
CHAPTER 6. ISSUES AND CONCERNS

Several methods were used to identify the issues and concerns of watershed stakeholders. Crooked Creek Watershed Association hosted public meetings, attended community events, and met with municipalities, groups, and individuals. Visioning sessions along with public and municipal surveys were also used to gather information from watershed residents.

The surveys were anonymous. The results identified how stakeholders use and perceive the watershed. This information was used to help determine the management recommendations, which can be found in Chapter Seven.

Throughout the entire planning process public officials were invited to participate.

Meeting Summaries

Kickoff Meeting

In October 2002, the process used to develop the Lower Crooked Creek watershed conservation plan was introduced to the community at a public meeting held at the Crooked Creek Environmental Learning Center. Thirty people attended the meeting to learn about the project and to share their ideas and concerns. Background information about watershed conservation planning and the Department of Conservation and Natural Resources (DCNR) planning process was presented. Attendees identified issues in the watershed: recreation, expanding the boat launch in Rosston, the use of biosolids, increasing the number of dry hydrants, increasing tourism opportunities, maintaining dirt and gravel roads, and establishing more trails.



Watershed stakeholders completing surveys at the October 2002 public meeting

Municipal Officials

Between March and May 2003, members of the steering committee met with officials from each municipality in the project area to discuss the purpose and process of a watershed conservation plan. Steering committee members described past projects completed by the watershed association and suggested future projects that could be completed. During the meetings, municipal officials were encouraged to identify potential projects.

Steering committee members and representatives from the Watershed Assistance Center (WAC) attended the Township Officers Conventions in Armstrong and Indiana counties to discuss the value of watershed conservation plans. Educational displays were set up by the watershed association to explain the watershed conservation plan project and promote participation. Surveys were also distributed.

Fish Fry

Over 70 community members attended the Crooked Creek Watershed Association's annual Fish Fry in July. Watershed issues were discussed in personal conversations with association members. Educational displays were set up to encourage public participation. Surveys were distributed.

River Blast

In September 2003, representatives of the steering committee and WAC attended the 2003 River Blast event, in Kittanning, to promote the plan and seek public input. Educational displays were again set up to inform visitors about the watershed conservation plan. Personal conversations also revealed issues and concerns that visitors had for the Lower Crooked Creek watershed. Those interested in filling out surveys were given the opportunity to further share their ideas for the future of the watershed.

October 2003

In October 2003, at the second public meeting, the watershed community convened again to discuss visions they have for their watershed and get an update on the planning process. This event took place at the Crooked Creek Environmental Learning Center. Thirty-eight people attended the event, sharing their thoughts and ideas for the future of the Lower Crooked Creek and Tub Mill Run watersheds. Attendees identified and prioritized their issues through a visioning session.



Watershed stakeholders prioritizing visions discussed at the October 2003 public meeting

The visioning session was designed to solicit ideas in three resource categories: natural resources, land resources, and social and economic resources. Natural resources addressed water quality and biological issues. Land resources considered land use, land use planning, and zoning. Social and economic resources discussed recreation, history, and employment.

Attendees were asked for their vision for the future of the watershed. They were then asked for ideas to make their vision a reality. At the end of the session, attendees were asked to prioritize their visions. Each person was given 10 votes for each resource category. Top priority issues identified included all terrain vehicles (ATVs), public officials support, education, zoning, biodiversity, and improving water quality.

Issues and Concerns

The issues identified by watershed stakeholders are summarized in the following section. Many issues are interconnected and cannot be addressed separately. Projects should be designed to address the issues collectively whenever possible.

Clean water

Having clean and vibrant streams is a goal of stakeholders. Addressing abandoned mine drainage, sanitary sewage overflows, and sewage entering the streams are important issues in the watershed. Working with the agricultural community to implement best management practices to help control sedimentation, erosion, and excess nutrient runoff was also identified by stakeholders.

Abandoned Mine Drainage

The effects of abandoned mine drainage (AMD) entering the stream adversely affect aquatic life and water use. AMD is formed through a series of complex chemical reactions, which usually pollute the water with high levels of dissolved metals and acid. Acidic waters can appear clean and clear while being severely toxic to aquatic organisms and plant life. Once entering a stream, metals will deposit on the stream bottom, severely degrading the habitat of aquatic organisms. Installing treatment systems for major abandoned mine discharges would allow the water to be treated before entering the streams. The majority of AMD entering Crooked Creek are located in the Upper Crooked Creek watershed. For more information refer to the Water Resource chapter.

Sewage and septic

The development of adequate wastewater treatment is needed in the watersheds. Malfunctioning and nonexistent septic systems allow nutrients and bacteria to enter the water causing contamination of streams and groundwater, leading to potential health hazards. The watershed is also home to numerous private camps lacking any type of septic or sewage system. Working with landowners to repair or install properly designed and functioning wastewater systems is needed, and begins with educating the property owner.

Erosion and Sedimentation

Erosion and sedimentation are important issues in the Lower Crooked Creek and Tub Mill Run watersheds. Erosion can result from a number of land use practices including construction activities, poor agricultural practices, and poor logging techniques. Streambanks lacking vegetation are susceptible to extensive erosion, allowing large amounts of silt to enter the stream, especially during storm events. Erosion occurs on streambanks where little or no vegetation is present because there are no roots to hold the soil in place. On streambanks lacking vegetation, native species of plants could be grown to limit the amount of erosion and sedimentation in the streams and protect streambanks.

The second largest land use in the watershed is agriculture. Working with the agricultural community to control runoff and stabilize streambanks would be beneficial to the watershed. Educating the agricultural community to understand that the implementation of best management practices is not only beneficial to the environment, but also to farmers, is critical. Streambank fencing, for example, removes cows from the stream, resulting in re-established vegetation, stabilized streambanks, a reduction in soil erosion and sedimentation, and improved water quality. This also increases the health of the herd, resulting in a financial gain for farmers.

One of the most controversial issues in the watershed is the use of ATVs. ATVs are one of the causes of soil erosion in the watershed. Drivers typically ride on areas of steep slopes, or streambeds, ripping up vegetation and allowing additional nutrients and sediment to enter the streams. Enforcement of current regulations and the strengthening of these regulations are needed in the watershed. Efforts to keep ATVs off private lands and trails are difficult with the increased interest in ATVs. Establishing designated areas for ATVs could potentially eliminate some of the problems.

Waste Cleanup

Illegal dumping

The Lower Crooked Creek and Tub Mill Run watersheds are degraded with numerous illegal dumps. Although unsightly, they may not appear to be directly related to water quality. However, illegal dumps have a high potential to contaminate the water. Waste containing hazardous materials soaked by rainfall may cause contaminants to leach through the soil or run off the land surface into streams, contaminating ground or surface water. Trash and debris can also directly enter the stream by floods or heavy rainstorms affecting water quality and stream aesthetics. Debris can collect in the stream, having a clogging effect, raising water levels and causing fish mortality.

Locating and cleaning up these unsightly dumps is an issue for the watershed community. Reducing the number of dumpsites can occur through clean-ups, education, and alternate disposal methods. Active participation by watershed residents and local government officials is needed to address illegal dumping



Signs are used to deter people from illegally dumping their trash in the watershed

issues. In addition, educating the public about the threats of illegal dumping is an important step in battling the epidemic. PA CleanWays chapters and volunteers work to clean up illegal dumps across the Commonwealth by adopting roadways where dumping occurs. Re-establishing a chapter of PA CleanWays in Armstrong County could help decrease the amount of illegal dumping.

Old Industrial Sites

Old industrial sites are areas that could be marketed for redevelopment. Some of the old industrial sites can be classified as brownfield sites. These are sites that were contaminated from past industrial uses, often left vacant. This is an important planning issue because the amount of remediation needed at a particular site should be measured when the redevelopment of a brownfield site is considered. In most cases, incentives and cleanups would be required by industries before they would consider redeveloping old sites. In order to clean up these sites, funding is needed. Placement on the Superfund list is one possible way to acquire financial resources to make the clean up feasible. Once the areas are cleaned up, new industries may be attracted to the area, bringing much needed jobs. Brownfield redevelopment is an important concept, because it also helps to reduce sprawl development. Funding to restore brownfield sites is available from the US Interior's Office of Surface Mining (OSM), the Environmental Protection Agency (EPA), and the Pennsylvania Department of Environmental Protection.

Even though refuse piles and abandoned mines fall under the popular definition of brownfields, they do not fall under the Commonwealth's policy. Refuse piles and abandoned mines lack the infrastructure needed for redevelopment. EPA and OSM have begun to consider them as "greyfields".

Public Awareness and Education

Education is the key to a successful future for the Lower Crooked Creek and Tub Mill Run watersheds. Within the watersheds there seems to be a lack of concern for the environment by residents and public officials. This lack of concern leads to poor environmental planning, improper road construction and maintenance, minimal environmental awareness, and missed funding opportunities. Educating residents and officials to understand the economic benefits and importance of watershed protection is essential to watershed improvements.

Environmental education is generally targeted to school-aged children. Adult environmental educational programs are limited in the watershed. Designing programs to help landowners understand the importance of watersheds could be a first step to getting them more involved. Stakeholders have identified a need to make the public more aware of environmental issues affecting the watershed community such as illegal dumping, water conservation, and environmentally friendly development.

The Pennsylvania Department of Education established environment and ecology standards requiring educators and students to become more involved in watersheds. Educators often look to local organizations such as watershed groups to assist them in educating the youth. Reaching out to help the local school districts teach students about watersheds may inspire kids to get more involved in their local communities.

The Crooked Creek Environmental Learning Center is an excellent resource for reaching community residents. The center can be utilized as a local source of information regarding environmental issues within the community and making residents better stewards of their watershed.



Kids learning about watershed using an Enviroscape model

Youth Involvement

A key to the future of the watershed is in the hands of our youth. Getting youth involved in the environment at an early age is extremely beneficial. This can increase stewardship ethics and family involvement. Within the watersheds, organizations such as scouts, 4-H, and other youth groups actively encourage environmental stewardship. In these groups the youth are actively involved and personally vested in protecting the resources of the area. Encouraging more kids to become actively involved in these organizations is critical to the future of watershed conservation.



Kids enjoy the resources of Crooked Creek on a hot summer day

Recreation

Watershed residents expressed an interest in capitalizing on the recreation opportunities that exist in this rural area, which is rich in natural resources. Marketing the current recreational facilities is limited. The Armstrong County Tourist Bureau should further promote recreation areas existing in the Lower Crooked Creek watershed. Hunting, fishing, boating, hiking, and horseback riding have been identified as popular recreation activities and can be enhanced through additional planning and protection. The watershed has a variety of recreational facilities. Working to connect these facilities to one another and enhancing the amenities of these facilities would be beneficial.

Extending and linking existing multi-use and horse trails, along with the development of new trails, is something that residents would like to see. Watershed stakeholders also identified the desire for more access to trails, better maintenance, and the creation a water trail. Parking facilities and access points for boating were also proposed.

Historic Preservation

Watershed residents expressed the importance of preserving remaining historic sites. The watershed has a rich history, but many historic places have already been destroyed. Preserving the remaining sites for future generations is key to protecting the culture of the region. The historic areas in Cochran's Mills, along the old Ford City trolley line, and the Native American heritage of the area should be preserved. To help preserve these historic areas, municipal officials must get involved with local citizens and preservation groups. Establishing self-guided auto tours that highlight the history of the area could also make local citizens more aware of their local culture and increase tourism.

Smart Growth and Planning

Development is going to occur. It can be done attentively and wisely through the implementation of cooperative land use strategies. Smart Growth principals promote the use of sound land use planning. Smart growth principals include mixing land uses; making development decisions predictable, fair, and cost effective; strengthening and directing development toward existing communities; fostering distinct, attractive communities with a strong sense of place; and preserving open space, farmland, natural beauty, and critical environmental areas. Through Smart Growth industries could be attracted to the area, bringing in much needed jobs while maintaining the natural settings prized by residents and tourists. Smart Growth also involves educating landowners about the process and its benefits.

The establishment of zoning ordinances would help the watershed community protect itself from unwanted land uses. Each municipality should consider zoning ordinances and a comprehensive municipal plan and/or joint plan with neighboring municipalities. Kiskiminetas Township is the only municipality in the watershed with zoning and comprehensive plans. Many watershed residents are

interested in working with municipal officials to establish ordinances to protect their community from sprawl and other unwanted land uses.

Working with Municipal Officials

A component of working with elected officials is educating them on the issues that are important to their constituents. Watershed residents would like to see municipal officials actively involved in protecting the Lower Crooked Creek and Tub Mill Run watersheds. Attending public meetings and elected officials meetings are some methods stakeholders can use to educate local officials on important issues. Citizens should actively voice their opinions to their public officials through letters, e-mail, meetings, phone conversations, and the media to identify issues they feel are important.

Protecting Biodiversity

Biodiversity means having a large variety of living things in an area. Armstrong County, including the Lower Crooked Creek and Tub Mill Run watersheds, is fortunate to have a great diversity of plants and wildlife. Conducting an inventory of wild plants and animals would be beneficial because it would help protect biodiversity. The County Natural Heritage Inventories program documents areas and species of special concern. Completing inventories for Armstrong and Indiana counties would identify important habitats and areas. The findings from a biodiversity study could be used to market the watershed for its natural areas, potentially bringing in more tourism and recreational opportunities, while protecting the resources.

A part of protecting the biodiversity involves controlling invasive species. Invasive species become dominant species taking over areas of native vegetation. These species spread quickly and are difficult to eradicate.

Mercury Emissions

Mercury, a highly toxic heavy metal, is released into the air from power plant smokestacks and incinerators. Nationwide power plants release more than 91,000 pounds of mercury. There are no regulations controlling mercury emissions from utilities. In 2001, Pennsylvania coal-fired power plant emissions were ranked as the third dirtiest in the United States (Hopey 2003). The Keystone Power Plant, located in the Upper Crooked Creek watershed, emitted more mercury than any other plant in the nation (Hopey 2003).

Falling to the ground in the form of rain, mercury gets deposited into rivers, lakes, and streams. As it settles into the water, bacteria convert it to methyl mercury, a highly toxic compound. Human exposure occurs primarily through eating contaminated fish. It has the potential to cause brain damage and reproductive complications. Mercury contamination is an increasing issue of concern among watershed residents.

Survey Results

Watershed residents and municipal officials were asked to complete surveys to determine how stakeholders perceived the watershed and how they use the watershed. The results of the surveys are listed by question over the next few pages. Table 6-1 shows the distribution of survey results.

Table 6-1. Survey distribution

Municipality	Surveys	Percent	Municipality	Surveys	Percent
Bethel Township	10	15	Parks Township	2	3
Burrell Township	3	4.5	Plumcreek Township	0	0
Cowanshannock Township	2	3	South Bend Township	1	1.5
Elderton Borough	0	0	Armstrong Township (Indiana Co.)	1	1.5
Kiskimetas Township	1	1.5	Young Township (Indiana Co.)	0	0
Kittanning Township	3	4.5	Others	34	50.7
Manor Township	10	15			

When asked what they thought were the most common land uses in the watershed, 33% of the stakeholders selected agriculture, 29% selected residential, and 15% chose forested. Land use data from Southwestern Pennsylvania Commission (SPC) identified agriculture and forestry as the largest land use categories in the watershed, with residential being the third. The results of the surveys are listed in Figure 6-1.

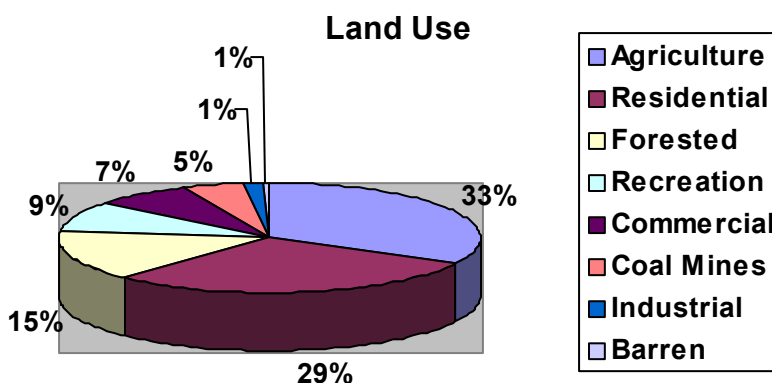


Figure 6-1. Most common land uses in the watershed as identified by watershed stakeholders in surveys conducted.

Those surveyed thought that abandoned mine drainage was the most prevalent water quality issue in the watershed. Cited second was the problem of failing, improperly maintained, or non-existent sewage systems. Urban runoff, flooding, and agricultural runoff were also identified as major areas of concern.

Participants were asked to rank a list of watershed attributes according to their priority, one being the most important and eight being the least important. The top three priorities are: water quality improvements, having attractive natural settings, and recreational opportunities. Other concerns were: environmental preservation, dredging Crooked Creek Lake, political leadership, road degradation due to heavy truck traffic, limiting the use of plastics, and best management practices.

Table 6-2. Values of importance to watershed stakeholders

	1	2	3	4	5	6	7	8	Score	Rank
Water Quality Improvements	256	119	54	35	8	3	2	1	478	1
Attractive Natural Settings	128	147	84	30	8	15	10	3	425	2
Recreational Opportunities	96	42	90	60	28	27	8	1	352	3
New Business/Jobs	80	63	60	10	40	6	32	9	300	4
Preserving Historic Sites	64	42	54	55	28	27	12	8	290	5
Educational Opportunities	24	49	18	30	68	39	22	1	251	6
Community Activities	0	28	30	70	44	57	4	6	239	7
Residential Development	8	7	18	25	20	6	28	30	142	8

Participants were asked to list how they use or view the watershed for recreation, rating them from one to 13, with one being the most important item. Hunting, fishing, boating, hiking, and horseback riding were viewed as the most important recreational opportunities. Other activities identified include: rock climbing, caving, botany, and participating in the Crooked Creek Triathlon.

Table 6-3. Recreational opportunities of importance to watershed stakeholders

	1	2	3	4	5	6	7	8	9	10	11	12	13	Score	Rank
Boating/Canoeing	143	84	132	60	45	32	14	12	5	12	0	0	2	541	1
Hiking Trails	104	132	44	70	81	32	14	24	10	0	0	0	1	512	2
Fishing	182	84	33	70	27	40	7	18	15	4	3	4	0	487	3
Public Parks	39	24	44	30	63	80	56	36	25	8	6	6	0	417	4
Hunting	130	156	22	10	9	16	14	12	5	20	9	2	6	411	5
Swimming	39	36	99	70	54	8	35	36	15	8	9	0	1	410	6
Scenic Vistas	52	36	55	40	45	32	63	12	20	20	9	0	2	386	7
Bike Trails	13	48	44	60	36	40	35	24	15	16	15	10	1	357	8
Bird watching	0	12	66	60	27	48	42	12	25	20	21	10	1	344	9
Picnic Areas	0	12	44	50	45	8	35	48	35	20	6	4	3	310	10
Horseback riding	91	12	11	10	27	24	14	18	25	20	12	18	6	288	11
Photography	26	36	33	20	18	40	21	6	20	28	18	6	6	278	12
Athletic Fields	0	12	11	10	9	8	7	12	5	8	21	28	10	141	13

Given the opportunity to list positive attributes of the watershed, stakeholders recognized items concerning recreation, land use, and diversity:

- Recreation
 - Public parks, trails, and Crooked Creek Lake and its properties
 - Places for boating, fishing, and hunting

- Land Use
 - Good agricultural practices in some areas
 - The amount of open space
 - The pure and natural beauty of undeveloped landscapes
- Diversity
 - The combination of woodlands, forest, and active farmlands
 - Habitat for wildlife as well as livelihood for the residents of the watershed
 - Miles of streams that support terrestrial and aquatic animals
- Other
 - The people who are willing to fight for what is right
 - People who respect one another
 - People who are willing to provide assistance to others
 - The culture and history of the area

Given the opportunity to list negative attributes of the watershed, these concerns arose: public awareness, water quality, recreation, economics and planning, and waste cleanup:

- Public Awareness
 - Lack of concern and support for the environment by residents and political officials
 - Lack of funding
 - Lack of environmental planning
 - Lack of environmental education
- Water Quality Threatened By
 - Poor septic systems and wildcat sewers
 - Erosion and sedimentation
 - Toxic, nutrient, and stormwater runoff
 - Abandoned and active mine discharges
- Recreation
 - Lack of recreational facilities
 - The use of all terrain vehicles and the destruction they cause
- Economics and Planning
 - Unplanned development and the lack of zoning
 - Development of homes and camps in the floodplains
 - Not enough jobs
 - Decreasing quality of the communities
- Waste cleanup
 - Old industrial sites
 - Illegal dumpsites

Some goals and visions stakeholders have for the future of their watershed address public awareness, recreation, economics, water quality, and increased funding:

- Public Awareness
 - Public education and awareness are important to help the public realize the economic benefits and importance of the watershed.
 - Getting people involved will lead to community pride.
 - Reach out to the schools to get them involved.
 - Reach out to new members.

- Recreation
 - Encourage multiple use of recreational facilities.
 - Open new lands for recreational facilities.
 - Connect recreational facilities that are near one another.
 - Provide public access to recreation facilities.
 - Market the resources available for tourism.
 - Establish driving tours highlighting local historic sites.
 - Better maintenance of Crooked Creek beach.
 - Finish the historical site at the Rosston Boat Launch Area.
 - Implement plans to address the most important issues within the watershed.

- Economics
 - Lower taxes.
 - Bring in more jobs.
 - Improve school districts.
 - Improve roads and road maintenance.

- Water Quality
 - Work to clean up the watershed by cataloging and cleaning up dumpsites and other pollution sources, planning for the future, and using best management practices.
 - Restore old industrial sites.
 - Enforce sanitation laws.

- Increase funding
 - Acquire funding to obtain a staff person for the watershed.
 - More funding without restrictions.

- Other
 - Develop a better relationship with public officials.
 - Consider concerns of the landowners on the use of their private properties.
 - Use the resources of the area to increase tourism.

Watershed stakeholders were also given the opportunity to list any comments about the watershed or the watershed planning process:

- Landowners are the tax-paying stakeholders that are to be considered in decision-making. The landowners, with exception to corporate polluters, have made good decisions in being good stewards of the land and its resources.
- Get individuals and local groups including elected officials to work together in the watershed to accomplish common goals.
- Provide access for small boats to the stream near the handicapped fishing pier at Crooked Creek Lake.
- Provide more access to hiking trails.
- Preserve cultural resources.
- Address issues such as toxic dumping, agricultural runoff, streambank fencing, and destruction caused by ATVs.
- Conduct an inventory of wild plants.
- Provide programs to the public at the Crooked Creek Environmental Learning Center.
- Inform the public about the need for water conservation.
- Employ Smart Growth.
- Aesthetics and function go hand in hand.
- The farming community should not be restricted in any way that would hinder its operation.
- Give back the land to prior owners (Rails to Trails).