

The Pennsylvania Rivers Conservation Program

Sinnemahoning Creek Watershed Conservation Plan

Draft November 2009

Prepared for:

Sinnemahoning Creek Watershed Community

Prepared by:

Western Pennsylvania Conservancy



Western Pennsylvania Conservancy
Watershed Conservation Program
246 South Walnut Street
Blairsville, PA 15717



This project financed in part by a grant from the Community Conservation Partnerships Program under the administration of the Department of Conservation and Natural Resources, Bureau of Recreation and Conservation.

TABLE OF CONTENTS

	Page
Title Page	i
Introduction Materials	iii
Table of Contents	iii
List of Tables	vii
List of Figures	ix
Acknowledgements	xi
Acronyms	xiii
Watershed Definition	xv
Executive Summary	ES-1
Project Background.....	ES-1
Report Summary	ES-2
Project Area Characteristics	ES-2
Land Resources	ES-2
Water Resources	ES-3
Biological Resources	ES-3
Cultural Resources	ES-4
Issues and Concerns	ES-4
Management Recommendations	ES-5
Project Area Characteristics	1-1
Project Area	1-1
Location	1-1
Size	1-1
Climate	1-2
Topography	1-2
Major Tributaries	1-3
Air Quality	1-3
Atmospheric Deposition	1-4
Critical Pollutants	1-4
Mercury	1-6
Impacts of Air Pollution	1-7
Socioeconomic Profile	1-7
Land Use Planning and Regulation	1-7
Demographics and Population Patterns	1-10
Infrastructure	1-12
Transportation and Safety	1-14
Economy and Employment	1-16
Education.....	1-20

	Page
Land Resources	2-1
Geology	2-1
Soil Characteristics	2-2
Soil Associations	2-2
Prime Agricultural Soils	2-4
Farmland of Statewide Importance	2-4
Agricultural Land Preservation	2-5
Agricultural Security Areas	2-6
Clean and Green Program	2-6
Conservation Reserve Enhancement Program	2-6
Land Use	2-6
Forestry	2-7
Agriculture	2-9
Oil and Gas Exploration	2-9
Mining.....	2-10
Development Pressure	2-12
Land Ownership	2-12
Critical Areas	2-12
Landslides	2-13
Subsidence Areas	2-13
Erosion and Sedimentation	2-14
Fish and Wildlife Habitat	2-15
Wind Energy	2-16
Hazardous Areas	2-16
Comprehensive Environmental Response Compensation and Liability Act	2-16
Resource Conservation Recovery Act	2-17
Illegal Dumpsite	2-17
Auto Salvage Yards	2-18
Landfills	2-19
Brownfields	2-20
Water Resources	3-1
Location	3-1
Drainage	3-1
Watershed Address	3-1
Major Tributaries	3-2
Bennett Branch	3-2
Driftwood	3-2
First Fork	3-2
Sinnemahoning Creek	3-3
Hydrology	3-3
Hydrologic Cycle	3-3

	Page
Watershed Components	3-4
Groundwater	3-4
Surface Water	3-5
Wetlands	3-6
Floodplains	3-8
Riparian Areas	3-9
Stormwater	3-11
Dams	3-12
Water Quality	3-13
Water Quality Designations	3-13
Water Quality Monitoring	3-15
Pollution Sources	3-15
Major Sources of Impairment	3-16
Best Management Practices	3-21
Impaired Waterbodies	3-26
Water Quality Trading	3-27
Water Quantity	3-28
Pennsylvania State Water Plan	3-28
Watershed Protection Laws	3-30
Clean Water Act	3-30
NPDES	3-30
Nutrient Management Program	3-31
Pennsylvania Sewage Facility Act	3-31
Abandoned Mine Drainage Legislation	3-32
Biological Resources	4-1
Natural Setting.....	4-1
Ecoregion Characteristics.....	4-1
Natural Habitats.....	4-2
Wildlife.....	4-7
Birds.....	4-8
Amphibians.....	4-9
Reptiles.....	4-9
Mammals.....	4-10
Freshwater Fish and Mussels.....	4-12
Species of Special Concern.....	4-12
Conservation Areas.....	4-13
Natural Heritage Areas.....	4-13
Important Bird Areas.....	4-16
Important Mammal Areas.....	4-16
Invasive Species.....	4-16
Plants.....	4-17
Animals.....	4-19

	Page
Cultural Resources	5-1
Recreation	5-1
Recreational Opportunities	5-2
Winter Recreational Opportunities	5-12
Annual Events	5-12
Local Attractions	5-14
Artisans	5-14
Environmental Education	5-15
Pennsylvania Department of Conservation and Natural Resources	5-15
Pennsylvania Department of Environmental Protection	5-16
Pennsylvania Fish and Boat Commission	5-16
Pennsylvania Game Commission	5-16
Schools	5-16
Envirothons.....	5-16
County Conservation Districts	5-17
Penn State Cooperative Extensions	5-17
PA CleanWays	5-17
Clearfield County Solid Waste Authority	5-17
Historical Resources	5-17
Historical Overview	5-17
Historical Sites, Structures, and Districts	5-22
Issues and Concerns	6-1
Meeting Summaries	6-1
Initial Meetings	6-1
Advisory Committees	6-1
Student Workshops	6-1
Draft Presentation	6-2
Surveys and Interviews	6-2
Issues and Concerns	6-2
Water Resources	6-2
Infrastructure	6-4
Employment	6-4
Recreation	6-4
Invasive Species/Biodiversity	6-6
Public Meeting Results	6-6
Protection	6-7
Improvements and Future Vision	6-9
Survey Results	6-13
Public Survey Results	6-16
Municipal Survey Results	6-24
Interview Results	6-30
High School Workshops	6-37

	Page
Management Recommendations	7-1
Project Area Characteristics	7-2
Land Resources	7-6
Water Resources	7-10
Biological Resources	7-17
Cultural Resources	7-23
Education and Funding.....	7-28
References	8-1
Appendices	
A. Glossary	
B. Planning Committees	
C. Agricultural Soils	
D. Mining Permits	
E. Resource Conservation and Recovery Act	
F. National Pollutant Discharge Elimination System	
G. Waterway Designations	
H. Impaired Waters	
I. Fish and Wildlife Species	
J. Species of Concern	
K. Recreational Resources	
L. Interview and Survey Questions	
M. Focus Group Meeting Results	
N. Public Comments	
O. Potential Funding Sources	
P. Useful Websites	
Q. Resource Guide	

LIST OF TABLES

Chapter 1	Project Area Characteristics	Page
Table 1-1	Watershed Municipalities	1-2
Table 1-2	Land Use Ordinances	1-8
Table 1-3	Population and Population Change	1-11
Table 1-4	Population by Sex and Age	1-12
Table 1-5	Public Sewage Systems	1-13
Table 1-6	Public Water Systems	1-14
Table 1-7	Economic Comparison	1-16
Table 1-8	Major Employers	1-16
Table 1-9	Breakdown of Employment by Industry	1-18
Table 1-10	School Districts	1-19
Chapter 2	Land Resources	Page
Table 2-1	Soil Associations	2-3
Table 2-2	Current Land Use	2-7
Table 2-3	Wells Drilled in Watershed Municipalities	2-9
Table 2-4	Abandoned Mine Land Reclamation Efforts	2-12
Table 2-5	Illegal Dumpsites	2-18
Table 2-6	Brownfield Sites	2-20
Chapter 3	Water Resources	Page
Table 3-1	Major Tributaries	3-3
Table 3-2	Municipal Floodplain Ordinances	3-8
Table 3-3	Public Sewage Facilities	3-17
Table 3-4	Development and Stormwater Best Management Practices	3-24
Table 3-5	Sinnemahoning Dirt and Gravel Road Count Allocations 2009-2010	3-26
Table 3-6	Water Uses	3-29
Chapter 4	Biological Resources	Page
Table 4-1	Top 10 Most Popular Recreation Activities in DCNR Region 8	4-8
Table 4-2	Amphibians	4-9
Table 4-3	Reptiles	4-9
Table 4-4	Significance Rankings for BDAs	4-13
Table 4-5	Biological Diversity Areas	4-14
Table 4-6	Noxious Weeds of Pennsylvania	4-18

Chapter 5	Cultural Resources	Page
Table 5-1	Hunting Licenses Sold	5-9
Table 5-2	Envirothon Results	5-16
Table 5-3	Civilian Conservation Corps Camps	5-20

Chapter 6	Issues and Concerns	Page
Table 6-1	Top Ranked Comments From Public Meetings	6-7
Table 6-2	Public Comments on Protecting Watershed Resources	6-8
Table 6-3	Public Comments on Future Watershed Improvements	6-9

Chapter 7	Management Recommendations	Page
Table 7-1	Acronyms Used in Management Recommendation Matrix	7-1

LIST OF FIGURES

Chapter 1	Project Area Characteristics
Figure 1-1	Sinnemahoning Creek Watershed
Figure 1-2	Topography
Figure 1-3	Land Use Ordinances
Figure 1-4	Population by Census Block (2000)
Figure 1-5	Population Change by Census Block Group (1990-2000)
Figure 1-6	Wastewater Treatment
Figure 1-7	Public Water Supplies
Figure 1-8	Transportation
Figure 1-9	Method of Transportation
Figure 1-10	Safety Features
Figure 1-11	Work Locations
Figure 1-12	Time Travel to Work Comparison (1990-2000)
Chapter 2	Land Resources
Figure 2-1	Surface Geology
Figure 2-2	Agricultural Soils
Figure 2-3	Land Use
Figure 2-4	Resources Extraction
Figure 2-5	Managed Lands
Figure 2-6	Environmentally Sensitive Areas
Chapter 3	Water Resources
Figure 3-1	Major Tributaries
Figure 3-2	Bennett Branch Subwatershed
Figure 3-3	Driftwood Branch Subwatershed
Figure 3-4	First Fork Subwatershed
Figure 3-5	Sinnemahoning Creek Mainstem
Figure 3-6	Wetlands and Hydric Soils
Figure 3-7	Impaired Water
Chapter 4	Biological Resources
Figure 4-1	Biological Diversity Areas
Figure 4-2	Pennsylvania Elk

Chapter 5

Cultural Resources

Figure 5-1	Recreational Facilities
Figure 5-2	Fishing Opportunities
Figure 5-3	Snowmobiling Opportunities
Figure 5-4	Wildlife Viewing Area
Figure 5-5	Local Attractions and Historical Sites

ACKNOWLEDGEMENTS

A sincere acknowledgement and thank-you goes out to all the organizations, agencies, and individuals who dedicated their time and resources to make this project a success. A special thank you goes to John Sidelinger for donating one of his paintings for the cover design and survey raffle. Our apologies to anyone inadvertently omitted.

Sinnemahoning Creek Watershed Conservation Plan Steering Committee

Lisa Baaney	Steve Fisanick	Kim McCullough	Ken Straub
Eric Cavazza	Jack Fleckenstein	Bob Merrill	Jeanne Wambaugh
Bill Crisp	Jackie Flynn	Richard Nikka	Jim Zoschg
R. Dana Crisp	Beth Grove	Ken Rowe	
Todd Deluccia	Harry Harrison	Shirley Sholtis	
Jason Fellon	Kim Lanich	John Sidelinger	

Sinnemahoning Creek Watershed Conservation Plan Advisory Committees

Kirk Baaney	Kirt Colkitt	Joseph Hummer	Matthew Quesenberry, Sr.
Kevin Bauer	Douglas D'Amoer	Bob Imhoff	Donald Reed
Fred Berry	Michele DePhilip	Daryl Jackson	Eric Rensel
Dr. Colson Blakeslee	Charlotte Dietrich	Theodore Krellner	Dr. Peter Ryan
Jodi Brennan	Erin Dunleavy	Paul Lilja	Colleen Shannon
David Brooks	Wes Fahringer	Tina Lorson	Todd Sparks
Phil Burhouse	Sandy Fink Barrett	Elisabeth Lynch-McCoy	Steve VanEerden
Bill Callahan	Kelly Flaherty	Matt Marusiak	Michael Wennin
Renee Carey	Jane Hearick	Heather McKean	
Don Chiappelli	Don Hegberg	Anne Mullhollan	
Tom Clark	Tim Horner	Joe Parr	

Sinnemahoning Creek Watershed Conservation Key Individual Interviews

Jodi Brennan	Todd Deluccia	Roy Magarigal	John Wallace
Don Chiappelli	Nelson Haas	Matt Marusiak	Jim Zoschg
Tom Clark	Stan Hastings	Becki Obleski	

Other Organizations and Individuals

Austin Fire Company	Cameron County Historical Society
Austin School District	Cameron County Planning Commission
Austin Historical Society	Clearfield County Department of Planning
Barbara Moscato Brown Memorial Library	Clearfield County Recreation and Tourism Authority
Bennett Branch Watershed Association	Clinton County Conservation District
Black Forest Conservation Association	Clinton County Planning Commission
Bucktail Watershed Association	Elk County Conservation District
Cameron County Chamber of Commerce	Elk County Planning Department
Cameron County Conservation District	First Fork Watershed Association

Other Organizations and Individuals

God's Country Trout Unlimited	Pa Fish and Boat Commission
Hancock Timber Resource Group	Pa Game Commission
McKean Conservation District	Pa Historical and Museum Commission
Northcentral Pa Conservancy	Pa Lumber Heritage Region
Northcentral Planning Commission	Potter County Conservation District
Northwestern Pa Outdoors Visitor's Bureau	Potter County Planning Commission
Parker Dam State Park	Potter County Visitors Association
Penn State DuBois Eco Club	Saint Josephs Church, Penfield
Pa Wilds Planning Team	Sinnemahoning Sportsmen's Club
Pa Department of Conservation and Natural Resources	Sinnemahoning State Park
Pa Department of Environmental Protection (DEP)	St. Marys Sportsmen's Club
DEP Bureau of Abandoned Mine Reclamation	Susquehanna Greenway Partnership West Branch Region
Pa Elk Range Adventures	Susquehanna River Basin Commission
	The Nature Conservancy

ACRONYMS

ACB	Alliance for the Chesapeake Bay
ACC	Aquatic Community Classification
AMD	Abandoned Mine Drainage
AMR	Abandoned Mine Reclamation
APHIS	Animal and Plant Health Inspection Service
AQI	Air Quality Index
ASA	Agricultural Security Areas
ATV	All Terrain Vehicles
BAT	Brownfield Action Team
BBWA	Bennett Branch Watershed Association
BWA	Bucktail Watershed Association
BDA	Biological Diversity Area
BMP	Best Management Practices
CAFO	Concentrated Animal Feeding Operation
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CREP	Conservation Reserve Enhancement Program
CSO	Combined Sewage Overflow
CWA	Clean Water Act
CWF	Cold Water Fishery
DA	Dedicated Areas
DCNR	Department of Conservation and Natural Resources
DEP	Department of Environmental Protection
DMAP	Deer Management Assistance Program
EAB	Emerald Ash Borer
EPA	Environmental Protection Agency
EQB	Environmental Quality Board
EV	Exceptional Value
FEMA	Federal Emergency Management Agency
FFWA	First Fork Watershed Association
GFCC	Government Financed Construction Contract
HQ	High Quality
HUC	Hydrologic Unit Code
IBA	Important Bird Area
IMAP	Important Mammal Area
IPM	Integrated Pest Management
KARE	Keystone Aquatic Resource Education
LCA	Landscape Conservation Area
MF	Migratory Fishes
MSWLF	Municipal Solid Waste Landfills
NFIP	National Flood Insurance Program

NISIC	National Invasive Species Information Center
NHI	Natural Heritage Inventories
NOMA	Nutrient and Odor Management Act
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Pollutant List
NRCS	Natural Resource Conservation Service
OLDS	On-lot Disposal Systems
PASS	Pennsylvania Archaeological Site Survey
PDA	Pennsylvania Department of Agriculture
PDE	Pennsylvania Department of Education
PEC	Pennsylvania Environmental Council
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission
PNHP	Pennsylvania Natural Heritage Program
POWR	Pennsylvania Organization for Watersheds and Rivers
RCRA	Resource Conservation Recovery Act
SAC	Sewage Advisory Council
SARA	Superfund Amendments and Reauthorization Act
SEO	Sewage Enforcement Officer
SFHA	Special Flood Hazard Areas
SMCRA	Surface Mine Conservation Recovery Act
TMDL	Total Maximum Daily Loads
TSF	Trout Stocked Fishery
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WPC	Western Pennsylvania Conservancy
WWF	Warm Water Fishery

WATERSHED DEFINITION

A watershed is an area of land that drains to a common waterway, such as a stream, lake, wetland, aquifer, or ocean. Each waterbody has its own watershed; some are small, such as Sinnemahoning Creek and other are larger, such as Susquehanna River. The highest elevation surround the waterbody defines its watershed boundary. A drop of water falling outside the boundary will drain to another watershed.

Land uses and human influences can impact the quality of the watershed. Everyone lives in a watershed and “We all live downstream.” Local impacts on the waterbody affect the quality of the watershed downstream, just as impacts upstream affect the local quality of the watershed.

