steps to Rochester-Bridgewater Bridge or use a hill climber (mini-incline).
- Did Shenango Reservoir let water out during flood last year? Typically, flooding is caused by a backup of the Ohio River.
- Continue trail along lower part of Beaver River. (See trail plan)
- Stormwater Management is needed on tributaries (no Act 167 plans; 32 MS4 communities).
- Re-establish a crossing of the Beaver River at the former 10th St. Bridge. The landside trail can take you to the bridge.
- Study the fish and wildlife of the region and develop a curriculum for elementary, junior high, and high schools in Beaver County, especially in those schools close to the river. Voyager comes at least twice per year to serve approximately 5 school districts and conduct adult education programs in the evening.
- Clean up abandoned poles from former docks. This is a safety issue for boaters, especially at night. Area by Riverside carwash and Kelley's station is the worst. Fish and Boat Commission should mark the areas until the clean-up.
- Establish a tour boat excursion from the Beaver Falls-Eastvale area (former railroad station at Geneva College) to Rock Point.

- Not a lot of illegal dump sites because of limited access. West gate has a dump. Inactive dumps include the Beaver Falls city dump and the Koppel dump.
- Bridgewater solicitor is amenable to installing public docks at Docker's restaurant.
- Mouth of Clarks Run could be a potential site for water trail "resting site." Not accessible to roads (owned by Big Beaver).
- Section of steep slopes on west side of river just below Homewood – property may belong to Big Beaver – if so, could be a potential access site (this may be near the Turnpike Interchange).
- Motor boats' northern boundary is the county line – too hard to navigate above that.
- Rock Point and Eastvale docks have, in the past, been amenable to non-motorized users – not sure of current status.

**Public Meeting
October 5, 2005
Wampum
(12 people)**

- Fishing and boating access areas do exist, but many of them are on private property. There is a boat access area near Snake Run, under the bridge, where it is very shallow, on the Wayne Township side of the river. The Wampum side is very steep. Signage is needed for access areas not on private property. The Wampum disposal site has access to the river, but the water is deep. Potential access areas should be documented even if they are private so that landowners can be contacted about purchase or easements.
- Good water quality is needed for fishing. Do we know if the fish are safe to eat? Does the PA Fish and Boat Commission stock here? Someone (EPA?) was testing quality of Snake Run. Conservation District primarily works on water quality of Shenango River because it is a state priority. Conservation grants exist on Hell Run and North Fork of Little Beaver.
- People watch trout stocking in Volant, maybe it can be done here.
- Lawrence County is going to create a greenway and open space plan. North Country Trail cuts through Wampum.
- Water trail is a good idea.
- Does timbering disturb river? Erosion and Sedimentation plans are needed for this activity.

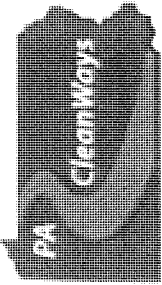
- PA Cleanways is active in the county. At the end of Clyde St. in Wampum, there is a little path that leads to an illegal dump site. DEP has been notified, but they cannot catch the people who are doing it.
- People come to the area and wait by the railroad tracks to watch the trains go by. Communities should create a stopping place along the river where people can take pictures of trains.
- There are 3 historic markers along Rt. 18. Old canal went through Wampum. Are there underground railroad sites here? Christine Davis did a study on the potential historic sites in Beaver County. Lawrence County has a historical society, contact Beverly Zona.
- Access to river: Will the temporary railroad crossing at the bridge be removed? Big Beaver Borough has an old road that goes to the river.
- Can the river be part of the PA scenic rivers program?
- Are there land use controls in municipalities that protect the river corridor? Maybe do an overlay district to protect areas without controls (e.g. steep slopes). The RCP should recommend language for model ordinances to protect natural resources.
- Are there scenic views? Brighton Twp. golf course. Rockpoint where Connoque. enters the river. Railroad bridge where Shenango and Connoque. confluence behind the mall.
- Turnpike expansion will occur in the next few years.
- Are drains at Universal Mills (?) emptying into Eckles Run?
- Bad erosion and flooding at the end of Glenkirk Rd. along Jenkins Run. Road is closed.
- Tributaries are getting narrower.
- Wildlife: Bald eagles nesting at UPS distribution center in Rochester, beaver, muskrats, great blue herons, white swans, bobcats, bear, cormorants. A more detailed wildlife survey is needed (beyond the NHI).
- There are no watershed groups in this corridor. How will recommendations be implemented?
- Commercial dredging occurring in river near Rt. 168
- Siltation problem in Eckles Run
- Discussion on preserving the quality of the Beaver corridor for “selling the scenic and natural beauty and diversity of the River.”

Final Round of Public Participation

The draft plan was presented to the advisory committee and the public at separate meetings on April 1, 2008, in Beaver Falls. The public and interested parties had an opportunity to comment on the Plan in its draft form during a 30 day comment period that ended May 1, 2008. Their comments have been integrated into this plan as appropriate.

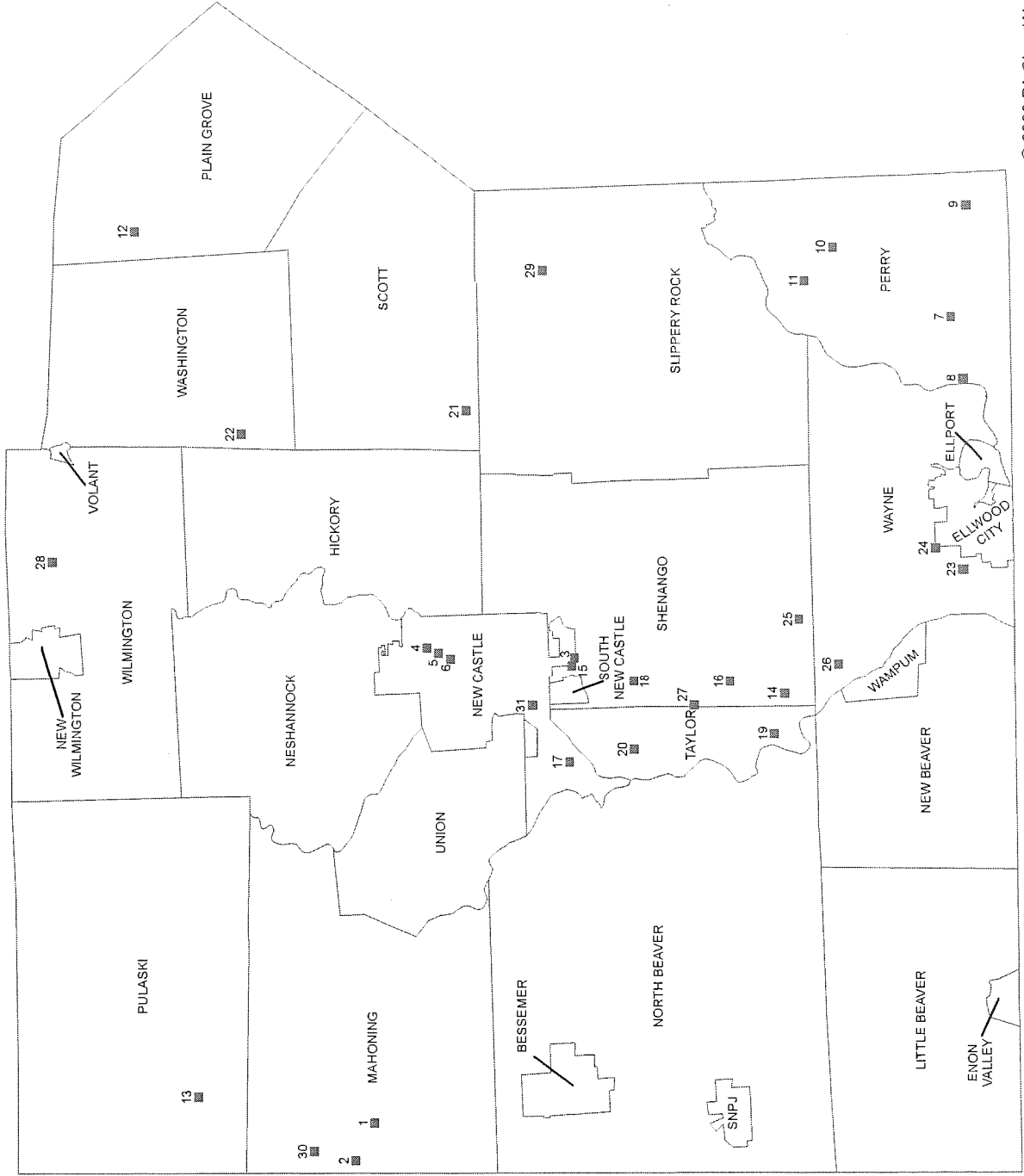
APPENDIX 1

LAWRENCE COUNTY ILLEGAL DUMP SURVEY MAP



Lawrence County, Pennsylvania Illegal Dumpsites and Municipalities April 2008

Attachment 1



© 2008 PA CleanWays
Map Prepared by Andrew Aurand
UCSUR, University of Pittsburgh

APPENDIX 2
ABANDONED MINE LAND INVENTORY

Report Selection Criteria From the current AMLIS data files.

Priority
All Priorities

Type of Mining
All Mining Types

State/Tribe
PENNSYLVANIA

Problem Types
All Problem Types

Program Area
All Program Areas

Additional Criteria
County is Equal to "Beaver" and County is Equal to "BEAVER"



Office of Surface Mining - Reclamation and Enforcement
 Abandoned Mine Land Inventory System (AMLIS)
Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
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PA - PENNSYLVANIA

Priority 1 Dangerous Highwalls (Feet)

PA006922RUA	CAMP KON-O-KWEE	0	0	64,595	64,595
PA004467RUA	HARPERS FERRY R.	0	0	258,318	258,318
PA006293RUA	CO. SCHOOL EAST	1,529,218	0	0	1,529,218
PA001464RUA	HOYTDALE	1,387,500	0	0	1,387,500
PA001463RUA	GLENKIRK SCHOOL	0	0	286,362	286,362
PA006293SGA	COUNTY SCHOOL EAST	0	0	132,456	132,456
PA006638RUA	FRANKFORT SPRINGS	40,000	0	0	40,000
PA006920RUA	HARPERS FERRY E.	0	0	152,637	152,637

Total for P 1 Dangerous Highwalls 2,956,718 0 894,368 3,851,086

Priority 1 Subsidence (Acres)

PA006293RUA	CO. SCHOOL EAST	100,000	0	0	100,000
PA942007EMA	PA - BEAVER - FEA	0	0	1,885	1,885
PA000822EMA	BEECHWOOD AVE & ROMOOR ST	0	0	49,241	49,241
PA942007EMA	PA - BEAVER - FEA	0	0	6,554	6,554
PA942007EMA	PA - BEAVER - FEA	0	0	3,622	3,622
PA942007EMA	PA - BEAVER - FEA	0	0	8,995	8,995
PA942007EMA	PA - BEAVER - FEA	0	0	2,450	2,450
PA942007EMA	PA - BEAVER - FEA	0	0	469,511	469,511
PA942007EMA	PA - BEAVER - FEA	0	0	1,220,592	1,220,592

Total for P 1 Subsidence 100,000 0 1,762,850 1,862,850

Priority 2 Dangerous Highwalls (Feet)

PA006927SGA	HEREFORD MANOR LAKE N.	40,000	0	0	40,000
PA006637SGA	CLUTCH RUN EAST	300,000	0	0	300,000
PA006298SGA	NEW GALILEE NORTH	3,125	0	0	3,125
PA006288SGA	DARLINGTON ROAD	338,000	0	0	338,000
PA006281SGA	ISLAND RUN	0	0	703,826	703,826
PA000153SGA	JORDAN RUN	0	344,000	0	344,000
PA006280SGA	BEATTY HILL	0	0	628,326	628,326
PA006279SGA	MISKITA LAKE FAR SOUTHWEST	0	371,250	0	371,250
PA006269SGA	CANNELTON NORTH	122,500	0	0	122,500



Office of Surface Mining - Reclamation and Enforcement

Abandoned Mine Land Inventory System (AMLIS)

Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Priority 2 Dangerous Highwalls (Feet)					
	PA004473SGA ELLWOOD CITY WEST	136,000	0	0	136,000
	PA004460SGA HOMEWOOD SOUTHEAST	4,500	0	0	4,500
	PA001240SGA SHERWOOD DRIVE	0	0	960,933	960,933
	PA004459SGA MORADO EAST	67,750	0	0	67,750
	PA001820SGA DARLINGTON LAKE N.W.	0	1,178,000	0	1,178,000
	PA001641SGA PEGGS RUN	30,750	0	0	30,750
	Total for P 2 Dangerous Highwalls	1,042,625	1,893,250	2,293,085	5,228,960
Priority 2 Hazardous Equipment & Facilities (Count)					
	PA001263SGA DARLINGTON LAKE	0	0	3,800	3,800
	PA001259SGA FALLSTON	0	10,000	0	10,000
	Total for P 2 Hazardous Equipment & Facilities	0	10,000	3,800	13,800
Priority 2 Hazardous Water Body (Count)					
	PA000153SGA JORDAN RUN	0	13,000	0	13,000
	Total for P 2 Hazardous Water Body	0	13,000	0	13,000
Priority 2 Portals (Count)					
	PA000158SGA BOLOGNE VALLEY	0	0	7,602	7,602
	PA000585SGA HODGE OPENING	0	0	4,000	4,000
	PA001259SGA FALLSTON	0	30,000	0	30,000
	PA001263SGA DARLINGTON LAKE	0	0	3,748	3,748
	Total for P 2 Portals	0	30,000	15,350	45,350
Priority 2 Vertical Opening (Count)					
	PA001237SGA CANNELTON	10,000	0	0	10,000
	Total for P 2 Vertical Opening	10,000	0	0	10,000
Priority 3 Gobs (Acres)					
	PA000158SGA BOLOGNE VALLEY	86,400	0	0	86,400
	Total for P 3 Gobs	86,400	0	0	86,400
Priority 3 Highwall (Feet)					
	PA006280ENH BEATTY HILL	0	0	0	0
	Total for P 3 Highwall	0	0	0	0
Priority 3 Mine Opening (Count)					
	PA000158SGA BOLOGNE VALLEY	10,000	0	0	10,000
	Total for P 3 Mine Opening	10,000	0	0	10,000
Priority 3 Spoil Area (Acres)					
	PA006293SGA COUNTY SCHOOL EAST	0	0	1	1
	PA006281SGA ISLAND RUN	0	0	1	1
	PA006280SGA BEATTY HILL	0	0	1	1
	PA006280ENH BEATTY HILL	0	0	0	0
	Total for P 3 Spoil Area	0	0	3	3
Priority 3 Water Problems (Gal/Min)					
	PA001263SGA DARLINGTON LAKE	50,000	0	0	50,000
	PA000585SGA HODGE OPENING	0	200,000	0	200,000
	PA000158SGA BOLOGNE VALLEY	50,000	0	1	50,001
	Total for P 3 Water Problems	100,000	200,000	1	300,001



Office of Surface Mining - Reclamation and Enforcement

Abandoned Mine Land Inventory System (AMLIS)

Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Total for	PENNSYLVANIA	4,305,743	2,146,250	4,969,457	11,421,450

Report Selection Criteria From the current AMLIS data files.

Priority
All Priorities

Type of Mining
All Mining Types

State/Tribe
PENNSYLVANIA

Problem Types
All Problem Types

Program Area
All Program Areas

Additional Criteria
County is Equal to "Lawrence" and County is Equal to "LAWRENCE"



Office of Surface Mining - Reclamation and Enforcement
 Abandoned Mine Land Inventory System (AMLIS)
Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Priority 1 Clogged Stream Lands (Acres)					
	PA000003CLA MITCHELL ROAD	0	0	0	0
	Total for P 1 Clogged Stream Lands	0	0	0	0
Priority 1 Dangerous Highwalls (Feet)					
	PA000003RUA MITCHELL ROAD	0	0	136,724	136,724
	PA006297SGA NEW GALILEE FAR NORTH	22,688	0	0	22,688
	PA004478RUA EDINBURG ROAD	400,000	0	0	400,000
	Total for P 1 Dangerous Highwalls	422,688	0	136,724	559,412
Priority 1 Dangerous Piles & Embankments (Acres)					
	PA000182RUA HOPE ROAD	0	0	134,985	134,985
	Total for P 1 Dangerous Piles & Embankments	0	0	134,985	134,985
Priority 1 Hazardous Water Body (Count)					
	PA000951SGA HILLSVILLE	0	48,700	0	48,700
	Total for P 1 Hazardous Water Body	0	48,700	0	48,700
Priority 1 Subsidence (Acres)					
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	9,074	9,074
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	1,950	1,950
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	1,950	1,950
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	8,355	8,355
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	3,038	3,038
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	2,855	2,855
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	1,975	1,975
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	13,250	13,250
	PA002856EMA NESHANNOCK II (SHENANGO RD)	0	0	1,985	1,985
	PA942073EMA PA - LAWRENCE - FEA	0	0	1,976	1,976
	PA942073EMA PA - LAWRENCE - FEA	0	0	5,284	5,284
	PA942073EMA PA - LAWRENCE - FEA	0	0	1,705	1,705
	PA942073EMA PA - LAWRENCE - FEA	0	0	2,381	2,381
	PA942073EMA PA - LAWRENCE - FEA	0	0	5,976	5,976



Office of Surface Mining - Reclamation and Enforcement

Abandoned Mine Land Inventory System (AMLIS)

Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Priority 1 Subsidence (Acres)					
Total for P 1	Subsidence	0	0	61,754	61,754
Priority 1 Vertical Opening (Count)					
PA942073EMA	PA - LAWRENCE - FEA	0	0	1,795	1,795
PA942073EMA	PA - LAWRENCE - FEA	0	0	1,560	1,560
PA942073EMA	PA - LAWRENCE - FEA	0	0	1,999	1,999
PA942073EMA	PA - LAWRENCE - FEA	0	0	1,950	1,950
Total for P 1	Vertical Opening	0	0	7,304	7,304
Priority 2 Clogged Streams (Miles)					
PA002854RUA	BOYD SCHOOL ROAD	20,000	0	0	20,000
PA006238SGA	NORTH EDINBURG NORTH	0	0	5,000	5,000
Total for P 2	Clogged Streams	20,000	0	5,000	25,000
Priority 2 Dangerous Highwalls (Feet)					
PA006238SGA	NORTH EDINBURG NORTH	0	0	66,033	66,033
PA006246RUA	BEIGHT ROAD WEST	2,200,000	0	0	2,200,000
PA006251RUA	DERRINGER CORNERS NORTHWEST	720,000	0	0	720,000
PA004481SGA	DUCKRUN EAST	128,875	91,125	0	220,000
PA004476SGA	CHEWTON SOUTHEAST	24,000	0	0	24,000
PA006254RMA	HONEY CREEK WEST	0	0	522,500	522,500
PA004489RUA	MARTIN ROAD	360,000	0	0	360,000
PA006245RUA	PEANUT SOUTHWEST	111,000	0	0	111,000
PA000185RUA	FRIDAYS HILL ROAD	108,000	0	0	108,000
PA002911SGA	MOORES CORNERS NORTH #1	0	0	24,258	24,258
PA004485SGA	UNION VALLEY EAST	16,000	0	0	16,000
PA000185SGA	FRIDAYS HILL ROAD	0	0	64,008	64,008
PA006843SGA	GRANT CITY	31,500	0	0	31,500
PA006915SGA	PLEASANT HILL EAST	56,000	0	0	56,000
PA000141SGA	GLENKIRK SCHOOL SW.	0	0	426,445	426,445
PA001201RUA	MARSHALL RUN	190,000	0	0	190,000
PA001201SGA	MARSHALL RUN	0	0	595,904	595,904
PA001231SGA	BEAVERDAM RUN EAST	0	44,324	0	44,324
PA002854SGA	CASTLEWOOD WEST	31,500	0	0	31,500
PA002854RUA	BOYD SCHOOL ROAD	400,000	0	0	400,000
PA004489SGA	MARTIN ROAD	1,210,000	0	0	1,210,000
Total for P 2	Dangerous Highwalls	5,586,875	135,449	1,699,148	7,421,472
Priority 2 Dangerous Impoundments (Count)					
PA006251RUA	DERRINGER CORNERS NORTHWEST	120,000	0	0	120,000
Total for P 2	Dangerous Impoundments	120,000	0	0	120,000
Priority 2 Dangerous Piles & Embankments (Acres)					
PA006235RUA	NO.5 SCHOOL	150,000	0	0	150,000
PA006843RUA	GRANT CITY	50,000	0	0	50,000
PA006255RUA	MOUNT AIR	175,000	0	0	175,000
PA006263RUA	WILLOW GROVE	45,000	0	0	45,000
PA006840RUA	PRINCETON	75,000	0	0	75,000
PA000141RUA	COUNTY LINE	155,000	0	0	155,000
PA000005SGA	BEECH WOODS	1,030,000	0	0	1,030,000
PA001231SGA	BEAVERDAM RUN EAST	0	44,322	0	44,322



Office of Surface Mining - Reclamation and Enforcement

Abandoned Mine Land Inventory System (AMLIS)

Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Priority 2 Dangerous Piles & Embankments (Acres)					
	PA006057RUA HONEY CREEK	125,000	0	0	125,000
	PA004483RUA PRINCETON ROAD	75,000	0	0	75,000
	PA001494RUA GAME LANDS #151	325,000	0	0	325,000
	PA004475RUA WAMPUM RUN	55,000	0	0	55,000
	PA001502RUA CAMP RUN	104,068	0	0	104,068
	PA001231RUA BEAVERDAM RUN EAST	375,000	0	191,050	566,050
	PA000951SGA HILLSVILLE	0	2,051,300	0	2,051,300
	PA006234RUA FRIZZLEBURG	400,000	0	0	400,000
	PA000305RUA HARLANSBURG ROAD	350,000	0	0	350,000
	Total for P 2 Dangerous Piles & Embankments	3,489,068	2,095,622	191,050	5,775,740
Priority 2 Hazardous Water Body (Count)					
	PA000305RUA HARLANSBURG ROAD	0	0	147,025	147,025
	PA000005SGA BEECH WOODS	720,000	0	0	720,000
	PA001201SGA MARSHALL RUN	0	0	25,960	25,960
	Total for P 2 Hazardous Water Body	720,000	0	172,985	892,985
Priority 2 Portals (Count)					
	PA000183SGA PAPERMILL BRIDGE	0	0	191,436	191,436
	Total for P 2 Portals	0	0	191,436	191,436
Priority 2 Subsidence (Acres)					
	PA001493RUA MITCHELL ROAD	0	0	8,921	8,921
	PA002856SGA NESHANNOCK II	0	0	2,305,908	2,305,908
	Total for P 2 Subsidence	0	0	2,314,829	2,314,829
Priority 2 Vertical Opening (Count)					
	PA004474SGA ELLWOOD CITY NORTHWEST	5,000	0	0	5,000
	Total for P 2 Vertical Opening	5,000	0	0	5,000
Priority 3 Highwall (Feet)					
	PA002911SGA MOORES CORNERS NORTH #1	212,500	0	0	212,500
	PA004489SGA MARTIN ROAD	0	0	0	0
	Total for P 3 Highwall	212,500	0	0	212,500
Priority 3 Other ()					
	PA942073EMA PA - LAWRENCE - FEA	0	0	22,076	22,076
	Total for P 3 Other	0	0	22,076	22,076
Priority 3 Pits (Acres)					
	PA002911SGA MOORES CORNERS NORTH #1	1,500	0	0	1,500
	Total for P 3 Pits	1,500	0	0	1,500
Priority 3 Spoil Area (Acres)					
	PA000141SGA GLENKIRK SCHOOL SW.	0	0	2	2
	PA002911SGA MOORES CORNERS NORTH #1	13,500	0	1	13,501
	PA004481SGA DUCKRUN EAST	0	0	0	0
	PA004489SGA MARTIN ROAD	0	0	0	0
	PA001231SGA BEAVERDAM RUN EAST	0	0	45,022	45,022
	Total for P 3 Spoil Area	13,500	0	45,025	58,525



Office of Surface Mining - Reclamation and Enforcement

Abandoned Mine Land Inventory System (AMLIS)

Problem Type Cost Detail

State	Priority and Problem Type	Unfunded Cost	Funded Cost	Completed Cost	Total Cost
PA - PENNSYLVANIA					
Total for	PENNSYLVANIA	10,591,131	2,279,771	4,982,316	17,853,218

APPENDIX 3

SPECIES OF SPECIAL CONCERN, PNDI LIST

Species of Special Concern Within Five Miles of Study Area

SCIENTIFIC NAME	COMMON NAME	GROUP
<i>Thryomanes bewickii altus</i>	Appalachian Bewick's wren	BIRD
<i>Lanius ludovicianus migrans</i>	migrant loggerhead shrike	BIRD
<i>Phoxinus erythrogaster</i>	southern redbelly dace	FISH
<i>Ictiobus bubalus</i>	smallmouth buffalo	FISH
<i>Myotis sodalis</i>	Indiana or social myotis	MAMMAL
<i>Myotis septentrionalis</i>	northern myotis	MAMMAL
<i>Tachopteryx thoreyi</i>	gray petaltail	DRAGONFLY
<i>Cyclonaias tuberculata</i>	purple wartyback	MUSSEL
<i>Epioblasma triquetra</i>	snuffbox	MUSSEL
<i>Fusconaia subrotunda</i>	long-solid	MUSSEL
<i>Obovaria subrotunda</i>	round hickorynut	MUSSEL
<i>Plethobasus cyphus</i>	sheepnose mussel	MUSSEL
<i>Pleurobema clava</i>	clubshell	MUSSEL
<i>Pleurobema sintoxia</i>	round pigtoe	MUSSEL
<i>Quadrula cylindrica</i>	rabbitsfoot	MUSSEL
<i>Quadrula pustulosa</i>	pimpleback	MUSSEL
<i>Toxolasma parvum</i>	lilliput	MUSSEL
<i>Tritogonia verrucosa</i>	pistolgrip mussel	MUSSEL
<i>Villosa fabalis</i>	rayed bean mussel	MUSSEL
<i>Villosa iris</i>	rainbow mussel	MUSSEL
Bat Hibernaculum	winter bat colony	FEATURE
<i>Iodanthus pinnatifidus</i>	purple rocket	PLANT
<i>Myriophyllum sibiricum</i>	northern water-milfoil	PLANT
<i>Meehania cordata</i>	heartleaf meehania	PLANT
<i>Salix caroliniana</i>	Carolina willow	PLANT
<i>Lemna turionifera</i>	a duckweed	PLANT
<i>Trillium nivale</i>	snow trillium	PLANT
<i>Botaurus lentiginosus</i>	American bittern	BIRD
<i>Pandion haliaetus</i>	osprey	BIRD
<i>Protonotaria citrea</i>	prothonotary warbler	BIRD
<i>Lepisosteus osseus</i>	longnose gar	FISH
<i>Alosa chrysochloris</i>	skipjack herring	FISH
<i>Moxostoma carinatum</i>	river redhorse	FISH
<i>Ameiurus melas</i>	black bullhead	FISH
<i>Lepomis megalotis</i>	longear sunfish	FISH

<i>Cryptotis parva</i>	least shrew	MAMMAL
<i>Speyeria idalia</i>	regal fritillary	BUTTERFLY
<i>Argia tibialis</i>	blue-tipped dancer	DRAGONFLY
<i>Anodontoides ferussacianus</i>	cylindrical papershell	MUSSEL
<i>Cyprogenia stegaria</i>	fanshell	MUSSEL
<i>Ellipsaria lineolata</i>	butterfly mussel	MUSSEL
<i>Elliptio crassidens</i>	elephant ear	MUSSEL
<i>Fusconaia flava</i>	wabash pigtoe	MUSSEL
<i>Lampsilis abrupta</i>	pink mucket	MUSSEL
<i>Leptodea fragilis</i>	fragile papershell	MUSSEL
<i>Obliquaria reflexa</i>	threehorn wartyback	MUSSEL
<i>Obovaria olivaria</i>	hickorynut	MUSSEL
<i>Obovaria retusa</i>	ring pink	MUSSEL
<i>Plethobasus cooperianus</i>	orange-foot pimpleback	MUSSEL
<i>Pleurobema cordatum</i>	Ohio pigtoe	MUSSEL
<i>Pleurobema rubrum</i>	pyramid pigtoe	MUSSEL
<i>Potamilus alatus</i>	pink heelsplitter	MUSSEL
<i>Quadrula metanevra</i>	monkeyface	MUSSEL
<i>Truncilla truncata</i>	deertoe	MUSSEL
<i>Erigenia bulbosa</i>	harbinger-of-spring	PLANT
<i>Calycanthus floridus var. laevigatus</i>	sweet-shrub	PLANT
<i>Cuscuta polygonorum</i>	smartweed dodder	PLANT
<i>Phyllanthus caroliniensis</i>	carolina leaf-flower	PLANT
<i>Astragalus canadensis</i>	Canadian milkvetch	PLANT
<i>Lathyrus palustris</i>	vetchling	PLANT
<i>Swertia caroliniensis</i>	American columbo	PLANT
<i>Scutellaria saxatilis</i>	rock skullcap	PLANT
<i>Amelanchier sanguinea</i>	roundleaf serviceberry	PLANT
<i>Parnassia glauca</i>	Carolina grass-of-parnassus	PLANT
<i>Physalis virginiana</i>	Virginia ground-cherry	PLANT
<i>Sagittaria subulata</i>	subulate arrowhead	PLANT
<i>Carex alata</i>	broad-winged sedge	PLANT
<i>Carex sterilis</i>	sterile sedge	PLANT
<i>Juncus torreyi</i>	Torrey's rush	PLANT
<i>Erythronium albidum</i>	white trout-lily	PLANT
<i>Aplectrum hyemale</i>	puttyroot	PLANT
<i>Cypripedium candidum</i>	small white lady's-slipper	PLANT
<i>Cypripedium calceolus var. parviflorum</i>	small yellow lady's-slipper	PLANT
<i>Spiranthes romanzoffiana</i>	hooded ladies'-tresses	PLANT
<i>Hierochloe hirta ssp. arctica</i>	common northern sweet grass	PLANT
<i>Potamogeton illinoensis</i>	Illinois pondweed	PLANT

<i>Equisetum x ferrissii</i>	scouring-rush	PLANT
<i>Vittaria appalachiana</i>	Appalachian gametophyte fern	PLANT
Data provided by the Pennsylvania Natural Heritage Program, April, 2005		

APPENDIX 4

HISTORIC MARKERS, LANDMARKS, and ARCHAEOLOGICAL SITES

Historic Landmarks and Archaeological Sites of the Beaver Corridor

Historic Name	Partial Address	County	Municipality	Status	Stat Date
Beaver Historic District	Between 5th, Beaver & Buffalo Sts.	Beaver	Beaver Borough	Listed	1996
Fort McIntosh Site	No Data Available	Beaver	Beaver Borough	Listed	1975
Quay, Matthew S., House	205 College Ave.	Beaver	Beaver Borough	NHL	1975
Carnegie Free Library of Beaver Falls	1301 7th Ave.	Beaver	Beaver Falls City	Listed	1985
Bridge Water Historic District	Cherry & Elm Sts., Otter Ln.	Beaver	Bridgewater Borough	Listed	1996
Dunlap, William B., Mansion	1298 Market St.	Beaver	Bridgewater Borough	Listed	1980
Merrick Art Gallery	5th Ave. & 11th St.	Beaver	New Brighton Borough	Listed	1983
Clow, James Beach, House	Chapel Dr.	Beaver	North Sewickley Township	Listed	1989
McClelland Homestead	McClelland Rd.	Lawrence	North Beaver Township	Listed	1989
NHL: National Historic Landmarks					
Listed: National Register Listed					

Pennsylvania Historic Markers

Marker Name:

Beaver County

County:

Beaver

Date Dedicated:

1982/7/5

Marker Type:

City

Location:

County Courthouse, at park on 3rd St., Beaver

Category:

Government & Politics, Government & Politics 19th Century

Marker Text:

Formed March 12, 1800 from Washington and Allegheny counties. The county seat, Beaver, was laid out 1792-93. County's waterways have spurred its industrial growth. At Shippingport was the world's first full-scale atomic power station devoted to civilian needs.

Marker Name:

Fort McIntosh

County:

Beaver

Date Dedicated:

1946/10/31

Marker Type:

Roadside

Location:

Pa. 68 (3rd St.) at Insurance St., Beaver

Category:

Military, American Revolution, Forts

Marker Text:

The first U.S. military post north of the Ohio. Located on River Road and occupying the area between Bank, Insurance, and Market Streets. Built in 1778 and scene of Treaty of Fort McIntosh in 1785; also a survey base. Abandoned 1790-91.

Marker Name:

Ingram-Richardson Manufacturing Co.

County:

Beaver

Date Dedicated:

2001/5/4

Marker Type:

Roadside

Location:

Ing-Rich Road 24th Street Extension and 31st Street Extension, Beaver Falls

Category:

Business & Industry

Marker Text:

During 64 years, "Ing-Rich" became one of the leading producers of porcelain enamel products in the U.S. Noted for durability, the company's output included outdoor advertising signs and "porcel panels" for building exteriors; it also made table tops, refrigerators & stove parts, and other products for the home. Founded here in 1901 by Louis Ingram & Ernest Richardson, it built plants in three other states. At its peak it employed over 1000 people.

Marker Name:

King Beaver's Town

County:

Beaver

Date Dedicated:

1946/9/25

Marker Type:

Roadside

Location:

Pa. 68 (3rd St.) at Wilson Ave., Beaver

Category:

Government & Politics, Government & Politics 18th Century

Marker Text:

Present Beaver perpetuates the name of a Delaware chief and of his village near here. Its location along the Ohio-Beaver River trails gave it importance in the fur trade.

Marker Name:

Matthew S. Quay

County:

Beaver

Date Dedicated:

1949/7/22

Marker Type:

Roadside

Location:

Pa. 68 (3rd St.) at Insurance St., Beaver

Category:

Government & Politics, Government & Politics 19th Century

Marker Text:

Home of the noted state and national political leader is near here. He rose , between 1856-87, from local and state offices to U.S. Senator. A Republican Party leader from 1887 until his death in 1904.

Marker Name:

White Cottage

County:

Beaver

Date Dedicated:

1969/5/27

Marker Type:

City

Location:

1221 3rd Ave., New Brighton

Category:

Women, Writers

Marker Text:

Home of Grace Greenwood (Sara J. Clarke Lippincott, 1823-1904), pioneer woman correspondent, poetess and authoress. While living here during the mid-19th Century, she wrote many of her popular juvenile stories.

APPENDIX 5
LAND USE INVENTORY

Watershed Protection Inventory

Beaver River Watershed

Background Information

Municipality: _____

Name(s): _____

Department(s): _____

Address: _____

Phone: _____ Fax: _____

Email: _____

Municipal Population: _____

Municipal Area (square miles): _____

It should be noted that there may be a difference between the actual municipal ordinances/regulations and the policies that are in effect. The inventory questions refer to ordinances (what is “on the books”) rather than to policies (“the way things are done” – which may change over time). If there are policies that are regularly followed, please discuss these in the Notes section at the end of the survey.

This inventory was customized for the Beaver River watershed communities from a sample version found in *The Do-It-Yourself Watershed Planning Kit*, produced by The Center for Watershed Protection based in Ellicott City, Maryland.

Please answer the following questions:

1. If your municipality has a *zoning ordinance*, has it been submitted to the county planning department?

Yes

No (please submit a copy to the county planning department)

2. If your municipality has a *subdivision and land development ordinance*, has it been submitted to the county planning department?

Yes

No (please submit a copy to the county planning department)

3. If your municipality has a *stormwater management ordinance*, has it been submitted to the county planning department?

Yes

No (please submit a copy to the county planning department)

4. If your municipality has a *floodplain management ordinance*, has it been submitted to the county planning department?

Yes

No (please submit a copy to the county planning department)

5. If your municipality has a *grading, excavation, and fill ordinance*, has it been submitted to the county planning department?

Yes

No (please submit a copy to the county planning department)

*Frank Mancini
Beaver County Planning Commission
Beaver County Courthouse
812 Third St.
Beaver, PA 15009*

OR

*Frank Gingras
Lawrence County Planning Commission
Lawrence County Government Center
430 Court Street
New Castle, PA 16101*

Section 1. Watershed Planning

Importance: Regulatory measures and/or planning techniques that are both innovative and appropriate can be designed to maintain or limit future impervious cover, redirect development where beneficial, and protect sensitive areas.

1.01 Does your community have a comprehensive plan?

- Yes Latest update _____
- No
- Don't know

1.02 Is the comprehensive plan based on political jurisdictions or watersheds?

- Political jurisdictions
- Watersheds
- Other, please explain _____
- Don't know
- Not applicable

1.03 Does your community participate in multi-municipal planning for:

- Water
- Wastewater treatment
- Sewer line maintenance
- Road corridors
- Transfer of development rights
- Other _____

1.04 Is your community currently operating under a joint zoning ordinance with other communities?

- Yes – if so, which communities? _____
- No
- Don't know

1.05 Is your zoning tied to the comprehensive plan?

- Yes
- No
- Don't know
- Not applicable

1.06 How often do you typically update your comprehensive plan?

- Every 5 years
- Every 10 years
- We don't
- Other, please explain _____
- Not applicable

1.07 Does your plan evaluate and take into account impacts of future land use on water resources? If yes, in what ways?

- Yes; _____
- No
- Don't know
- Not applicable

1.08 Does your plan identify and address the most important water resource goals for your community?

- Yes
- No
- Don't know
- Not applicable

If yes, list the most important water resource goals.

Section Comments: _____

Section 2. Open Space Conservation

Importance: The preservation of open space provides the opportunity to insure rainwater and snowmelt infiltration, thus minimizing flood potential and maximizing the recharge of the water table. With proper management, riparian areas can function beneficially. Open space also preserves natural habitat niches and presents numerous recreational and educational opportunities.

2.01 Does your community permit conservation easements (*voluntary agreement to legal transfer of development and land use rights to a piece of property to a conservation trust; easements may be temporary or permanent*)?

- Yes
- No

2.02 Does your community encourage conservation easements?

- Yes; How? _____
- No

2.03 Does your community permit land acquisition programs?

- Yes
- No

2.04 Does your community encourage land acquisition programs?

- Yes; How? _____
- No

2.05 Does your community permit transfer of development rights (TDRs) (*transfer of potential development from a designated "sending area" to a designated "receiving area"*)?

- Yes
- No

2.06 Does your community encourage transfer of development rights?

- Yes; How? _____
- No

2.07 Does your community limit infrastructure extension (*a conscious decision is made to limit or deny extending infrastructure, such as public sewer, water, or roads, to designated areas to avoid increased development in these areas*)

- Yes
- No

2.08 Does your community permit infill / community redevelopment (*new development and redevelopment within existing developed areas*)?

- Yes
- No

2.09 Does your community encourage infill / community redevelopment?

- Yes; How? _____
- No

2.10 Does your community utilize zoning overlay to promote community redevelopment?

- Yes
- No

2.11 Does your community permit zoning variances for existing buildings that may not fully comply with existing codes or other types of flexibility to promote community redevelopment?

- Yes
- No

2.12 Does your community encourage zoning variances for existing buildings that may not fully comply with existing codes or other types of flexibility to promote community redevelopment?

- Yes; How? _____
- No

2.13 Does your community require developers to identify key environmental features *before* any engineering is done or site plans are designed?

- Yes
- No

Beaver River Watershed Protection Inventory
Section 2. Open Space Conservation

Section Comments: _____

Section 3. Land Conservation

Importance: The ways in which land is used have a direct relationship to the quality and quantity of surface water and ground water. Therefore, the focus of municipal planning and ordinances can improve or impair the watershed. Programs or efforts to conserve undeveloped, sensitive areas, or areas of particular historical or cultural value are some methods that can offer improvement.

3.01 Does your community participate in the National Flood Insurance Program (NFIP)?

- Yes
- No
- Don't know

3.02 Are your floodplains mapped?

- Yes
- No
- Don't know

3.03 Other than what is required by state and federal laws, is the preservation of cultural or historical areas (e.g., historic or archaeological sites, scenic views, and recreational areas):

- Required
 - Encouraged
 - Neither
 - Don't know
 - Other, please describe: _____
-

3.04 Is the preservation of agricultural areas:

- Required
 - Encouraged
 - Neither
 - Don't know
 - Other, please describe: _____
-

3.05 Are you aware of any critical habitat areas for plant and animal species in your community?

- Yes
- No
- Don't know
- Not applicable

Beaver River Watershed Protection Inventory
Section 3. Land Conservation

3.06 Other than what is required by state and federal laws, is the preservation of critical habitat areas for plant and animal species:

Required

Encouraged

Neither

Don't know

Other, please describe: _____

3.07 Does your community have regulations or requirements, other than what is required by state and federal laws, governing the preservation of wetlands during development?

Yes

No

Don't know

Other, please describe _____

3.08 Are there development restrictions pertaining to steep slopes?

Yes

No

Don't know

3.09 Are there development restrictions pertaining to sliding soils or mining?

Yes

No

3.10 Do you require developers to provide soil maps when submitting plans?

Yes

No

3.11 Does your municipality have information related to mining discharge or seepage?

Yes

No

3.12 Does your municipality have a copy of the county soil maps?

Yes

No

Don't know

3.13 Is the conservation of forested areas:

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Required | <input type="checkbox"/> Encouraged |
| <input type="checkbox"/> Neither | <input type="checkbox"/> Don't know |
| <input type="checkbox"/> Other, please describe: _____ | |
-

3.14 Does your municipality have an ordinance on:

- | Timbering? | Clear cutting? | Preservation of specimen trees? |
|-------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> Yes | <input type="checkbox"/> Yes |
| <input type="checkbox"/> No | <input type="checkbox"/> No | <input type="checkbox"/> No |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Don't know | <input type="checkbox"/> Don't know |

3.15 Are there development restrictions pertaining to stream channel modification?

- Yes
 No
 Don't know

3.16 What information does your municipality have in a Geographic Information System (GIS)?

- Steep slopes
 All soils
 Sliding soils
 Mining activity
 Mine discharge or seepage
 Vegetation types
 Natural amenities
 Environmentally sensitive areas
 Don't have GIS

3.17 If you have GIS information, are your maps available to elected officials at public meetings?

- Yes
 No

3.18 If you have GIS information, are your maps available to members of the planning commissions, zoning hearing boards, Environmental Advisory Council's, etc. at public meetings?

- Yes
 No
 Don't know

Beaver River Watershed Protection Inventory
Section 3. Land Conservation

3.19 Is staff required to attend regional or state workshops to expand their skills or knowledge of relevant subjects? Elected officials &/or board members?

- Yes
- No

- Yes
- No

3.20 Is staff attendance at regional or state workshops to expand their skills or knowledge of relevant subjects facilitated by your municipality? Elected officials &/or board members?

- Yes
- No

- Yes
- No

3.21 Does your municipality have specific expectations or requirements for its elected officials or members of its boards, which are outlined in writing, regarding:

- Prior education in specific areas
- Mandatory ongoing training in specific areas
- Optional ongoing training in specific areas
- Time spent in preparation for meetings
- Limits of authority or ability to recommend

Section 3 Comments: _____

Section 4. Aquatic Buffers

Importance: In natural settings, the land and vegetation adjacent to bodies of water function to slow the velocity of surface runoff, reduce erosion, filter pollutants, and absorb excess water. Consequently, the protection, restoration, creation, or reforestation of stream, wetland, and urban lake buffers offers significant improvement to problems of water quality or quantity.

4.01 Are stream buffers required in your community?

- Yes
- No
- Don't know

4.02 What are your stream buffer width requirements?

4.03 Are wetland buffers required in your community?

- Yes
- No
- Don't know

4.04 What are your wetland buffer width requirements?

4.05 Are there reforestation, restoration, or riparian cover requirements or programs for buffers?

- Yes
- No
- Don't know
- Not applicable

4.06 Are native plant species encouraged for reforestation, restoration, or riparian cover requirements or programs for buffers?

- Yes
- No
- Don't know
- Not applicable

Section 4 Comments: _____

Section 5. Better Site Design

Importance: Maximizing open space, natural terrain, and natural features preserves the ability of the land to function normally, thus assisting in flood prevention and increasing ground water supply. Local ordinances and codes that incorporate techniques to reduce impervious cover and/or redirect runoff onto pervious surfaces in the design of new development and redevelopment projects encourage this strategy.

Street Width

5.01 What are the minimum / maximum pavement widths allowed for streets in low-density residential developments that have less than 500 average daily trips (ADT)?

Minimum: _____

Maximum: _____

5.02 In higher density development are parking lanes allowed to also serve as traffic lanes (i.e., queuing streets)?

Yes

No

Right-of-Way (ROW) Width

5.03 What are the minimum / maximum right-of-way (ROW) widths for a residential street?

Minimum: _____

Maximum: _____

5.04 Does the code allow utilities to be placed under the paved section of the ROW?

Yes

No

Not specified in codes

Cul-de-Sacs

5.05 What are the minimum / maximum *radii* allowed for cul-de-sacs on *public* roads?

Minimum: _____

Maximum: _____

5.06 What are the minimum / maximum *radii* allowed for cul-de-sacs on *private* roads?

Minimum: _____

Maximum: _____

5.07 Can a landscaped island be created within the cul-de-sac?

Yes

No

Not specified in codes

5.08 Are alternative turn-arounds such as "hammerheads" allowed on short streets in low-density residential developments?

Yes

No

Not specified in codes

Vegetated Open Channels

5.09 Does your municipality allow vegetated open channels or bioswales?

Yes

No

Not specified in codes

5.10 Are curb and gutters required for most residential street sections?

Yes

No

Parking Ratios

5.11 What are the minimum / maximum parking ratios for a professional office building (per 1000 ft² of gross floor area)?

Minimum: _____

Maximum: _____

5.12 What are the minimum / maximum required parking ratios for shopping centers (per 1,000 ft² gross floor area)?

Minimum: _____

Maximum: _____

5.13 What are the minimum / maximum required parking ratio for single-family homes (per home)?

Minimum: _____

Maximum: _____

Parking Codes

5.14 Is the use of shared parking arrangements permitted or encouraged?

Yes

If yes, please indicate how _____

No

Not specified in codes

5.15 Is a model for shared parking agreements provided to prospective developments?

Yes

No

Not applicable

5.16 Are parking ratios reduced if shared parking arrangements are in place?

Yes

No

Not specified in codes

Not applicable

Parking Lots

5.17 What are the minimum / maximum stall widths for a standard parking space?

Minimum: _____

Maximum: _____

5.18 What are the minimum / maximum stall length for a standard parking space?

Minimum: _____

Maximum: _____

5.19 Is a percentage of the spaces at commercial parking lots required to have smaller dimensions for compact cars?

Yes, please specify percentage _____

No

5.20 Are there ordinances regarding trees, plantings, etc.?

- Yes
 No

5.21 Can pervious materials be used for parking areas?

- Yes
- Grass pavers
 - Concrete lug system with gravel
 - Plastic matting with gravel
 - Permanent, pervious asphalt-based surface
 - Other: _____
- No

5.22 Are pervious surfaces encouraged for use in entry and exit lanes?

- Yes
 No

Parking Lot Runoff

5.23 Is a minimum percentage of a parking lot required to be landscaped?

- Yes, please specify percentage _____
 No

5.24 Is parking lot runoff considered to be hazardous waste, which is trapped or controlled?

- Yes
 No

5.25 Is parking lot runoff considered to be an important contribution to recharging the water table?

- Yes
 No

Open Space Design

5.26 Are open space or cluster development, for single family homes – aside from PRDs designs allowed in the community?

- Yes
 No
 Not specified in codes

Beaver River Watershed Protection Inventory
Section 5. Better Site Design

5.27 Are conservation developments, which cluster homes in a central location while leaving large areas in their natural state, encouraged in the community?

Yes

If yes, please indicate how _____

No

Not specified in codes

5.28 Are developers encouraged to design for the existing conditions?

Yes

If yes, please indicate how _____

No

Not specified in codes

5.29 Are the submittal or review requirements for open space design greater than those for conventional development?

Yes

No

Not applicable

5.30 Are flexible site design criteria available for developers that utilize open space or cluster design options (e.g., setbacks, road widths, lot sizes)? Minimum lot size? _____

Yes

No

Not specified in codes

Not applicable

Setbacks and Frontages

5.31 Are irregular lot shapes (e.g., pie-shaped, flag lots) allowed in the community?

Yes

No

Not specified in codes

5.32 What is the minimum requirement for front setbacks for the following residential lot sizes?

1/4 acre residential lot

20 feet or less

21 feet to 30 feet

31 to 40 feet

Greater than 40 ft

1/2 acre residential lot

20 feet or less

21 feet to 30 feet

31 to 40 feet

Greater than 40 ft

1 acre residential lot

20 feet or less

21 feet to 30 feet

31 to 40 feet

Greater than 40 ft

5.33 What is the minimum requirement for rear setbacks for the following residential lot sizes?

1/4 acre residential lot

- 25 feet or less
- 26 feet to 40 feet
- Greater than 40 ft

1/2 acre residential lot

- 25 feet or less
- 26 feet to 40 feet
- Greater than 40 ft

1 acre residential lot

- 25 feet or less
- 26 feet to 40 feet
- Greater than 40 ft

5.34 What is the minimum requirement for side setbacks for the following residential lot sizes?

1/4 acre residential lot

- 8 feet or less
- Greater than 8 feet

1/2 acre residential lot

- 8 feet or less
- Greater than 8 feet

1 acre residential lot

- 8 feet or less
- Greater than 8 feet

5.35 What is the minimum frontage distance for the following residential lot sizes?

1/4 acre residential lot

- 80 feet or less
- Greater than 80 feet

1/2 acre residential lot

- 80 feet or less
- Greater than 80 feet

1 acre residential lot

- 80 feet or less
- Greater than 80 feet

Zoning designations

5.36 Please list the zoning designations in your community that fall within the watershed, their definitions, and percentages of the total land use.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Sidewalks

5.37 Are sidewalks prohibited?

- Yes; Where? _____(skip to #5.43)
- No

5.38 Are sidewalks required?

- Yes; Where? _____
- No

5.39 If so, are sidewalks always required on both sides of residential streets?

- Yes
- No

5.40 What are the minimum / maximum sidewalk widths allowed in the community?

Minimum: _____

Maximum: _____

5.41 Can alternate pedestrian networks be substituted for sidewalks (e.g., trails through common areas)?

- Yes
- No
- Not specified in codes
- Not applicable

Driveways

5.42 What are the minimum / maximum one-lane driveway widths specified in the community?

Minimum: _____

Maximum: _____

5.43 Can pervious materials be used for single-family home driveways (e.g., grass, gravel, porous pavers, etc)?

- Yes
- No
- Not specified in codes

5.44 Can a "two-track" design be used at single-family driveways (a driveway with two strips of paving corresponding to wheel tracks with a vegetated area in between)?

- Yes
- No
- Not specified in codes

5.45 Are shared driveways permitted in residential developments?

- Yes
- No
- Not specified in codes

Open Space Management

Skip to question 5.50 if open space, cluster, or conservation developments are not allowed in your community. If open space developments are allowed, please attach any pertinent information.

5.46 Are open space areas within subdivisions required to be consolidated into larger units?

- Yes
- No
- Not specified in codes

5.47 Does a minimum percentage of open space in a residential subdivision have to be managed in a natural condition?

- Yes
- No
- Not specified in codes

5.48 Are allowable and unallowable uses for open space in residential developments defined?

- Yes
- No

Rooftop Runoff

5.49 Can rooftop runoff be discharged to yard areas?

- Yes
- No
- Not specified in codes

Section 5 Comments: _____

Section 6. Erosion and Sediment Control

Importance: Topsoil is a valuable resource on land. In the water, soil, sand, clay, and other materials can smother habitats and food supplies, reduce sunlight, and abrade sensitive tissues of fish and other organisms. It also contributes to the scour of streambanks, eroding them and causing the land above to fall. The use of erosion control, sediment control, and dewatering practices at all new development and redevelopment sites can reduce these problems.

6.01 During construction, is erosion and sediment control required for:

- All sites
- Sites greater than 1 acre
- Sites greater than 2 acres
- Sites greater than 5 acres
- No sites
- Don't know

6.02 Does your community provide guidance or set forth requirements on the types of erosion and sediment control practices that may be used?

- Yes, we refer the development community to a state document
- Yes, we have developed our own guidance and/or requirements
- No
- Don't know
- Not applicable

6.03 Check all erosion and sediment control practices that your community has required to be implemented in the past three years:

- | | |
|--|---|
| <input type="checkbox"/> Silt fence | <input type="checkbox"/> Straw bales |
| <input type="checkbox"/> Permanent seeding/ mulching | <input type="checkbox"/> Construction phasing |
| <input type="checkbox"/> Construction sequencing | <input type="checkbox"/> Erosion blankets and geotextiles |
| <input type="checkbox"/> Dust control | <input type="checkbox"/> Fiber rolls |
| <input type="checkbox"/> Preservation and non-disturbance of natural vegetation | <input type="checkbox"/> Temporary stream crossings |
| <input type="checkbox"/> Preservation and non-disturbance of stream or wetland buffers | <input type="checkbox"/> Stabilized construction entrance |
| <input type="checkbox"/> Temporary seeding/ mulching | <input type="checkbox"/> Exit tire wash |
| | <input type="checkbox"/> Energy dissipation at pipe outlets |
| | <input type="checkbox"/> Stair-step grading |

Beaver River Watershed Protection Inventory
Section 6. Erosion & Sediment Control

- | | |
|---|--|
| <input type="checkbox"/> Check dams in natural or man-made channels | <input type="checkbox"/> Secondary filtration (mechanical or sand filtration devices to filter fine sediments from runoff) |
| <input type="checkbox"/> Sand / gravel bag barrier | <input type="checkbox"/> Dikes / berms as conveyance to ESC structures |
| <input type="checkbox"/> Brush or rock filter | <input type="checkbox"/> Pipe slope drains to bypass erodible soils |
| <input type="checkbox"/> Storm drain inlet protection | <input type="checkbox"/> Stockpile stabilization |
| <input type="checkbox"/> Catch basin inlet filters | |
| <input type="checkbox"/> Sedimentation basins | |
| <input type="checkbox"/> Sediment traps | |
| <input type="checkbox"/> Filtration of dewatering | |

6.04 Is an erosion and sediment control plan required during the site plan review process?

- Yes
- No
- Don't know
- Not applicable

6.05 Are construction sites inspected for compliance with erosion and sediment control requirements?

- Yes
- No
- Don't know
- Not applicable

6.06 Who conducts inspections of construction sites for compliance with erosion and sediment control requirements?

- County / municipal inspector
- Third-party inspector (e.g. private engineer)
- Other, please describe _____
- Not applicable

6.07 How frequently does an erosion and sediment control inspector visit a construction site?

- Daily
- Weekly
- Monthly
- Annually
- Other, please describe _____
- Not applicable

Beaver River Watershed Protection Inventory
Section 6. Erosion & Sediment Control

6.08 Please describe the training or background required for erosion and sediment control inspectors.

6.09 Does your community sponsor erosion and sediment control training for:

- Developers
- Contractors
- Engineers
- Inspectors
- None of the above
- Not applicable

6.10 Are there erosion and sediment control enforcement mechanisms (e.g. fines, stop work orders, etc.)?

- Yes
- No
- Don't know
- Not applicable

6.11 Is mowing to the edge of streambanks on public lands prohibited?

- Yes
- No

6.12 Is mowing to the edge of streambanks on private lands discouraged?

- Yes
- No

6.13 Are native plants being used at the edges of streambanks on public lands?

- Yes
- No

6.14 Is the use of native plants at the edges of streambanks encouraged on private lands?

- Yes
- No

Section 7. Stormwater Management Practices

Importance: Conventional engineering practices have been centered primarily upon removing water as quickly as possible from a site. The incorporation of structural practices into new development, redevelopment, or the existing landscape helps to mitigate the impacts of urbanization and stormwater runoff on receiving waters. This allows the normal water cycle to occur, providing protection against both floods and drought.

7.01 Does your community require stormwater practices on new development sites?

- Yes
- No
- Don't know

7.02 What type of exemptions do you have for these requirements?

7.03 If yes, what are the design criteria for stormwater practices?

- Control peak discharge rate (flood control)
Design storm(s): _____
 - Treat stormwater runoff for water quality
Design storm(s): _____
 - Control / reduce total volume of runoff (by means of infiltration practices, etc.)
Design storm(s): _____
 - Protect downstream channels
Design storm(s): _____
 - Other: _____
-
-
- Not applicable

7.04 Does your community provide guidance or set forth requirements on the types of stormwater practices that may be constructed?

- Yes, we refer the development community to a state document
- Yes, we have developed our own guidance and/or requirements
- No
- Don't know
- Not applicable

Beaver River Watershed Protection Inventory
Section 7. Stormwater Management Practices

7.05 What are the top three stormwater practices typically installed in your community?

7.06 Is a stormwater plan or other documentation required during the site plan review process?

- Yes
- No
- Don't know
- Not applicable

7.07 Does your community inspect stormwater practices during construction?

- Yes
- No
- Don't know
- Not applicable

7.08 Is an as-built or record drawing of the stormwater practice required after construction?

- Yes
- No
- Don't know
- Not applicable

7.09 Who is typically responsible for maintenance of stormwater practices over the life of the stormwater practice?

- Private owner
- Builder
- Homeowner's association
- Permitting agency
- Other, please explain _____
- Don't know
- Not applicable

Beaver River Watershed Protection Inventory
Section 7. Stormwater Management Practices

7.10 Is there a maintenance agreement or covenant between the permitting agency and the private owner, builder, or homeowner's association in charge of maintenance?

- Yes
- No
- Don't know
- Not applicable

7.11 Are privately maintained stormwater practices inspected by a public agency for maintenance upkeep or structural integrity over the life of the facility?

- Yes
- No
- Don't know
- Not applicable

7.12 How frequently are privately owned stormwater practices inspected?

- More than once a year
- Once a year
- Every two years
- In response to complaints
- Never
- Other, please describe _____
- Don't know
- Not applicable

7.13 Are there penalties for not complying with the maintenance agreement or other applicable regulations applying to maintenance?

- Yes
- No
- Don't know
- Not applicable

If yes, please describe penalties.

Section 8. Non-Stormwater Discharges

Importance: Industrial effluents, sanitary waste water, fertilizers, petroleum products and salt on road surfaces, are just a few of the point and non-point sources of water pollution. Locating, quantifying, and controlling non-stormwater pollutant sources in the watershed are the first steps toward water quality improvement. Identifying operation and maintenance practices that prevent or reduce pollutants entering the municipal or natural drainage system is the second.

Sanitary and Stormwater Sewer System

8.01 The best description of my community's stormwater management system is:

- Storm sewers
- Open channels
- Combination, please provide relative percentage of each
- Other, please describe _____
- Don't know

8.02 How does your community manage sanitary wastes (check all that apply)?

- Septic systems
- Aeration systems
- Package treatment plants
- Centralized wastewater treatment plants
- Other, please describe
- Don't know

8.03 Do the sanitary sewer trunk mains follow (check all that apply):

- Shortest distance
- Stream valley
- Other, please describe _____
- Don't know
- Not applicable

8.04 Is there a program for illicit connection detection?

- Yes
- No
- Don't know
- Not applicable

Beaver River Watershed Protection Inventory
Section 8. Non-Stormwater Discharges

8.05 Does your illicit connection detection program include provisions for removal of illicit discharges?

- Yes
- No
- Don't know
- Not applicable

8.06 Within the Beaver River watershed, does your community have any involvement responding to septic system complaints?

- Yes
- No
- Don't know
- Not applicable

If yes, please explain.

8.07 Does your community conduct inspections of privately owned septic systems?

- Yes
- No
- Don't know
- Not applicable

Spill Response, Prevention and Cleanup

8.08 Does your community have a spill response plan?

- Yes
- No
- Don't know

Snow Management

8.09 What deicing compounds are applied to *asphalt* public roads?

- Sand
- Road salt (Sodium Chloride, NaCl)
- Calcium Chloride (CaCl₂)
- Magnesium Chloride (MgCl₂)
- Other, please describe _____

8.10 What deicing compounds are applied to *cinder* public roads?

- Sand
- Road salt (Sodium Chloride, NaCl)
- Calcium Chloride (CaCl₂)
- Magnesium Chloride (MgCl₂)
- Other, please describe _____

8.11 How are the deicing compounds stored?

- Within structure
- Covered, but not in structure
- Not covered
- Other, please explain _____

Household Hazardous Waste

8.12 Is there a local household hazardous waste collection program?

- Yes Where? _____ How often? _____
- Don't know

Section 8 Comments: _____

Section 9. Watershed Stewardship Programs

Importance: Education and the understanding of any problem promotes a change in attitude, which in turn promotes a change in behavior. Stormwater and watershed education or outreach programs targeted towards modifying human behavior to prevent or reduce pollution over a range of land uses and activities will decrease the amount of municipal effort necessary to implement new regulations.

9.1 Does your community administer or support watershed education or outreach programs targeted towards:

- Residents
- Commercial sector
- Industrial sector
- Municipal employees
- Other, please describe _____
- None of the above

9.2 Are there any stream stewardship or volunteer monitoring programs within your community?

- Yes (please identify) _____
- No
- Don't know

9.3 Are there any stream restoration programs or projects within your community?

- Yes
- No
- Don't know

If yes, please provide a copy of relevant information.

Pet Waste Management

9.4 Does your community have any restrictions on pet waste management?

- Yes
- No
- Don't know

If yes, please describe regulations or restrictions or attach any pertinent information.

Street Sweeping

9.05 Does your community sweep public streets?

- Yes
- No
- Don't know

9.06 How often does street sweeping occur?

- Weekly
- Monthly
- Annually
- Other, please explain _____
- Not applicable

9.07 Does street sweeping vary seasonally (e.g., streets are not swept in winter)?

- Yes, please explain _____
- No
- Don't know
- Not applicable

Lawn Care

9.08 Are fertilizers used on public lands?

- Yes; What types? _____
- No
- Don't know

9.09 Are pesticides (insecticides, herbicides) used on public lands?

- Yes; What types? _____
- No
- Don't know

