



Lower West Branch Susquehanna
River Conservation Plan

Round 1 Public Participation Meetings' Notes
March 2001

The Northcentral Pennsylvania Conservancy is leading an effort to develop a River Conservation Plan for a seventy-five mile segment of the Lower West Branch Susquehanna River. This River Conservation Plan's study area begins at Lick Run, Clinton County (just northwest of Lock Haven) and ends at the confluence of the West Branch and North Branch, Northumberland County (at the Borough of Northumberland).

Funded through the Pennsylvania Rivers Conservation Program, a River Conservation Plan (RCP) works to restore, maintain, or enhance river resources. The RCP does this by documenting a river's current and historic environmental condition, uses, and problems. During the research process public input is solicited to help define a vision for the river's future. This research and public input is combined into a document that provides background information, suggestions to restore, maintain, or enhance the river, and a schedule to show the order various projects should take.

Local citizen participation in the planning effort is key to ensuring that the River Conservation Plan responds to their community's needs and concerns. The citizen participation for this plan began in March 2001 with a series of six public meetings. The notes from these meetings are documented in the following pages.

*NOTE: These notes are **not** an endorsement of any of these ideas by the Northcentral Pennsylvania Conservancy. These are the ideas that were expressed to NPC, by the general public, municipalities, and other groups at the public meetings. This summary is not to be construed as a report, or draft River Conservation Plan.*

For more information on how you, your business, or an organization can become involved, please contact Reneé Carey at the Northcentral Pennsylvania Conservancy, 570-323-6222, npcweb@uplink.net, or www.npcweb.org.

Muncy-First United Methodist Church of Muncy

March 19, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

- The canal is very special. The river did so much for the communities. There are **remains of an old canal lock** next to the Al Locust Estate. Also knows of an area where they made canal boats, **holding ponds for canal traffic** control and knows where original canal boundary markers are located.
- The prettiest section of the river is from Loyalsock Creek to Muncy (almost to the Montgomery bridge). Concerns: **What can we develop in terms of recreational and economic opportunities?** (e.g., river cafes and trails) This area is very **wild and remote** but still accessible. It is an easy day trip for **canoeing and tubing** you can do it in 3 hours. My **greatest fear is if a developer** would come in, **buy the farms and develop** them.
- Greatest concern is the **Industrial Park on Route 405**. Also concerned with **stormwater and industrial runoff** from Koppers, the prison and Grumman. **Another potential threat** to the river is the **ground coal** (very fine) from Keystone Filler.
- **Remnants of the old Ordinance dam are still visible** in a secluded area below Montgomery and Great Stream Commons near the Union/Lycoming County line.
- There are also **very nice seasonal wetlands** along the river in the latter area.
- Concern: If **Hammermill Paper** closes down upstream near Lock Haven, that could hurt the **buffering capacity that it adds to the river with its alkaline discharges**. This is right around where the **fish populations start to recover from acid mine drainage**. **Antes Creek (a limestone stream)** also does a good job of **adding alkalinity** to the river.
- Another **great treasure** of the Muncy area of the corridor is the **undeveloped mountain** (state land). This is a very **prominent geologic feature** that can be easily recognized from aerial and satellite photos. Coined locally as **the “Muncy Bump”**.
- Only part of the **French & Indian War** was fought in PA was in the **Musser Lane** area of Muncy.
- There is also a **State Marker** in the corridor where **Captain John Brady (a Revolutionary War Hero)** was killed.
- Part of a **towpath for the canal** is still present

- There is an **old navy boat launch** near Muncy where they once used an “old whale boat”.

How do you currently use the river, or what is your favorite thing about it?

- Scenery, fishing, boating, canoeing, water skiing, tubing, swimming, bird watching, kayaking, and just watching it.
- Watching the sun come up in the morning.
- Use for hiking and education walks for youth groups and scout groups.
- The **rich historical significance** of the river (lumbering, the canal, the story of the Last Raft. (The **Last Raft** actually crashed into the Muncy Bridge on its trip down the river.)
- Camping is OK. There could be more though.
- Scenic values (Overlook from the ridge).
- The outline of an old railroad car from the 1889 flood can still be seen just north of the bridge a calm day.

What do you see as opportunities and strengths of the river?

- **Extending the river trails** proposed from Harrisburg to Selinsgrove upstream to this area.
- Could have more access points, camping spaces and have more people visit the area (tourism).
- Development of a **biking or walking trail**.
- **Retrofit the dam at Williamsport** to be canoe friendly. Currently there is **no portage available**. It’s hard to scale the rocky dike, and you can’t shoot through the low-head dam.
- **Significant recreation & fundraising potential**. Potential relocation for the Fanny in the Susquehanna Float to Muncy from Jersey Shore: less obstacles and more secluded.
- Work with **watershed groups** to accomplish more.
- This was America’s “**First Highway**”, we need to preserve it.
- Muncy Creek confluence area: site of **another very important archeological area** that was not yet excavated (similar to Canfield Island).

What are your concerns about the river?

- Water quality in general from an **increase in development and population**. In the 1950s you used to see sewage floating down the river. Things have really improved since then. Let’s keep improving it.
- Conflict areas: **Private rights vs. Public Rights**
- River is too shallow for boating in the Montoursville to Muncy area, however canoes can be used.
- Use of or **restricted use of jet skis** in certain sections of the river and also have restricted hours.
- Canoes should have access to use the same areas as the powerboats have.
- Outflow pipe: north side of the river there is a **6-inch pipe that discharges a “milky colored fluid” at certain times**. Could it be milk effluent from a dairy? The location is **near the bend at The Gut** or just east of Margaret Run.

- **Industrial or stormwater runoff** from Koppers.
- Additional **industrial development** along the river.

If you could do one thing to effect how the river is today, what would that be?

- Grant Scenic Rivers status to the stretch from **Loyalsock Creek to Muncy Creek**.
- **Turn canal into a nature/history trail**. Preserve the canal – it gave life to Muncy
- Reopen sections of the canal (i.e., **add flowing water**) near Allenwood.
- Snap your fingers and improve water quality.
- Boat dock at Muncy could be developed into a **learning center for helping boaters** to complete better water quality practices. (water quality suffers at certain times of year)
- Take care of the **structures** along the river that have **sewage problems**.
- **Maintain scenic beauty**.
- **Acquire all the islands &** get a chance to use them for **camping**.
- Transport us forward 100-years to see what the river would look like and then come back and act upon this accordingly, today.
- Create a **scenic bridge at Market Street** in Williamsport (i.e., like the Danville Bridge on the North Branch.
- **Enact good zoning** in those areas where you want **to stunt growth near the river**. Municipalities need to complete this on their own, not the county.

Summarize the three-(3) main points about your group's discussion.

1.Loyalsock Creek to Muncy: a remote, scenic stretch of river, yet accessible.

2.The river is rich in local history:

- Canals
- Lumber Heritage
- Native Americans

3.Industrial Development (growth) within river corridor:

- Water quality
- Stormwater runoff / Industrial Discharge
- Scenic Buffer

Muncy-First United Methodist Church of Muncy

March 19, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Muncy Pennsylvania Fish and Boat Commission access
- Cannon Hole/Canfield Island
- Muncy Farms
 - In Montour to Muncy
 - Farmland
 - Canal & Canal wall/bank
 - Stone wall – canal went into the river actually off farm – owned by Muncy Valley Hospital.
- Limestone ledge at old Muncy railroad bridge.
- Towpath, boat rings
- Muncy to Montoursville

How do you currently use the river, or what is your favorite thing about it?

- River Use (Water depth restricts use)
 - Boating
 - Fishing
 - Birding
 - Swimming
 - River Lots/Campers
 - Farming, crops, dairy farming is gone from river corridor.
 - Transportation - Amish Boys
 - Short cut to mall
- Recreation increasing
 - Boating
 - Fishing
 - Cabins
- Historic Resource
- Swimming (In un-muddy water)
 - Fishing
 - Boating (All five participate)
 - Birding:
 - Tudra Swans
 - Ospreys
 - Bald Eagles
 - Christmas bird count (3 Participate actively, 4 if just watching)
- Scum
- Mud - after rainstorms
- Clearer now than 30 – 40 years ago.

- Improvement from last 10 years:
 - Carpenters Run
 - Turkey Run
 - Riqarian Buffers
- Erosion – Muncy farms has lost several acres – water & brush.
- River seems to be getting wider, more gravel bars
- Keep "Chicken Delights" out Montour to Muncy.

What do you see as opportunities and strengths of the river?

- Greenway Trail
 - Put on south side of River
 - Would be beneficial
 - Non-motorized
 - Camping on private property/trespassing
 - Littler can be a problem
 - Number of geese staying year round
- Pollution
- Boating – Muncy PaFBC very busy
- Riffles/Rocks – Restrict motorized access/usage
- Dam between Muncy & Montgomery restrict/limit access
- Good deep pool
- Opportunities
 - Shad fishing
 - Small Mouth Bass
- Economic Benefits
 - Boats & Jet Ski's (Sales & Rentals)
 - Benefit that brings people to area

What are your concerns about the river?

- Jet Skies
 - Noise (No one was in favor of them)
- Serious Concerns
 - Need regulization and enforcement of rules & laws
 - Some problems with pollution on River lots
 - Appliances being dumped
 - Manage/regulate/usage/ rental

If you could do one thing to effect how the river is today, what would that be?

- Clean-up water
- Clean-up banks
- Remove flood debris (edges and river)
- Keep Undeveloped
- Erosion
- Halt, identify source

- Improve water quality
- Reduce silt
- Keep forests
- Maintain area as it is – Preserve
- Some lots in Muncy to Montgomery are owned, others are leased.
- Boat Club provides access at Montgomery
- Maybe need for public access, boating, swimming, picnic area
- Railroad bridge to Montgomery facility?
- Nice facilities:
 - Montgomery
 - Milton
 - Watson town
 - May just need to maintain existing facilities.
- River self segments itself due to natural features.

Summarize the three (3) main points about your group's discussion.

1. Cleaner
 - Water Quality
 - Trash/flood debris
2. Control jet skis and picnic areas.
3. Keep Montoursville to Muncy (point TBD) pristine.

Muncy-First United Methodist Church of Muncy

March 19, 2001

Group 3

How do you currently use the river, or what is your favorite thing about it?

- River recreation canoeing, fishing, walking (valuable resource) water skiing, boating

What do you see as opportunities and strengths of the river?

- Private landowner respects river as community asset
- Muncy Creek – Watershed interest in improving water quality
- Muncy Creek water quality
- Kayak use – Montoursville/Muncy rural natural reach stream
- Shad want to restore to stream
- Wildlife – Osprey, Bald Eagle
- Best/most productive farmland
- Maintain agriculture (agriculture is compatible with recreation, wildlife habitat, visual qualities)
- Hydro energy production
- Clean up former dump sites
- Education – recycling, watershed impacts, Riparian Area Management, environmental ethic.
- River lots—unique situation along river
- Established river trail (access, facilities, designated camping areas, restaurant, restrooms)

What are your concerns about the river?

- River lots – Good stewards/Aesthetics
- Environmental Ethics
- Improper disposal of oils/other pollutants
- Trash runoff/litter & trash
- Disrespect for private land/land
- Noise (jet skis use; put in appropriate areas) , ATV's
- Use conflicts (fishing kayaking – jet skis)
- Flooding (issue impacts all these)
- Flood Management
- Stormwater discharge
- Private Property
- Noise – Industrial Development
- Air pollution – Burning (Industrial) Inversions
- Preserve Historic Features (Canal System) Lock see map
 - Interpretative signage
 - The gut wall
 - History of the river

- Archaeological resources (Native American) Indian fort
- Light Pollution
 - Prison
 - Commercial
 - River Bridge Lights
- Agriculture blamed for pollution
- Municipal sewer needs improvement
- Need to respect agricultural landowners and they are good stewards
- Wildlife – (Waterfowl)

If you could do one thing to effect how the river is today, what would that be?

- Say “no” to development
- Provide better river access
- Cleanup the river (water quality)
- Improve old sewage systems
- Clean up industry
- Preserve canal/restore canal for educational value
- Provide public access to view fish ladder (volunteer for the PAF&B Co.)

Summarize the three (3) main points about your group’s discussion.

1. Decrease sewage
2. Educate citizens effect of usage
3. Core strength usage of river bottom
4. Farmland flooding

Williamsport-Lycoming College

March 20, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

- Interested in fishery
- What are we sending to Chesapeake
- Likes river from Montoursville to Muncy
- Peaceful, refreshing, quiet
- Scenic
- Biking/walking
- River traffic/public access
- Parks
- Boats
- Montoursville to Muncy
- Fishing
- Mountains

How do you currently use the river, or what is your favorite thing about it?

- Has river lot, camps out
- Heard it is good for Trout fishing, etc. – Loyalsock Creek
- Scenic
- Swimming
- Archeological digs
- Concern is river terraces, archeological digs, fishing, aesthetically pleasing, mine acid drainage problems needs consideration
- Fishing, hiking, whitetail hunting, archeological digs, artifact hunting in farm fields
- Canoeing, relaxation
- Power boating, swimming, family activities, tubing, water skiing
- Family tradition, cookouts, company
- Farming activity

What do you see as opportunities and strengths of the river?

- Trails
- Nature studies, butterfly garden on Canfield Island, wildflowers, ecological niche
- Would like to see private areas made public for park use
- Indian village, as tourist attraction
- See something done in conjunction with Railroad
- Farmland (something to strengthen opportunity)
- No Activities planned along the river anymore, Hiawatha is only activities now.
- Need political clout to make needs known

- Boat Clubs have dissolved no one is a spokesman for river
- Trail like the one in Lock Haven above the dike would be a good opportunity.
- Beltway is major concern about access to river.
- Coordination for use of River/combine efforts
- Create trails/bike paths

What are your concerns about the river?

- Pieces of metal sticking out of river (near Canfield Island), old railroad bridge river needs to be cleaned up.
- Acid mine pollution
- More people you attract, more pollution you will have
- Trash along river
- Better balance of fishing & boating
- Lower speed limits, lowered powered boats
- Loss of farmland
- Bull dozing in tributaries after a flood damages the eco system
- Channelization
- Noise pollution from boats
- Regulation of boaters (strictly)
- Cribs (removal of them from river to make safer)
- Barge in river
- Nitrates from farming
- Zoning to central housing development
- South Williamsport oil companies polluting river
- Flooding
- More accessible – Jersey Shore
- Archeological aspects/resources – 180 million years old
- Lack of River front
- Canfield Island
- Fisheries
- Habitats for wildlife
- Group of citizens to help activity/promote river
 - Boat shows, picnics
 - No direction
 - Problem with personal water crafts (Jet Skis)
 - Year round uses

If you could do one thing to effect how the river is today, what would that be?

- Zoning regulations – to clean up River
- More activity – cleanup day, rafting, more promotion, picnics, theater, more access
- Clean it up (trash and submerged things)
- Leave it undeveloped
- Need a group of people to use river as a power center, more regulation.

- More public parks (away from party use)

Summarize the three-(3) main points about your group's discussion.

1. Clean up pollution
2. Enforcing zone/boating regulations
3. Coordinated effort to allow more access, activity & still preserve the river & its natural areas

Williamsport-Lycoming College

March 20, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Montoursville to Muncy – Canoeing, Top Spot for it.
- Loyalsock Creek to Muncy very remote
- Loyalsock Creek riffles
- Intersection with Pine Creek and other tributaries
- Activity above Hepburn Street dam motorized recreation
Get people from different areas

How do you currently use the river, or what is your favorite thing about it?

- Canoeing (5)
- Motorized recreation, boating (2)
- Fishing (1)
- Historical old Canal, Indian Digs (7)

What do you see as opportunities and strengths of the river?

- Large areas undeveloped
- Have diversity use/habitat
- Hiawatha
- Limited flood protection
- Cleaner than once was
- Recreational sites along the river

What are your concerns about the river?

- Quantity of Stormwater
- Geese (droppings)
- Helicopter spraying
What are they spraying?
How to get the schedule?
- West Nile virus, could be fear of river if it gets here
- Closing of Hammermill plant and ponds with it (neutralized AMD)
- Size of Study Area
- Increased runoff from development
- Sewage runoff from homes (older 20-25 years)
- Water Quality (better, but not great)
- Agricultural runoff
- Withdraw of water

- Fish Quality
- Shoreline erosion
 - B/C waves
 - Stripping of vegetation for view
- Quality of stormwater runoff
- Preservation of Mountain Range along side the river
 - Problems: Dozing, roads, fire, cell phone, and TV towers
- Impressions of Visitors
- Salt pile at Top of Bald Eagle Mountain

If you could do one thing to effect how the river is today, what would that be?

- Make water drinkable
- Plant more trees
- Protect remote areas
 - South Williamsport hillside
 - Loyalsock to Muncy
- Trail along the river
- Historical background, education, and markings on sites
- Area residents to have a better appreciation
- River awareness education
- Increased Public access

Summarize the three-(3) main points about your group's discussion.

1. Undeveloped areas and Mountain range; preservation of view shed
2. River awareness education
3. Adopt a river program

Williamsport-Lycoming College

March 20, 2001

Group 3

What is your special place on the river? Is there something that you would like to share?

- Susquehanna Park (Walking)
- Mill Lane (Walking)
- Williamsport Area (Boating) from Old Nippenose Park to Market Street Bridge
 - 97 Cribs removed
 - Would like the remaining ones removed for boating,
 - But cribs are also historical and serve as nesting sites for birds
 - Cribs cause concern for boaters
 - Some concerns about boats being the cause for threats to wildlife
- Montoursville to Muncy (Canoeing)
 - Nice scenery, but needs cleaned up
- River Front Park
- Canfield Island

How do you currently use the river, or what is your favorite thing about it?

- Motor Boating, water skiing, tubing
- Canoe
- Fishing; Bass/Walleye
- Walking along river
- Camping
- Water Fowl Hunting
- Birding
- Swimming
- Hiawatha – Concerts, charities, Possibly revive the boat shows, parades, water ski shows
expand the route

What do you see as opportunities and strengths of the river?

- Walkways with lighting on the dike (like Lock Haven), can walk at night, increase safety
- Revive historical special events, boat parades, Tiadahton Elm Boat Classic, Prince Farrington race.
- Recycling from dredging – value at the bottom of the River
- Natural Beauty
- Wild Life
- Close Proximity
- Connects the Communities
- History

What are your concerns about the river?

- Quantity of Stormwater
- Geese (residue)
 - Susquehanna Park
 - Indian Park
- What happened to boat docks at Old Nippenose Park?
- Boating Safety
- Maybe one mile on both sides is not far enough
- Water quality in general
 - Sources of Pollution
- Erosion/Sedimentation
- Canfield Island
 - Concern here is petroleum tanks – leakage and pipes when water level is high

If you could do one thing to effect how the river is today, what would that be?

- Walkways/Lighting/Comfort facilities/benches/landscaping
- Dredge 6 foot deep for boating
- Return native fish to the river
 - Shad
 - Walleye
- Prevent landfill runoff from getting into the river (Leachate)
- Walkable communities
 - Connecting the communities to the river in a more accessible manner
- Special event stage area
- Improve water quality

Summarize the three-(3) main points about your group's discussion.

1. Water Quality/Riverbank Clean up
2. Walking connections, and history to the river and between the communities along the river.
3. Boating and pedestrian safety
4. Improve fishing opportunities

Williamsport-Lycoming College

March 20, 2001

Group 4

What is your special place on the river? Is there something that you would like to share?

- Islands near Milton are very nice areas with deep channels but the **State Park there could be better developed**. Sections of the **canal near Milton** are still left.
- The **most scenic section** of the river is from **Loyalsock Creek to Montgomery**. This area has **waterfalls and cliffs** along the mountain and would like to see **canal walls** preserved.
- **Ruins** of houses and **Buttermilk Falls** are intriguing.
- Section between Montoursville and Muncy is a very special place – would hate to see any development there. Tebb's farms is putting a road in & possible cabin near power lines. **Bald eagles seen** in this area.
- General **scenic beauty** great view from the summer cabin.
- Lives near Canfield Island. Lots of previous recreation plans were developed and are available. A rowing club that was interested in **sculling opportunities** was studied but never funded. **Can provide** copies of **previous recreation plans**.
- Rides **bikes** to river and would love to see **sculling and more activities** available along the river.
- Loggers previously tried to get permits to remove historic logs from river and cribs.

How do you currently use the river, or what is your favorite thing about it?

- Boating, outdoor recreation, waterfowl hunting, and swimming.
- Hiking along the river's dike system, Hiawatha cruises.
- Boat racing (lock Haven) and entertainment (Hiawatha).
- Floating, tubing, power boating.
- Kayaking, canoeing, solitude.
- Birding.
- Like to observe fish ladder for shad at Hepburn Street dam. Owned by DCNR Bureau of Forestry. Needs continual maintenance from trash/debris. May install debris diversion.

What do you see as opportunities and strengths of the river?

- **Tourism potential**, protecting natural resources, quality of life and **historic canal**.
- Water quality is improving.
- **Serenity and beauty** – need to keep it away from development.
- We've come along way in cleaning up the water. Birds of prey such as **bald eagles and ospreys** are returning to use the river.
- To **use the banks (dikes)** of the river for **parks and recreation** and to bring the river back to the people for an improved quality of life.

- Opportunity to **portage** canoes up the dikes and around the dams is needed.
- **Bikeways and pathways** to get more people access to the river are needed.
- More life is being observed in river upstream of the Lock Haven dam.
- Develop a park and **bleacher setting along the dike** in Williamsport to develop interests, and economic and recreational opportunities.

What are your concerns about the river?

- Water quality, erosion and sedimentation.
- Raw sewage being dumped into the river – why is this still going on? (see map for locations)
- Sewage overflow from storm sewer via old stormwater inlets.
- Development and Zoning (Urban sprawl).
- Loss of riparian buffers.
- Lack of portage path around both dams. Regulations require a footpath to be installed to have a waterway to be still considered navigable. Footpath needs to be 200 feet above dam and 100 feet below the boil line (recirculation point). Basically a portage path would have to be about 200-500 feet in length.
- Stomwater – heavy rain removal
- Poor low waterline
- AMD upstream work together as one

If you could do one thing to effect how the river is today, what would that be?

- Establish guidelines for riparian buffers for landowners.
- Zoning and protection from development of the pristine stretch of river between Montoursville and Muncy.
- PADEP to try to clean up more acid mine drainage discharges to the river upstream of Lock Haven.
- Preserve the river to the best of our ability.
- Develop a better sense of community.
- Create better riparian buffer areas through regulations or incentives.
- Get rid of all the “squatters” creating problems on state lands or other public lands along the river.

Summarize the three-(3) main points about your group’s discussion.

1. Conservation of natural resources/preservation of designated key features.
2. Continual improvement of water quality.
3. Use zoning and planning to better protect the river from development.

Lewisburg-Lewisburg Middle School

March 22, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

- Milton State Park to Lewisburg
- CBF day with students to learn about resources
- Birding Spots
- 1995 Drought; walk across river
- The River identifies the region
- Montgomery to Allenwood is special area
- Lewisburg to Sunbury
- Regional tourism resource
- Areas dotted with islands have a sense of mystery

How do you currently use the river, or what is your favorite thing about it?

- Motor Boating, water skiing, tubing
- Canoe
- Fishing
- Walking along river
- Water Fowl Hunting
- Birding
- Swimming

What do you see as opportunities and strengths of the river?

- Beauty
- Recreation opportunities
- Educational Resource
- Wild Character
- Psychological Benefits, soothing
- History
- Plan for future
- Hiking trails
- Connecting communities
- Eco Tourism
- Montandon Marsh
 - Geology
 - Habitat
 - Water Quality

- Canal
- Event for clean up
- Railroad – future public transportation

What are your concerns about the river?

- Refuse; Tires
- Runoff, sediments
- Developments of world like depopulation or cluster space dent development
- Motorized boating; noise, not respectful
- Lack of public knowledge of their impact on the river
 - i.e. downstream drinking water
- Invasive vegetation
- Property ownership/rights

If you could do one thing to effect how the river is today, what would that be?

- Clean water/water quality
- Fuller wildlife diversity
- Remove people/Development from corridor
 - Freeze the sprawl
 - Build up/Not out
- Make people understand
 - Change people’s behavior relating to the health of the river
- Remove exotic species
- Reintroduce native species

Summarize the three-(3) main points about your group’s discussion.

1. Water quality
2. Education: change people’s behavior towards the health of the river.
3. Preserve wild character by controlling development.

Lewisburg-Lewisburg Middle School

March 22, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Sustainable Wildlife
 - # of Fish
 - # of Geese
 - # of Gansers
 - # of Buttonwood Ducks
 - # of Whitsler Swans
 - # of Shad Migrating
 - # of Snow Geese
- Protection of water Quality
- Fishing quality
 - Decrease in number of Fishing
 - River Access
 - Inadequate
 - Old Canal Network
 - Public Boat Access
 - Watsonstown
 - Milton State Park
 - Chilsquaque
 - Sunbury
 - Old Ordinance (Allenwood Prison)
 - Access along River Road near Riverwoods/Buffalo Creek

How do you currently use the river, or what is your favorite thing about it?

- River could handle more recreation
 - Canoeing
 - Fishing
 - Better access
 - More parking
- Boat/Canoe Susquehanna – providing good access

What do you see as opportunities and strengths of the river?

- River could sustain more public use
- It's "Grand"
- Clean looking
- Recreation in general

Boating
Birding
Fishing

- Wildlife
- Scenic overlooks/Vistas
- Hiking (Potential)
- Stress relief
- Canoeing to Bed & Breakfast to Bed & Breakfast
- Canoeing campsite to campsite
- Historic Interpretation
 - Canal
 - Colonial
 - Archaeological resources
- “Fence Drive-In” great place to view river
- Getting farmers to use conservation district programs

What are your concerns about the river?

- Leave buffer along water
- Sewage treatment Plants improving release

If you could do one thing to effect how the river is today, what would that be?

- River Vital to everything
- Water is basic to life
- Need to educate citizens and public officials

Summarize the three-(3) main points about your group’s discussion.

1. Non-Motorized Recreation
 - More possible
 - More Access
2. Water Quality
3. Scenic and Wildlife Corridor

Lewisburg-Lewisburg Middle School

March 22, 2001

Group: THE RIVER DANCERS

1. Clean up the River

- Organize large clean-up day (town pick up)
- Adopt-a-section
- Make dumping easier for consumer (less \$\$)
- Address pollution
- Recycling must be easier, educate more
- Better policing/fines

2. Access & Utilization

- More viewing area
- Walkways, trails
- Fishing docks
- Campsites
- Respect for existing habitat
- Launching areas
- Picnic areas
- Markers and bike trails
- Rent canoes & Bikes

3. Education/Information

- River appreciation (youth groups, scouting)
- Senior outreach/oral traditions
- June is Rivers month
- Celebrations/Festivals
- Utilize Media
- River Tours

Watsonstown-Watsonstown Elementary School

March 26, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

- Watsonstown Park
- Watsonstown Bridge
- Pennsylvania Fish Boat Commission Facility at Watsonstown

How do you currently use the river, or what is your favorite thing about it?

- Uses of River
 - Snorkeling (1)
 - Swimming (4)
 - Fishing
 - Socialization

What do you see as opportunities and strengths of the river?

- Provide grass strips for filtering/improve filtering in some way
- More Jet Ski Education
 - Licensing
 - More Enforcement
- Parks
 - Watsonstown
 - Milton
 - Montgomery
 - Allenwood
- Tree Planting
 - Riparian Buffer
 - Prevent Erosion
- Group boating (like the Hiawatha)
- Milton State Park – Wonderful recreation area

What are your concerns about the river?

- Road salt/oils/pollutants
- User group conflicts (Jet Ski's especially)
- Erosion
- Japanese Knotweed (invasive plant)
- Logging Directly along River (Milton/Watsonstown area)
- Milton State Park
 - Trail not maintained

1996 Flood damaged

If you could do one thing to effect how the river is today, what would that be?

- More access to islands and more recreation
- Make water & tributaries better
- Cleaner & Quieter
- Connected trail system
 - Average person can walk (not survivor-like)
 - Non-motorized trail
 - Get volunteers to assist
 - Primitive, overnight camping

Summarize the three-(3) main points about your group's discussion.

1.Cleaner Water

2.Access/Trails

3.Aesthetic aspects improved
 Spiritual Nature

Watsonstown-Watsonstown Elementary School

March 26, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Watsonstown Park
 Accessible, Pretty
 Used to be beach
- Heard about Montoursville to Muncy
- Mouth of White Deer Creek/White Deer Creek
- Montgomery to Milton stretch

How do you currently use the river, or what is your favorite thing about it?

- Boating
- Fishing
- Canoeing
- Tubing
- Scenic Beauty
- Wading
- Watsonstown Borough Old Canal walking path

What do you see as opportunities and strengths of the river?

- Improving water quality – keep moving
- Connecting walking trails (rail bed)
 Bicycles
 Separate/peaceful walk
 Fishing Access
- Maps for Paddlers
- “Adopt-an-Island”
- “Adopt-a-segment”
- Use water for generating power?
- Domestic water use (portable)?
- Accessible to communities here – good roads
- Low water: Emphasizes non-power areas

What are your concerns about the river?

- Acid Rain
- Flood Control
 Effects on other areas

Don't create new problems

Comprehensive Planning – not community by community

- Erosion
 Maintain riverbank integrity
- Riverbed
 Maintain channel
- Foresman Farm
 Problem with cows dying
- Be careful of opening up canals – digging up old dumps
- Balanced approach – Industrial & recreational

If you could do one thing to effect how the river is today, what would that be?

- Flood Control widespread regional
- Get more people using river
- Access to river – Beach Area
- Pollution Control

Summarize the three-(3) main points about your group's discussion.

- 1.Learned that there is more erosion
- 2.Steer people to use the river and they will appreciate it.
- 3.Commercial /economic use must be part of plan

Lock Haven-Lock Haven University

March 28, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

Not recorded

How do you currently use the river, or what is your favorite thing about it?

- Kylertown to Milton – Canoeing
- Views:
 - Hyner
 - North Bend
 - Sons of Italy
- Bucktail State Park – Fish Ladder
- Historic benefits
 - Booms
- Gateway to Northern Tier
- Silt – Dredging
- Fish comeback in last 15 years
- Clarity in water
- Extraordinary view
- Booms
- Boom Island to McElhatten
- Shad fishing restoration
- Pine Creek & river – Deep & Fast
- $\frac{3}{4}$ Canoe River
- Live on River
- Scuba

What do you see as opportunities and strengths of the river?

- In our backyard
- Fish Ladder – Historical & economical
- Fiber Dam
- Pros & Cons to Dredging
- Wildlife
- We are the key to the river
- Woodward Township Park

What are your concerns about the river?

- Watershed Cleanups
- Cleanup Acid Mine Drainage
- Have Fish Ladder in place before Shad are ready
- Sewage problems with flooding
- Pollution
- Acid Mine Drainage
- Trash in river
- Hazardous waste
- Public access a problem?

If you could do one thing to effect how the river is today, what would that be?

- Increased acres
- Reduce pollution
- Fiber Dam
- Dredge upriver
- Improve Water Quality
- Fish Ladder With slalom Kayaking events

Summarize the three-(3) main points about your group's discussion.

1. Improve water quality
2. Values of recreational opportunities can be improved
3. Education or aesthetic value of River

Lock Haven-Lock Haven University

March 29, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Long Pool above Pine Creek (2)
- Any deep pool
- Lockport to Renovo (view)
1960 water quality vs. today quality (increase with time)
- Boating
- Peddie Park (Swimming Hole)
- Piper to McElhattan (canoe)
For Canoers (this is for birding as well)
- Any part to canoe or kayak
- McElhattan fishing and boating
- McElhattan to Jersey Shore for swimming, canoeing, boating (serenity)
- Hyner View (Hang Gliding)

How do you currently use the river, or what is your favorite thing about it?

- Hunting
- Fishing
- Boating
- Swimming
- Hang Gliding
- Weekend Getaway
- Hiking
- Biking
- Camping
- Birding
- Walking (on the dike)
- Picnics
- Environmental Education
- Spiritual Refuge
- Stress Manager

What do you see as opportunities and strengths of the river?

- Youth Involvement/Recreation
- Handicapped Accessible
- Whitewater Course/Fish Ladders for dual purposes

- The River is still “wild” in stretches
- Canoe access points
 - Restroom facilities
 - Trash Receptacles (accessed by boat only)
- Opening privately owned land to River access only
- Agricultural Land
- Rails to Trails (possible Trail System)
- Island Road (joggers, motorists, bikers (room for independent trail)
- Wildlife migration route (genetic diversity and biodiversity, “Critter Highway”)
- I-99 corridor (strength or liability)
- Floating stage

What are your concerns about the river?

- Exotic Species
- Decreasing water depth
- Urban Sprawl
- Contamination
 - Especially across Pine Creek confluence – a black oily muck on the bottom
- Tributary concerns/their contribution to the River
- Sludge dumped into Tangascootak
- Dike at Jersey Shore and concerns of uninterrupted flow
- Erosion/runoff
- Herbicide on railways
- Herbicides on highways
- Island trail being dangerous,
- Wave runner use dangerous(lack of respect, no safety)
- Exhaust problems
- Noise pollution
- Communication barrier between landowners/users

If you could do one thing to effect how the river is today, what would that be?

- Clean up the River bottom
- Clean it again
- Water quality improvement
- 2,000 raceway to encourage economic development, shad migration and to increase white water enthusiasts
- “Zone” the river into usage areas (Zoning)
- Special Regulation areas
- Expand education opportunities
- Create “appreciation” by a River Appreciation Day
- Increase boating above the dam by cleaning the bottom

Summarize the three-(3) main points about your group’s discussion.

1. River as Stress relief
2. Clean it up and clean it up again
3. Recreation opportunities

Lock Haven-Lock Haven University

March 29, 2001

Group 3

What is your special place on the river? Is there something that you would like to share?

- Remnants of old Canal
- Recreational Boating
- Ice Mine Cut Road – Spectacular view
- River activities to attract visitors
- Logging crib intact – under river – scuba access
Broken Cribs of concern
- Bird watching on River
- Working to improve water quality
- Boating area – Queens Run to Grant Street Dam

How do you currently use the river, or what is your favorite thing about it?

- Jet Skiing
- Motor Boating (5)
- Scuba Diving (1)
- Bird Watching (6)
- Fishing (4)
- Duck Hunting (1)
- Canoeing (3)
- Swimming (7)
- Water Skiing (7)
- Floating Stage Use (10)
- Camping (5)
- Jogging/Walking (8)
- Pontoon Boat Use

What do you see as opportunities and strengths of the river?

- Opportunity with Improving water quality
- Public access
- Natural Beauty
- Improve Channels - Dredging
- Public Ownership of River front property – Peddie Park
- Irrigation Availability
- Historical Resources
Canal & Locks

- Existing Festivities
 - Labor Day Regatta
 - 4th of July
- Floating Stage
- We have it State College doesn't

What are your concerns about the river?

- Wave action on erosion/bank stability
- Lack of access (below dam Grant Street)
- Mud from Clearfield (Sedimentation load & AMD)
- Existing booms
- Low water depth – Dam modification?
- Litter/Woodward Township recycle Bins
- Lack of a fish ladder or conveyance at Dam
- Safety
 - Boats
 - Jet Skis
- Channels need better marking
- Lack of connectedness between beach/Woodward Park
- Veterans bridge access needs improvement
- Farrandsville Road – width/condition
- Camping area needed – dump station for tourists

If you could do one thing to effect how the river is today, what would that be?

- Raise dam, Increase water elevation
- Deposition removed
- Clean up AMD more aggressively
- Increase public access-better ramps
- Interconnect public spaces
- Historical displays/museums/attractions
- Attract additional events
- Woodward Township Park maintenance improvement
- Catch & release rules for fish at Grant Street & above
- Need camping area for tourists

Summarize the three-(3) main points about your group's discussion.

1. Increase draft deeper water to improve boating
2. Continue water quality improvements aggressively
3. Promote river & area's recreational opportunities

Lock Haven-Lock Haven University

March 29, 2001

Group 4

What is your special place on the river? Is there something that you would like to share?

- River Road Corridor
- View at sunset
- Woodward Township Park looking toward Catholic Church
- Teaberry Lane view towards River
- A personal property “a little window on the County’s history”
Canal bed
- Historic sites/areas noted
- Family River lot
Locks/boom
Deep pools at mountain edge
- View from his house
- Head of Great Island
- All of it
- Canoe Lock Haven to Jersey Shore
- South Side of Pine Creek’s mouth

How do you currently use the river, or what is your favorite thing about it?

- Canoeing/kayaking (4)
- Motor Boats (3)
- Water Ski (2)
- Scuba/Snorkel (2)
- Ice Skating has been activity
- Viewing (8)
- Fishing (5)
- Water Source (1)
- Hike/Walk (7)
- Flora/Fauna observation (8)
- Swimming (8)
- Picnics (7)

What do you see as opportunities and strengths of the river?

- Open space increased/maintained
Conserve/preserve areas as open
- Return fish species/population
Fish Ladder

- More access for recreation
- Extend levee walk to Peddie Park
- How it adds to quality of life
- Improved water quality as industry changes
- Increase/improve/maintain access (Whether public or private)
- Conserve areas
- Speed limit
- Woodward Park Recreation Authority plans
- Canoeing
- Sergio's Pizza
 - Boat to restaurants, food, and fuel
- Island a potential
- Various recreation areas for different types or users
- Riparian Buffers
 - Needed
 - Improved
 - Maintain

What are your concerns about the river?

- Illegal Dumping
- AMD
- Pesticide use on River Banks near River
- Lack of public access by foot to River for fishing and other recreation
- How regulations effect development rights, thereby effecting tax base
- Trash/debris from users
- People posting properties
- People
- Change/improve areas
- How much use is too much
- Jet Skis can be a problem
 - Wrecks at or near Woodward access
- Once you let the genie out of the bottle you can't put back
- Pollution
- Impact of development on view shed

If you could do one thing to effect how the river is today, what would that be?

- Acid Mine drainage is gone
- Start over knowing what we know now
- Farrandsville to Jersey Shore by boat (power or paddle)
- Gain consensus; arrive at a happy medium
- Develop environmental conscience
- See above
- People would work to ensure their actions would benefit River

- “Sensible, controlled development”

Summarize the three-(3) main points about your group’s discussion.

1. Develop a community wide environmental conscience
2. Clean up River
3. Use the River

Public Access “We all want a piece of it, we just have to figure out how to do that”

Lock Haven-Lock Haven University

March 28, 2001

Group 5

What is your special place on the river? Is there something that you would like to share?

- Swimming at Sugar Run (Hanna Park)
- Unique ability of River to influence area
- Lock Haven Pool
 - Snorkeling at Log Booms
- Power Boating
 - Not too crowded
- River lot
 - Family Values
 - Get-a-way
- Big Island
 - Historical
 - Agricultural
 - Shoemaker Estates
- Walks Along River
- Longest non-navigable River on Continent
 - Unique

How do you currently use the river, or what is your favorite thing about it?

- Scenic value/Viewshed
- Recreation
 - Fishing
 - Boating/canoeing
 - Skiing
 - Paddling
 - Snorkeling
- Wet recreation
- Camping
- Picnic
- Walk along River
- Back road drives along scenic River
- Aesthetic Value
- “The Great Escape” - Quiet beauty

What do you see as opportunities and strengths of the river?

- Tourism
- Trails

- Canoeing
- Water clarity
 - Low Turbidity, not much silt
- More non-power access
- Peddie Park – access
- Open canal at Lock House for fish ladder
- Put Infl. Dam on top of dam to increase pool depth
- Sculling at University
- Lack of Development – Regional Approach to Development
- Good Resource
 - Biking
 - Total marketing approach from Sunbury up
- Chance to change lack of Community Connection to River
 - Develop facilities
- Better information on recreational opportunities
- Publicize information on resources – ecotourism
- Use River for power
- Environmental Education
 - Develop Environmental Education Center

What are your concerns about the river?

- Possible overuse
- Possible lack of access due to private land
- Fish passage
- General Pollution problems
- Too much Publicity
- Water quality, lack of erosion control
- Must consider upstream resources in this plan
- Stormwater management & Erosion control
- Lack of respect of River by younger people
- Water quality - Local involvement in local watersheds
- Fish ladder

If you could do one thing to effect how the river is today, what would that be?

- Take the Levee out
- Stop mine acid & heavy metal drainage
- Fix water quality issues including non-point
- Don't overdevelop
- Remove all petroleum, pesticides & herbicides from River
- Let everyone have access to a pristine River

Summarize the three-(3) main points about your group's discussion.

1. Overall water quality
2. More passive Recreation opportunities (Hike, Bike, Paddle)
3. Enhance motorized use for local users

Jersey Shore-Jersey Shore Elementary

March 29, 2001

Group 1

What is your special place on the river? Is there something that you would like to share?

- Duboistown Boat Club
- Hepburn Dam Pool
- It's all special
- Three mile pool below Hepburn Street Dam to mouth of Loyalsock Creek
- Antes Creek
- Jersey Shore

How do you currently use the river, or what is your favorite thing about it?

- Power Boat (3)
- Swimming (4)
- Fishing (6)
- Canoes/Sailing
- Service Projects (scouts)
- Photography
- Scenic Hiawatha

What do you see as opportunities and strengths of the river?

- Scenic
Bring Communities back to River
- Scuba Diving
- Power boating
- Sail boating
- Sculling/Paddling
- Fishing good-could be great
- Could have places just to see the River

What are your concerns about the river?

- Water Quality – Sewage from upstream
- Take care of Fish Ladder
- Upstream areas putting trash in Rivers
- Where did “Virus” come from that killed fish last summer – find causes
- Clean up trash on banks of River (Tires)
- Lack of respect for River
- Bidelspocker Lots – Trash

- Flooding
- High-water events overflowing Municipal sewage plants
- Quality of Fishery – Habitat
 - Don't remove cribs – needed for habitat create Biodiversity/spawning areas
- Boating dangerous on weekends
- Developing too much access – River is already overcrowded
- Amiesite/paving (more runoff)

If you could do one thing to effect how the river is today, what would that be?

- Fix water quality
- Prevent future contamination from current industrial sites/landfills
- Have Riverbank zoning
- Deep pools back in the River
 - Especially below Hepburn Street Dam
- Take a powerboat from Northumberland to Williamsport to Lock Haven

Summarize the three-(3) main points about your group's discussion.

1. Improve water quality
2. More water depth
3. Reduce River Damage from River Frontage Lots

Jersey Shore-Jersey Shore Elementary

March 29, 2001

Group 2

What is your special place on the river? Is there something that you would like to share?

- Mouth of Pine Creek
- Whole River is a Jewel
- Williamsport to Muncy
- Water fowl/birds
 - Bird counts/observation
- Father & son trips
 - Lock Haven to Jersey Shore
- McElhattan/Woolrich crossroads
 - Duck habitat
 - Nice to have parking area and access here.
- Area at Island near Duboistown that has filled in area between bank and river
- Canoe races at Lock Haven
- Lock Haven to Avis
 - Problem with invasive species
- River is an asset

How do you currently use the river, or what is your favorite thing about it?

- Canoe (3)
- Fishing (4)
- Camping (3 1/2)
- Motor boating (3)
- Birding (4)
- Hunting (4)
- Flora (2)
- Swimming (3)

What do you see as opportunities and strengths of the river?

- Coordinated canoe access with rail trail parking area
- Return of quality
 - Return of Fish
 - Continue to improve
- Buffers
- Preserve farmland
 - Especially River bottom

- Beauty
- Wildlife & birding corridors (can lead to tourism)
- Wild rice should be re-introduced (Agnes '72 flood took out)
 - Wildlife value
 - Food
 - Habitat
- Re-Vegetation with native plants
- Vegetation in some areas/riparian buffer where it exists
- Industry has reduced dumping River is returning
- Return fish species that have been extirpated
- Fish and water fowl return
- Possibility for increased recreation & tourism
- Get people in/on the River
- Idea of Sylvan Dell Park & Trolley
- Work on improving tributaries
- Update systems (Sewage Treatment)
- Define areas for specific use
- Find alternate sewage treatment system

What are your concerns about the river?

- Power boats wakening canoes
- Debris/pollution
- Pine Creek Municipal Sewage Plant
- Crane Island in-fill above Woodward Township
- Invasive species impact
- Farming Practices
- Keep development out of floodplain
- Riparian buffers being removed
- More could be done to reduce pollution
- Are fish ladders, etc. in place?
- Siltation from feeder streams
- Public access
- Pollution
 - Industrial
 - Sewage Plants
- Farm run-off
 - Pesticides
 - Herbicides
 - Fertilizers
- Avis sewer plant
- Access
- Sewage Treatment Plants & cesspools
- Clean it up (It's come a long way)

- Update sewage filtration systems
- Growth of River lots “Recreation Slums”
 - Access to few
 - Pollution
- User conflicts
- Safety issues
 - Limit uses to specific areas

If you could do one thing to effect how the river is today, what would that be?

- Remove all pollution
- Remove River lots
- River lots more closely regulated
- Landowner compliance with regulations
- Master plan for River
 - Put thought into it
- Return native plants & animals
- Increase public access
- Areas for canoe access only and specific use areas
 - Trollelmotors okay in this area
- Partnerships
 - Public Agencies
 - Private Landowners
 - Conservation/ Service Group
- Eliminate ridge top development
- Residents appreciate what they have

Summarize the three-(3) main points about your group’s discussion.

1. Pollution
2. Flora & Fauna
 - Improve habitat
 - Increase/return native species
3. Access/uses of River

Jersey Shore-Jersey Shore Elementary

March 29, 2001

Group 3

What is your special place on the river? Is there something that you would like to share?

- Kayaking below Williamsport Dam (Loyalsock Dam to Creek)
- Near Big Run
- Near Antes Creek; area near Nippennose Park (old park)
- Pine Creek to Jersey Shore
- Mouth of Pine Creek
- Below Market Street Bridge on South Side
- No wake zone area

How do you currently use the river, or what is your favorite thing about it?

- Canoe (6)
- Fishing (2)
- Motor boating (3)
- Sail boat (10)
- Walking
- Swimming (6)
- S.C.U.B.A.
- Duck Hunting (2)
- Viewing
- Birdwatcher (2)
- Stress relief

What do you see as opportunities and strengths of the river?

- More Canoe & kayak racing
- Floating stage (Lock Haven example)
- Boardwalk/riverwalk
- More dining on River
- Convention Center
- Tourism/Economic Draw
- Whitewater Training Area that doubles as fish ladder at Lock Haven Dam
Example: Southbend, IN
- Potential energy source
- Swimming areas/Public picnic area
- "Boats Only" access area
- Enhance viewshed by planting trees, etc.

What are your concerns about the river?

- Leaking sewer lines
- Water quality
- Point source pollution
- Leaking gas line above Loyalsock
- Runoff into Antes Creek affecting fish population
- Decreased trout population
- Pollution from Jersey Shore Steel
- More education/awareness
- Geese
- Using sinking holes for construction waste, etc.
- Tributary problems
- Sewage discharge from sewage plants

If you could do one thing to effect how the river is today, what would that be?

- Locks in so you can boat
- Cancel #1 Lockout so you can boat
- Clean it up
- Drink River water without worries
- Recreation club for adolescents to enjoy River
- No wake zone from Loyalsock boat ramp to Muncy

Summarize the three-(3) main points about your group's discussion.

1. Clean it up/Improve water quality
2. Improve recreation
3. Better Dam construction
Fishways, ladders, etc.
4. Economic Development (I-99)

Jersey Shore-Jersey Shore Elementary

March 29, 2001

Group 4

What is your special place on the river? Is there something that you would like to share?

- Antes Creek
- Entire basin
- Jersey Shore Bridge
- Anywhere at anytime
- Around Fort Antes
- Lock Haven to Jersey Shore
Where Pine Creek comes in
- North Side at Veterans Memorial Bridge

How do you currently use the river, or what is your favorite thing about it?

- Canoeing
- Kayaking
- Fishing
- Snorkeling
- Hunting
- Scuba
- Connecting with nature
- Prospecting
- Swimming
- Fanny Float
- Biking
- Hiking
- Photography
- Picnic
- Inline Skating
- Boating (Regatta)
- Bird Watching

What do you see as opportunities and strengths of the river?

- Getting the recognition that it needs help
- A public awareness
- Opportunities for public access
- Have a natural resource we can improve on
- Recreation
- Is heritage of area

- Opportunity to do testing on pollution problems so we can create a cleaner River
- Management of what enters the River

What are your concerns about the river?

- Jet Skis
- Sedimentation
- Removing natural structures in River
- Inability of organization to work together using the same guidelines
Lack of enforcement/manpower
- Lack of education

If you could do one thing to effect how the river is today, what would that be?

- Habitat improvement
- Improve water quality
- Control development
- Make bridges that fit river better, can see River

Summarize the three-(3) main points about your group's discussion.

1. Water quality improvement
2. Habitat improvement
3. Education