



FRIENDS OF WHITE'S WOODS

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White's Woods Nature Center: Current Value & Future Care



SOME OF THE BIRDS & RAPTORS
WHO LIVE IN WHITE'S WOODS



Table of Contents

PUBLIC-ACCESS WOODLANDS NEAR WHITE TOWNSHIP/INDIANA, PA	1
White’s Woods Nature Center: A Brief History	1
White’s Woods Nature Center: Purposes	3
Project 70 Land Acquisition and Borrowing Act: Background	3
DCNR- Purposes of Forests; FWW- Brief Survey Overview	3
WHITE’S WOODS NATURE CENTER: IMPORTANT FACTS	4
WHITE’S WOODS NATURE CENTER: MANAGEMENT OPERATING PRINCIPLES	4
SUGGESTIONS FOR GOALS & OBJECTIVES TO SECURE THE FUTURE OF THE WWNC	5
I. Promote Recreation for All	5
DCNR Statewide Outdoor Comprehensive Recreation Plan: 2020-2021	5
*Specific Objectives: WWNC Outdoor Recreation for All.....	6
II. Support DCNR Efforts to Mitigate Climate Change and to Protect the Indiana Region ..	7
DCNR 2018 Climate Change Adaptation and Mitigation Plan	7
Climate Change Impact on Pennsylvania.....	8
*Specific Objectives: Support for DCNR Climate Mitigation and Adaptation Plan.....	9
Climate Change: Why it matters	10
III. Support the WWNC as a Steady Revenue Source - By Leaving the Woods Intact	11
Estimated Annual Payment; Explanation of Carbon Sequestration	11
WWNC <i>i-Tree Analysis</i> : Davey Tree Experts	12
Elizabeth Township Forest Carbon Sequestration Contract.....	13
*Specific Objectives: WWNC - A Steady Revenue Source	14
IV. Protect the WWNC for Future Generations	15
Cannot Reduce Recreation Opportunities.....	15
Wild Areas & Older Growth Pennsylvania Forest	15
The Need for Data: PA Endangered & Vulnerable Species	16
Native and Invasive Plant Species.....	16
*Specific Objectives: Preserving the WWNC for Future Generations	17
Conclusion.....	18

White’s Woods Nature Center: Some Resident Mammals & Reptiles 19

Acknowledgements..... 20

Assembled List of FWW Specific Objectives for Management of the WWNC..... 21

WWNC Trail Map 25

Pennsylvania Environmental Law 26

APPENDICES (See separate binder.)

APPENDIX A: Native & Invasive Plant Species in the WWNC: Maps & Strategies (Dr. Sara Kuebbing and Dr. Marion Holmes, University of Pittsburgh Invasive Plant Laboratory)

APPENDIX B: Consulting Forester Evaluation of White’s Woods (Mike Wolf, Appalachian Forestry Consultants)

APPENDIX C: List of Friends of White’s Woods 2020-2021 Public (Virtual) Webinars

APPENDIX D: Pennsylvania Wildlife Action Plan: Species of Concern

APPENDIX E: Recreational Opportunity Classification; Maps of PA Public Forests

APPENDIX F: FWW 2020 Survey of WWNC recreational users

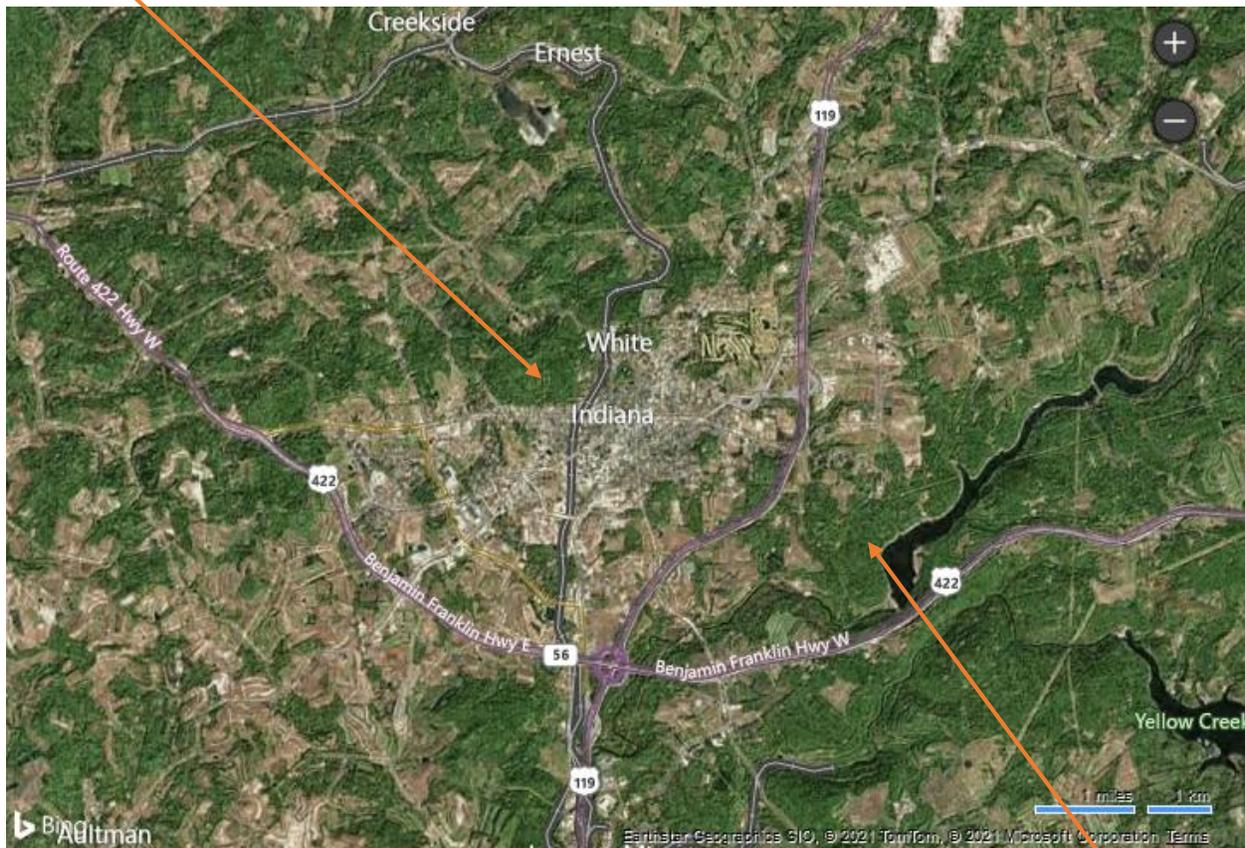
APPENDIX G: WWNC Trail Map

APPENDIX H: Assembled List of FWW Specific Objectives for Management of the WWNC



PUBLIC-ACCESS WOODLANDS NEAR WHITE TOWNSHIP/INDIANA

White's Woods Nature Center (250 acres) + IUP COOP (250 acres)



PA State Game Lands;
Penelec/Two Lick Lake
(Lake -Private access only)

White's Woods Nature Center: Brief History

In September 1938, an article about White's Woods appeared in the *Indiana Gazette*, titled "White's Woods—A Public Park." The first two paragraphs of the article read:

"White's Woods, that beautiful timber tract on the northwestern edge of Indiana, has become as much a part of Indiana as the Indiana Courthouse or the State Teachers College.

The woods hold a warm spot in the hearts of thousands of Indianans who found them a playground during earlier years and who have watched them as a natural calendar, pleasantly announcing through the months the swiftly changing seasons."

In 1965, The Indiana Recreation Board -- a joint venture of the Indiana Borough, White Township, and the Indiana Area School Board - - developed a far-sighted master recreation plan for White Township and Indiana Borough, an area that now hosts a population of about 27,000 full-time residents, along with an additional 10,000 Indiana University of Pennsylvania students who reside in the community during two-thirds of an average year.



This master recreation plan aimed to develop a regional park system so as to provide a full array of recreational opportunities for Indiana regional residents and to match the accepted standard of recreational land per resident served, a task impossible for the Indiana Borough to achieve on its own, given the relative absence of available vacant land within the Borough's geographical boundaries.

Beginning in 1965, this Board also spearheaded an application for Pennsylvania state tax-payer monies to be used for the purchase of land for "recreation, conservation, and historical purposes," (Pennsylvania Project 70 Land Acquisition and Borrowing Act), to include a natural area regional park.

In 1970, the Project 70 application for the 250-acre White's Woods Nature Center (WWNC) was approved. This state tax-payer funded area was designated to remain "largely in its

natural state" for hiking and other forms of "passive recreation." White Township is identified on the two WWNC property deeds as the land owner. Both WWNC deeds specify, as required by law, that "this indenture is given to provide land for recreation, conservation and historical purposes, as said purposes are defined in the "Project 70 Land Acquisition and Borrowing Act," approved June 22, 1964, P.L. 131."

Project 70 lands are overseen by the DCNR Bureau of Recreation and Conservation.

Recent studies suggest that small towns can enhance their economic future in some important ways, including identifying and building on natural assets such as natural beauty and recreational opportunities.

It is also of note that, according to DCNR's 2020-2024 Strategic Plan, *Recreation for All*, "Truly wild, undeveloped places [accessible to the public] are in very short supply in Pennsylvania and therefore extremely valuable."



Thanks to the foresight of 1965 Indiana regional planners and 1960s-era Pennsylvania state legislation, we have one of those few extremely valuable wild places in the White's Woods Nature Center.

Our task is to protect it for future generations --and for the future of the Indiana community.

WHITE'S WOODS NATURE CENTER: PURPOSES



Project 70 Land Acquisition and Borrowing Act Background: The impetus for this Act derived from Pennsylvania legislative recognition that “[t]he provision of public lands for recreation and the conservation of natural and historical resources promotes the public health, prosperity, and general welfare.”

Legislators also understood that the rapid growth of population in Pennsylvania required the acquisition of public lands for recreation and conservation before they were lost forever to development or became prohibitively expensive. Securing such land was viewed as particularly necessary in counties where public lands comprised less than ten percent of the total land area or where there is/was an urban area of more than 25,000 persons.

DCNR’s Bureau of Forestry: The value of forests. Bureau of Forestry director Matt

Keefe has noted that our public forests provide such things as clean water, recreation and tourism, plant and animal habitat, peace and solitude, scenic and aesthetic beauty, carbon sequestration, and human health benefits.

FWW’s own survey affirms that WWNC users treasure this park for the wide range of outdoor activities as well as the spiritual sanctuary it provides.



White's Woods Nature Center: Important Facts

- WWNC trails are a ten-minute walk away for 10,000 permanent White Township and Indiana residents and another 10,000 IUP students - fulfilling a key DCNR strategic recreation-access goal.
- As many as a dozen birds (or more) listed as "species of special concern" live or migrate through the WWNC.
- At least one species of salamander, as well as the Eastern box turtle, have been documented in the WWNC. Both are listed by DCNR as "species of special concern."
- DCNR has confirmed that WWNC is within the range of the Federally-endangered Indiana bat and Federally-threatened Northern long-eared bat.
- Three vulnerable plant species have been identified in the WWNC by the Pennsylvania Natural Heritage Program.
- WWNC absorbs over 1,100 tons of carbon annually and currently sequesters nearly 28,000 tons.
- WWNC absorbs over 207,000 gallons of stormwater annually.
- WWNC is a community forest that hosts hundreds of humans per week.

WWNC Future Care: Management Operating Principles

- Maximize the promise of the Pennsylvania Land Acquisition and Borrowing Act (Project 70) and keep that promise for future generations.
- Strive to keep the WWNC revenue-neutral by taking advantage of available carbon sequestration projects and securing DCNR partner grants for management plan development and execution.
- Recognize this community forest as a natural area park, significantly funded by state taxpayers' dollars, for the Indiana region.
- Maximize public input in every stage of the management plan process as detailed in DCNR's Public Input Guide, including development of plan goals, objectives, and plan execution.
- Rely as much as possible on volunteer involvement in plan execution.
- Rely on minimally disruptive management processes.
- Recognize the ongoing threat of climate change and urgent need for climate mitigation in all WWNC management decisions.
- Support DCNR state-wide initiatives regarding recreation, climate mitigation, and the necessity of protecting older-growth forests.
- Increase use of WWNC by diverse populations through collaborative on-site programming and by improving access via bike trails and public transportation.
- Rely on the best available science as well as publicly-funded (DCNR and university-based) expertise.

SUGGESTIONS FOR GOALS AND OBJECTIVES TO SECURE THE FUTURE OF WWNC

After months of working with consultants in forestry, forest ecology, invasive plant biology, stormwater management, invasive plant management, climate change, forest songbird habitat, forest carbon sequestration, along with reading numerous DCNR reports and DCNR management plans approved for other Project 70 lands, Friends of White's Woods is poised to offer both a list of ideal goals and supporting data for long-term protection of the White's Woods Nature Center. All goals must be reviewed by the public and modified appropriately. (See Appendix C for the list of Friends of White's Woods 2020-2021 webinars.)

I. Promote Recreation for All

DCNR's *Statewide Comprehensive Outdoor Recreation Plan: Recreation for All 2020-2024* indicates that one of the biggest challenges for preserving outdoor recreation opportunities for Pennsylvanians is that of preserving and maintaining the existing local parks that we have!

This DCNR strategic plan also reports extensive data about how parks are used now and how they are likely to be used in the future:

- Pennsylvanians' favorite outdoor recreation activities are (by far) walking, running and hiking. Not far down the list is birdwatching and bicycling. All are activities available and vigorously pursued in the WWNC!
- We will need more outdoor recreation opportunities for adults, including older adults. The Pennsylvania population is aging. "By 2035, people over 65 will outnumber children in the U.S. for the first time."
- We need better access. Indiana County and Indiana Borough are "environmental justice" communities, with more than 20 percent of citizens living in poverty. Everyone needs access to the mental and physical health benefits derived from time spent in nature.
- We need to emphasize the role of outdoor recreation in mental and physical health care, both to improve good individual health and reduce health care costs. Outdoor recreation significantly helps to mitigate stress, anxiety, and depression and dramatically improve general fitness. (In 2018, almost two-thirds of Pennsylvania adults were considered overweight or obese.) Outdoor recreation is one of our most potent avenues for preemptive health care!
- Pennsylvanians want more trails. The state-wide goal: Every citizen should be within a 10-minute walk of a trail!

DCNR's *Statewide Comprehensive Outdoor Recreation Plan: Recreation for All 2020-2024* notes that it is up to "local partners" to help achieve these goals. And DCNR offers training and financial support to help do so.

Specific Objectives: Outdoor Recreation for All

- a. **Preserve the community forest park that we have!**
- b. **Preserve maximum canopy coverage so that the woods remain accessible in hotter weather.**
 - The March 23, 2021 DCNR Bureau of Forestry review of the rejected White Township draft stewardship plan noted that “The proposed harvest on White’s Woods could significantly alter recreation values, noticeably reducing overhead shade provided by a closed canopy and overall aesthetics.” (p.3)
 - Temperature difference between shaded and non-shaded ground can be as much as 36 degrees Fahrenheit, based on some studies (Lenart, 2019). Heating differences occur as a result of a hot sun on the surface of the skin as well as the atmospheric temperature.
- c. **Schedule multiple, seasonal recreation and education activities to bring citizens of the Indiana region into the WWNC:**
 - Develop a “big tree” tree-identification (type, size, age) loop walk.
 - Develop a native plant species loop walk (by season).
 - Host an annual Garlic Mustard Festival (which will help to get people in the woods and invasive plants out).
 - Host semi-annual educational medicinal plant and plant identification walks.
 - Host artist events in the woods: photography, painting (See FWW website).
 - Host annual nature-identification scavenger hunts for kids.
 - Encourage winter events by scheduling hiking and cross-county ski events to identify winter animal & avian species in the WWNC.
 - Develop a “history loop” to celebrate notable environmentalists, including Indiana, PA native Edward Abbey and former Native American stewards.
 - Develop a network of bike trails to the WWNC 12th Street Entrance, providing access from each direction (including IUP) to help serve a broader population.
 - Provide bicycle parking at the 12th Street entrance parking lot.
 - Provide educational signage regarding at-risk and vulnerable species.
 - Host environmental education sessions (for children and adults).
 - Encourage reporting of plant, animal, and bird species through *ebird* and *inaturalist*.
 - Update WWNC trail maps.
 - Support the creation of an Indiana-region greenways plan.

II. SUPPORT DCNR EFFORTS TO MITIGATE CLIMATE CHANGE AND HELP TO PROTECT THE INDIANA REGION.

DCNR 2018 Climate Change Adaptation and Mitigation Plan

DCNR's Position statement: Climate change is real and is impacting the commonwealth's ecological and recreational resources.

The most serious effects are yet to come: While climate change impacts are already being felt in Pennsylvania, the most serious effects are yet to come. Integrating climate change into decision-making processes will ensure that our state parks, forests, infrastructure, and DCNR's core functions are resilient to climate change.

Carbon sequestration: Forest ecosystems play a critical role in the global carbon cycle and offset a significant portion of U.S. annual greenhouse gas emissions. The capacity of forest eco-systems to absorb and sequester carbon depends in large part on their health, productivity, resilience, and ability to adapt to changing conditions. The Bureau of Forestry can increase forest carbon sequestration through forest management and afforestation.

Some of the 123 DCNR actions planned: **Preserve forests, collect data, protect, & conserve.**

- **Incorporate climate change considerations into grant selection criteria**, stewardship plans, infrastructure planning, and landscape-level projects and programs.
- **Integrate climate change into all bureau plans** (i.e., forest district plans, State Forest Resource Management Plan, state park management plans, etc.) by identifying climate vulnerabilities and incorporating adaptation strategies.
- **Pursue a policy of no-net-loss of forest cover** and work to increase forest carbon stocks by increasing forest acreage.
- **Increase forest carbon sequestration** across the landscape by promoting suitable species and using forest management techniques to promote forest growth and increase stocking levels when possible.
- **Integrate observations of phenological changes** (i.e. arrival of migratory birds, nesting dates, etc.) with predictive models to help inform conservation planning.
- **Retain biological legacies** such as old or rare trees, disease-resistant survivors, and unique natural communities.
- **Identify plant and animal species** in Pennsylvania that are most at risk from climate change based on analyses using the Climate Change Vulnerability Index.
- **Review and expand monitoring** to ensure that changes in natural communities, species distribution, and populations are detected.
- **Identify and conserve species**, natural communities, and unique sites at risk from climate change.
- **Utilize technologies** and best management practices that **decrease stormwater runoff**.
- **Plan for a longer recreation season** which will result in increased visitor impact on natural resources and increased stress on ecosystem components.

Climate Change Impact on Pennsylvania

Pennsylvania Department of Environmental Protection*

- **Humans are significantly increasing the amount of greenhouse gases (GHG)** in the atmosphere and ocean.
- **These heat-trapping gases are heating Earth** at an accelerated rate and will continue to do so for decades.
- **Clearing of forests (GHG sinks) increases** concentrations of these gases.
- **Forests act as critical carbon sinks that absorb carbon** from the atmosphere and significantly reduce Pennsylvania's emissions.
- **Of that total amount of GHG emissions**, Pennsylvania's forests and urban trees absorb nearly 11 percent. This helps reduce the amount of emissions entering the atmosphere and Pennsylvania's contribution to climate change.
- **The rate of warming** appears to be increasing as 17 out of 18 of the warmest years ever recorded have occurred since 2001.
- **Temperatures in Pennsylvania increased 1.8F** in the last century and are expected to warm another 5.9F by 2050.
- **Winter temperatures have risen even faster**, increasing 1.3° F per decade from 1970 to 2000 in the northeastern U.S.
- **Between 1958 and 2010, the Northeast U.S. saw** more than a *70 percent increase* in very heavy rain events.
- **Precipitation is expected to increase** another 8 percent by 2050.
- **PennDOT has experienced record breaking** impacts from floods and landslides that have cost over \$125.7 million extra for infrastructure replacement in 2018 alone.
- **Farmers are already experiencing** consequences of climate change such as direct crop damage from increasingly intense precipitation events.
- **Heat stress** may lead to declines in dairy production and summer flowering crop yields.
- **Most invasive species do well** in a changing climate. They already are competitive and persistent as well as typically hardy and tolerant to changes.

*PA DEP Climate Change Storyboard

Specific Objectives: Support for DCNR Climate Mitigation and Adaptation Plan in the WWNC

- a. Keep the 250-acre WWNC forest intact to maximize stormwater management and minimize flooding from increasingly heavy storms due to climate change.
- b. Keep the 250-acre WWNC forest intact to maximize temperature mitigation for surrounding communities in the context of increasing average and extreme temperatures that result from climate change.
- c. Keep the 250-acre WWNC forest intact to maximize carbon sequestration to help mitigate the deleterious effects of climate change.

The White's Woods *i-Tree* analysis indicates that White's Woods currently stores 27,688 tons of carbon that will be lost to the atmosphere if trees are timbered. The WWNC trees also absorb over 1,100 tons of carbon per year. (See Appendix)

- d. Monitor endangered, threatened, and "species of special concern" - mammals, birds, and plants--in the WWNC.
- e. Document arrival of migratory birds.
- f. Improve pedestrian, mass transit, and bicycle access to the WWNC.
- g. Work with DCNR on climate mitigation projects.





Climate Change: Why it matters

“The impact of the extreme weather, at this point in the global warming process, is greater than anticipated. Carbon is accumulating at a rate more than 100 times faster than at any point in history. Both the Arctic ice thinning and an ocean acidification are accelerating. Sea-level rise is occurring faster than expected. Heat is more extreme, droughts more prolonged, wildfires both larger and more prolific.” (NASA)

What needs to be done?

“Stabilizing global temperature near its current level requires eliminating all emissions of heat-trapping gases or, equivalently, achieving a carbon-neutral society in which people remove as much carbon from the atmosphere as they emit.”

U.S. National Oceanic and Atmospheric Administration NOAA

The Golden Rule

In his 2020 Pennsylvania Forestry Association webinar presentation, Dr. Richard Alley, Penn State University, asserted that there are ethical reasons that we need to take climate change seriously: “The nations that are now suffering most are not the nations (including the U.S.) that are now producing the most carbon.” It was recently estimated that southeastern Alaska will lose its coniferous forest in the next 2-3 decades. Some U.S. towns have already had to move due to increased river flooding or sea-level rise. But Pacific island communities have already been entirely lost to rising seas. And severe drought now impacts large areas of the Southern hemisphere. What do we owe each other?

III. SUPPORT WWNC -As A Steady Revenue Source (By leaving the woods intact.)

A Possible \$211,000.00 Payment to White Township In The First Three-to -Five Years Of A 40-Year Carbon Offset Contract

These are the basic terms, contingent on meeting protocol standards, for a possible *municipal carbon-offset contract* for the White's Woods Nature Center.

In fact the \$211,000.00 was the *minimum* estimate provided to the Township in September, 2021 by Alyson Fearon, Allegheny Land Trust Senior Director.

Numerous Pennsylvania municipalities have already secured carbon sequestration contracts for their forested municipal lands, including Bethlehem and Lock Haven. Others, including Dubois and the Indiana County Parks, have begun serious exploration of carbon sequestration contracts for their properties.

It is of note that Indiana County private forest landowners can also take advantage of carbon sequestration payments. The Family Forest Carbon Project is now seeking contracts with small forest landowners in Indiana County. But the forest carbon offset contract that may be available to White Township offers payment at a rate 3-5 times HIGHER than that generally offered to private landowners.

WHY? Because City Forest, the credentialing agent for carbon credits, *places a premium* on the protection of urban forests like the WWNC. Urban forests help control stormwater, absorb air pollutants such as sulfur dioxide, help regulate area temperature AND sequester carbon, too!

What is carbon sequestration?

Carbon sequestration is the process of capturing and storing carbon. Trees -- branches, roots, and foliage-- naturally remove carbon from the atmosphere. The larger the tree, the more carbon removed and stored.

WWNC, an 80-year-old 250-acre forest, holds nearly 28,000 tons of carbon dioxide (the atmospheric version of carbon) and absorbs an additional 1,100 tons per year (Davey Resource Group, 2021).

What are carbon offsets?

"Buying a carbon offset is when a participant (person, company, government, other group) voluntarily buys a unit of carbon, usually a ton, to counteract greenhouse gases released by their activities." (Norman, 2020, *Carbon Markets 101*.) Carbon-offset projects generate credits that give big companies an inexpensive way to claim large emissions reductions. It is a trading system: industries release carbon, on the one hand, while protecting or increasing carbon storage, on the other.

Estimates of Your Tree Benefits

More than an investment in beauty and shade, your trees work hard for you!

Prepared exclusively for: **White's Woods Nature Center**

Estimated Tree Cover on your property: **95%**

Storm water runoff avoided
each year by your trees:
207,540 gallons @ \$1855

Carbon Dioxide absorbed
each year by your trees:
1,102 tons @ \$25,641

Carbon Dioxide already
stored in your trees:
27,688 tons @ \$643,945

Estimated Land Cover	acres
Grass	10.37
Trees	220.28
Impervious	0.0
Bare ground	1.86
Water	0.0
Total	232.51

Air pollution removed each year by your trees:

	pounds	@	value
Carbon Monoxide	154		\$3
Nitrogen Dioxide	1,333		\$16
Ozone	10,686		\$1,180
Sulfur Dioxide	2,129		\$10
Particulate matter (less than 2.5 microns)	973		\$4,109
Particulate matter (2.5 to 10 microns)	1,735		\$170
Total Pollutants	17,010		\$5,488

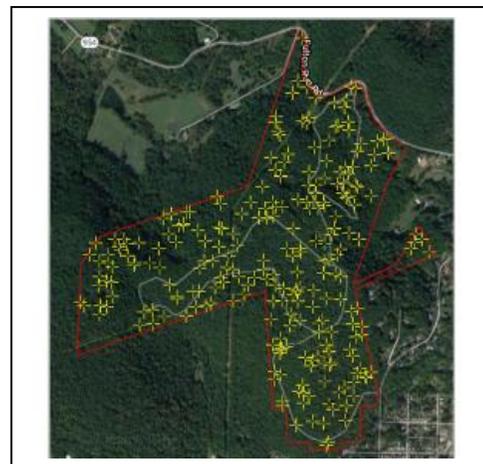
Trees absorb carbon dioxide from the air and store it as wood.

Carbon dioxide (CO₂) is a greenhouse gas that traps heat in the atmosphere.

- It enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement).

In addition, your trees:

- Enhance property values
- Improve health and well-being
- Reduce storm water runoff
- Lower summer air temperatures
- Provide wildlife habitat
- Provide aesthetic benefits



Powered by: i-Tree and the Davey Institute
 i-Tree represents cutting-edge, peer reviewed, USDA Forest Service research packaged into a suite of software tools and web applications easily used by everyone. www.itreetools.org



For more information, please contact us:

The Davey Tree Expert Company

1500 N. Mantua Street
 Kent OH, 44240

1-800-447-1667
www.davey.com

IMPORTANT NOTE: The Allegheny Land Trust (ALT) estimate of the worth of the carbon sequestered in the WWNC annually is **DIFFERENT** than the estimate provided by Davey. **WHY?** Because ALT is estimating the worth on the Carbon Offset Market - while Davey is estimating the value of the carbon absorption to the community.

Carbon stored in Elizabeth Township forest will help pay for its preservation

 Laura Legere - Pittsburgh Post-Gazette, Mar 22, 2021
(Article excerpted.)

On paper, more than 150 wooded acres in Elizabeth Township had been cut into more than 150 housing lots, but on the ground, the forest was still forest.

The trees will stay standing because the Allegheny Land Trust bought the parcels near the community of Buena Vista last year from the developer, who decided to retire without carrying out the subdivision.

Part of the funding to preserve the property will come from the sale of credits that reflect the climate value of not chopping down the trees, which absorb and store carbon dioxide. It is the land trust's first foray into environmental markets.

Usually, [forest carbon credits](#) are certified and generated from huge tracts, thousands of acres at a time, far from population centers. But the Buena Vista Heights Conservation Area is generating a new kind of premium credit, developed by Seattle-based nonprofit City Forest Credits that represent the special environmental value of trees in and near cities.

Along with storing carbon, [urban trees](#) help clean the air, cool buildings and — crucially for hillside communities — intercept rainwater that could otherwise contribute to flash flooding, erosion and landslides.

At the same time, urban and community forests nationwide are shrinking as cities expand...

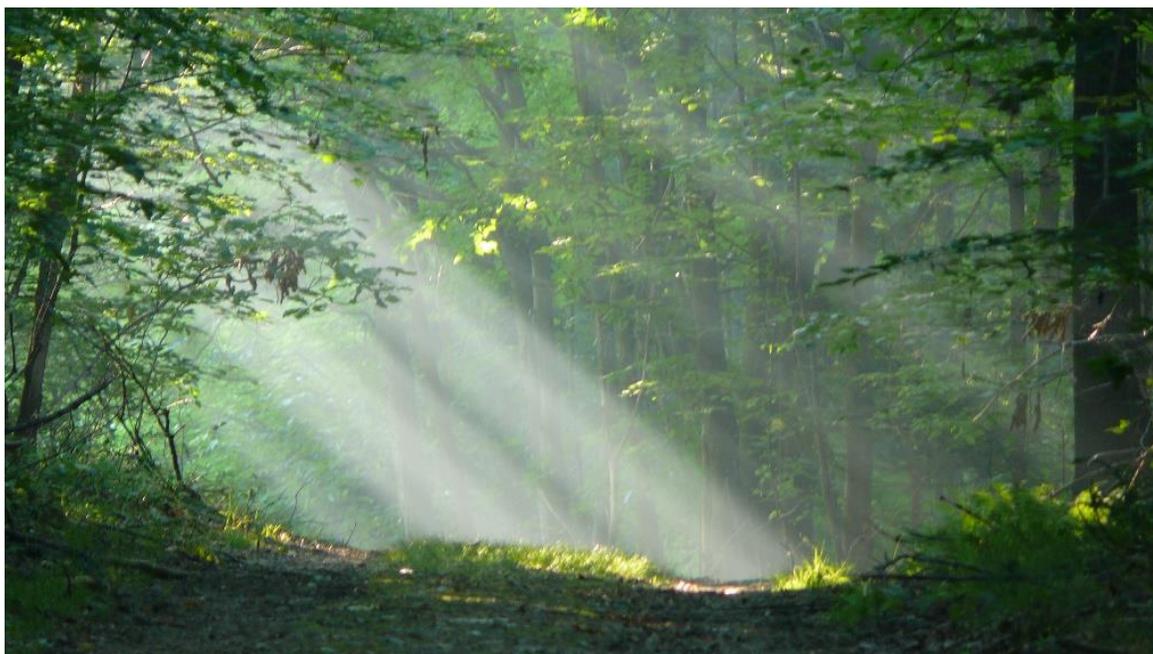
One carbon credit represents one metric ton of carbon dioxide removed from the air by the forest. The Buena Vista Heights parcels will generate nearly 14,000 credits for sale.

The company bought the credits for \$30 apiece — about three times the price of a typical carbon offset.

Ms. Johnston said urban forest credits are “low volume but extremely valuable.” Part of what makes carbon verification and marketing possible on smaller, urban parcels is that “businesses are willing to spend more buying these premium credits because of all of the local benefits that come with each project.”...

“Stormwater sequestration and air quality improvements in our post-industrial county are just so critically important to address in our land protection work,” said Alyson Fearon, the land trust's senior director of community conservation and resiliency. “That's the reason these credits appealed to us much more strongly than a straight carbon credit.”

**Specific Objectives: WWNC --A Steady Revenue Source
By Leaving the Woods Intact.**



Secure a carbon-offset (sequestration) contract for the 250-acre WWNC, providing estimated revenue of \$25.00- \$35.00 per ton: \$211,000.00 payment “up front”

NOTE 1: It may also be possible to secure revenue from the sale of valuable native plants currently found in the WWNC. (See attached report from Dr. Sara Kuebbing and Dr. Marion Holmes.)

Note 2: DCNR grant funding is available to support management projects in the WWNC, including funding for the development of a comprehensive management plan for this Project 70 park.

Note 3: DCNR supports ALT carbon offset contracts.

IV. Protect the WWNC natural area for future generations.

According to Project 70 Guidelines and the March 25, 2021 letter from DCNR Bureau of Recreation and Conservation director, Thomas Ford, management of the WWNC “cannot reduce the recreation opportunities, detract from the recreational experience, nor disrupt the ecological function of the [WWNC].”

Both the WWNC and the recreational opportunities that it provides must be preserved for current park users and future generations.

The uniqueness of the WWNC as a public-access community forest may all-too-easily escape notice. This community forest blends seamlessly into a second 250-acre forested park owned by the IUP Cooperative Association. (The COOP land surrounds the WWNC on two sides.) Together the two parks form a 500-acre forest, isolated from motorized traffic, remote enough to allow immersion in a woodland experience, and big enough to provide space for private solitude. The Bureau of Forestry, in its Recreational Opportunity Classification system, rates such areas as “Semi-private; non-motorized.” Such areas are rare in Pennsylvania state forested lands. Fewer than 25% of our state forested lands fit this definition.*

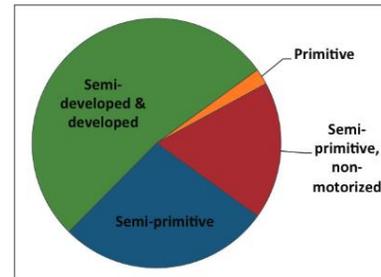


Figure 1.8. Acres and percentages of ROS classifications for the entire state forest system

The “Wild Character” of the WWNC: “Part of the [DCNR Bureau of Forestry’s] mission is to conserve forests in Pennsylvania by managing the wild character of the state forests. Wild character is a concept that has different meanings to different people. To a backcountry camper, wild character could mean having large expanses of open, undisturbed forest to experience along a narrow hiking trail. .. To others, it could simply mean that the forest is characterized by little permanent human development,” (DCNR, 2016).

The WWNC and adjacent publicly-owned lands provide low-density outdoor recreation, a special experience that is hard to find.

OLDER-GROWTH FORESTS? “In addition to virgin tracts, [DCNR] recognizes the need to conserve evolving second- and third growth forests where future old growth will exist.” By allowing older-growth forests (80-100 years old, such as the WWNC) to mature without human impact, DCNR is **moving toward a goal** of preserving 20% of state forests as “old growth.” **Only 6% of PA forests are now classified as old growth.**

*The WWNC is not technically classified as a “state forested land.” It is a publicly-owned Project 70 forest whose stewardship is overseen by DCNR.

We Need Data.

There are forest management needs. But any planned intervention must be preceded by skilled collection of data to:

- (1) Identify the real needs of the WWNC forest.
- (2) Establish benchmarks for success.

There is significant **DCNR-collected, state-wide data** that can, and should, help guide data collection in White's Woods. For instance, the *Pennsylvania Wildlife Action Plan* provides lists of Pennsylvania animal species that are endangered, threatened, or "of concern." Documentation of the presence (or absence) of these identified species has not been confirmed in WWNC, except for the Eastern box turtle and the Seal Salamander, both of which are listed as "species of concern." DCNR has confirmed that WWNC is within the range of the Federally-endangered Indiana bat and Federally-threatened Northern long-eared bat.

The Pennsylvania Natural Heritage Program (PNHP) Indiana County Natural Heritage Inventory was completed this year and identified at least three vulnerable plant species in the WWNC. PNHP and DCNR maintain lists of Pennsylvania endangered and at-risk plant species.

Penn State University professor Dr. Margaret Brittingham recently underscored another concern of importance to WWNC management: There has been a staggering 30% decline in Eastern U.S. migratory bird populations since 1970. Forests such as the WWNC are essential to the stabilization of the Eastern U.S. wild bird populations. (**Cornell Ornithology Report, 2019**).

Native & Invasive Plant Species in the WWNC: Dr. Sara Kuebbing & Dr. Marion Holmes, University of Pittsburgh Invasive Plant Laboratory recently reported that:

- (1) Overall the WWNC is in much better shape than other forests they have studied.
- (2) Because of the closed canopy, WWNC is relatively low in non-native species.
- (3) WWNC offers lots of diversity of habitat.
- (4) WWNC hosts a good selection of native plant species, including orchids and violets.
- (5) The Old-Growth area around the Stephenson Trail is buffered and protected by surrounding forest. And that is important for its continuing health.
- (6) Aerial photographs indicate that there are additional patches of Old-Growth forest in the WWNC that are not currently labeled.

Our task is to protect the recreational and ecological value of the WWNC for future generations.

Specific Objectives: Preserving the WWNC for Future Generations

- a. Listen to the public. Do not interfere with the recreational or aesthetic value of the WWNC. Seek public input at every stage of the management process.
- b. Rely on the best science, along with publicly-funded experts (DCNR and university-related) to preserve the WWNC community forest “largely in its natural state.”
- c. Seek a DCNR Bureau of Recreation and Conservation Community Partnership Grant to support development of a vetted, long-term, holistic WWNC management plan.
- d. Complete an inventory and map of native plants in the WWNC. (Keubbing & Holmes)
- e. Complete an inventory and map of invasive plants (Keubbing & Holmes, 2021).
- f. Complete an inventory (on-the-ground count) and map of the species type, age, size, and location of trees in the WWNC.
- g. Collect data regarding the diversity of people who use the WWNC.
- h. Collect data to determine the presence WWNC of avian, amphibian, and reptilian species that are now listed as “Species of Greatest Concern” by DCNR.
- i. Document date of arrival of migratory bird species.
- j. Document animal species in the WWNC.
- k. Investigate conservation measures suggested by the U.S. Fish and Wildlife Service that will help the stability and recovery of both the Federally-endangered Indiana bat and Federally-threatened Northern long-eared bat.
- l. Inventory and map ecologically sensitive or unique areas in the WWNC.
- m. Locate and implement plans to preserve the three vulnerable plant species located in the WWNC, as identified in the Natural Heritage Program inventory.
- n. Implement a long-term, volunteer-based, least-intrusive plan to control invasive species, including garlic mustard, multiflora rose, Japanese barberry and Autumn Olive.
- o. Implement this invasive plant removal plan by focusing on one section of the WWNC at a time.
- p. Implement a bi-annual preventative invasive plant plan: survey entry points to WWNC for new invasive plant species.
- q. Implement a long-term plan to promote native plant growth.
- r. Conduct an assessment of the size of the WWNC deer population.
- s. Rely on natural succession and take advantage of “blow down” to plant seedlings to maintain WWNC regeneration status.
- t. Consider the use of goats to control especially dense invasive growth, to promote ecologically sound plant removal and to draw visitors into the woods.
- u. Seek partner funding to conduct a deer fencing or deer contraception pilot program.
- v. Create long-term management plans that factor in both (1) the forests surrounding the WWNC and (2) climate change.
- w. Preserve forest songbird habitat by protecting the existing White’s Woods forest and maintaining, or expanding, available food sources.
- x. Support the DCNR Bureau of Forestry’s goal of increasing the percentage of Pennsylvania older-growth forests (80+ years old) by leaving the 80-year-old WWNC intact. Protect big trees.

Consulting forester Mike Wolf: “White’s Woods forest is as beautiful as any I’ve seen in my career. The aesthetic value of the property is very high. Hikers and bikers experience large, beautiful trees along every path. The site/soil is obviously very productive for growing quality trees and the growth of the trees (both height and diameter) is impressive. It is easy to see why so many users and residents have a high degree of passion for White’s Woods....I am using an average age estimate of the forest at approximately 70-80 years. Typically, trees don’t grow to the size of the trees in White’s Woods in only 70 or 80 years, but this indicates a very productive soil and nutrient component...**The reality is White’s Woods will outlive all of us, even if we take a do-nothing approach. Time is definitely on our side.**”

The White’s Woods Nature Center is an extremely valuable community resource. The observations and recommendations in this document reflect over a year of FWW work with consultants, as well as conversations with stakeholders, and study of DCNR documents. FWW points to dozens of specific objectives for the long-term management of the WWNC; some underscore the importance of supporting DCNR state-wide initiatives regarding recreation and climate mitigation. Others point to important, expert-recommended steps for the long-term preservation of this community forest.

Some actions recommended serve multiple goals: Protecting the WWNC canopy helps to preserve recreation opportunities, assist with climate mitigation goals, and provide a steady stream of revenue.

FWW’s hope is that this document provides a valuable first step and leads to continued dedication to preserving the WWNC for future generations, relying on both essential and ongoing public input, as well as the best science - which is almost always available via the outstanding service provided by both DCNR and Pennsylvania university resources.





**WHITE'S WOODS
NATURE CENTER:

SOME RESIDENT
ANIMALS & REPTILES**



Acknowledgements:

Photos:

Cover photo: Cheri Widzowski

White's Woods Painting: Charles Olson

White's Woods Tree Canopy (p. 4): Mark Brown

Frog in White's Woods Grass: Mark Brown

Light through Tree Canopy: Mark Brown

White's Woods Sign: Derek Foust

Two deer in White's Woods: Mark Brown

All other photos: Open Source.

Maps:

Indiana Area map, p. 1: 2021 Microsoft Corporation (maps-streetview.com)

White's Woods Map (p. 3) - White Township

WWNC Trail Map: Jim Clark

Charts:

Figure 1.8 Acres and percentages of ROS classifications for the entire state forest system.

DCNR Bureau of Forestry 2016 State Forest Resource Management Plan, p. 43.

Consultants:

Dr. Margaret Brittingham, Professor of Wildlife Resources, Pennsylvania State University

Vincent Cotrone, Urban Forester and Educator, Penn State Extension Service

Shari Edelson, Director of Operations, Penn State Arboretum

Gavin Deming, Executive Director, Allegheny Goatscape

Dr. Marion Holmes, University of Pittsburgh, Invasive Plant Laboratory

Dr. Sara Kuebbing, University of Pittsburgh, Invasive Plant Laboratory

Dr. Bonnie McGill, Carnegie Museum of Natural History, Climate & Rural Systems Project

Todd Sherbondy, Arborist, Davey Tree Company

Mike Wolf, Forester, Appalachian Forest Consultants

Department of Conservation and Recreation (DCNR) Documents Cited:

PA DCNR Climate Change Mitigation and Adaptation Plan (2018)

Pennsylvania Natural Heritage Program, Indiana County Natural Heritage Inventory (2021)

Pennsylvania Outdoor Recreation Plan: Recreation for All 2020-2024

PA DCNR State Forest Resource Management Plan (2016)

PA Wildlife Action Plan 2015-2025

WWNC CURRENT VALUE & FUTURE CARE

FWW Specific Objectives: Assembled List

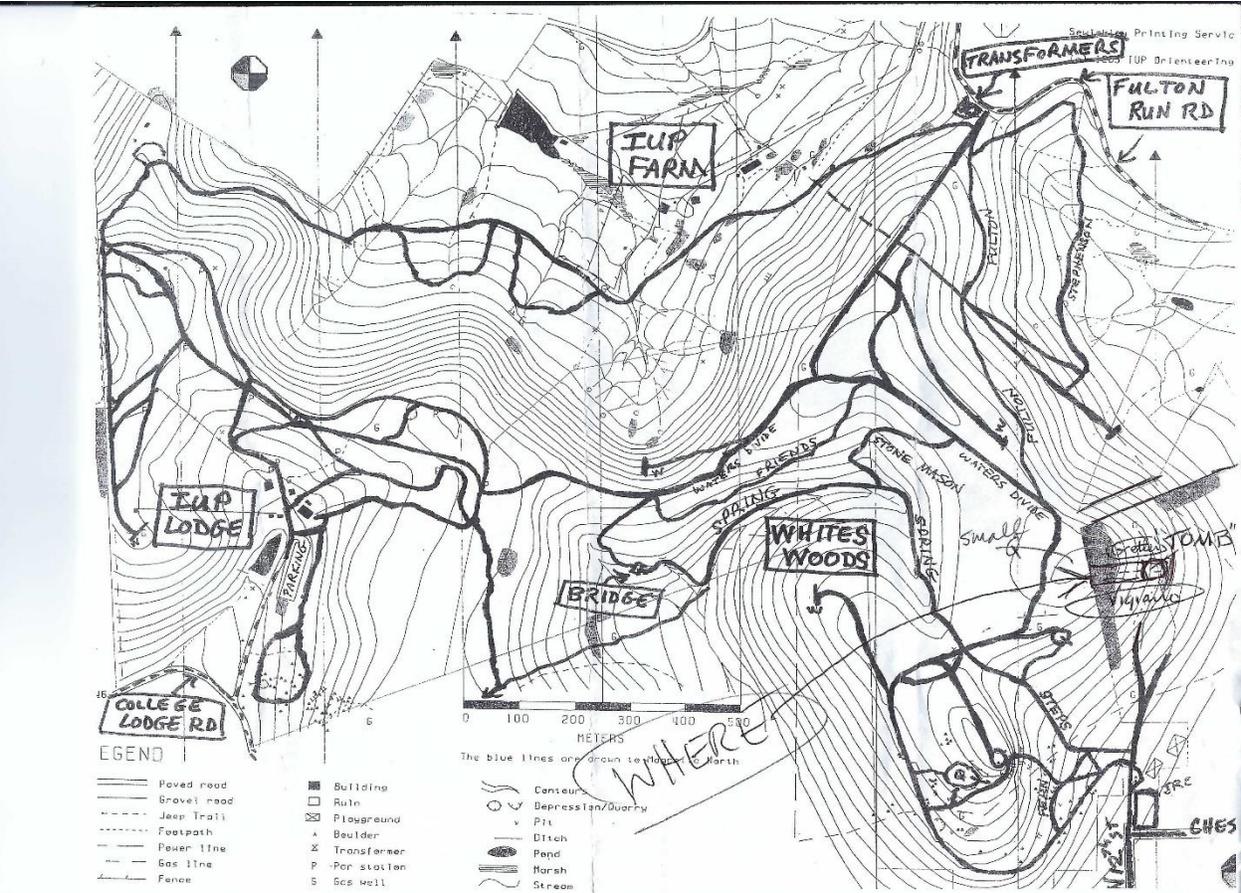
<p>I. Specific Objectives: Outdoor Recreation for All</p>	<p>a. Preserve the community forest park that we have!</p>
	<p>b. Preserve maximum canopy coverage so that the woods remain accessible in hotter weather.</p>
	<p>c. Schedule multiple, seasonal recreation and education activities to bring citizens of the Indiana region into the WWNC:</p> <ul style="list-style-type: none"> • Develop a “big tree” tree-identification (type, size, age) loop walk. • Develop a native plant species loop walk (by season). • Host an annual Garlic Mustard Festival (which will help to get people in the woods and invasive plants out). • Host semi-annual educational medicinal plant and plant identification walks. • Host artist events in the woods: photography, painting (See FWW website). • Host annual nature-identification scavenger hunts for kids. • Encourage winter events by scheduling hiking and cross-county ski events to identify winter animal & avian species in the WWNC. • Develop a “history loop” to celebrate notable environmentalists, including Native American stewards and Indiana, PA native Edward Abbey. • Develop a network of bike trails to the WWNC 12th Street Entrance, providing access from each direction (including

	<p>IUP) to help serve a broader population.</p> <ul style="list-style-type: none"> • Provide bicycle parking at the 12th Street entrance parking lot. • Provide educational signage regarding at-risk and vulnerable species. • Host environmental education sessions (for children and adults). • Encourage reporting of plant, animal, and bird species through <i>ebird</i> and <i>inaturalist</i>. • Update WWNC trail maps. • Support the creation of an Indiana-region greenways plan.
<p>II. Specific Objectives: Support for DCNR Climate Mitigation and Adaptation Plan in the WWNC</p>	<p>a. Keep the 250-acre WWNC forest intact to maximize stormwater management and minimize flooding from increasingly heavy storms due to climate change.</p>
	<p>b. Keep the 250-acre WWNC forest intact to maximize temperature mitigation for surrounding communities in the context of increasing average and extreme temperatures that result from climate change.</p>
	<p>c. Keep the 250-acre WWNC forest intact to maximize carbon sequestration to help mitigate the deleterious effects of climate change.</p>
	<p>d. Monitor endangered, threatened, and “species of special concern” - mammals, birds, and plants--in the WWNC.</p>
	<p>e. Document arrival of migratory birds.</p>
	<p>f. Improve pedestrian, mass transit, and bicycle access to the WWNC.</p>
	<p>g. Work with DCNR on climate mitigation projects.</p>

<p>III. Specific Objectives: WWNC - A Steady Revenue Source By Leaving the Woods Intact.</p>	<p>Secure a carbon-offset (sequestration) contract for the 250-acre WWNC, providing estimated annual revenue of \$25.00-\$35.00 per ton: \$211,000.00 in “up front” payment.</p> <p>NOTE 1: It may also be possible to secure revenue from the sale of valuable native plants currently found in the WWNC. (See attached report from Dr. Sara Kuebbing and Dr. Marion Holmes.)</p>
	<p>Note 2: DCNR grant funding is available to support management projects in the WWNC, including funding for the development of a comprehensive management plan for this Project 70 park.</p>
<p>IV. Specific Objectives: Preserving the WWNC for Future Generations</p>	<p>a. Listen to the public. Do not interfere with the recreational or aesthetic value of the WWNC. Seek public input at every stage of the management process.</p>
	<p>b. Rely on the best science, along with publicly-funded experts (DCNR and university-related) to preserve the WWNC community forest “largely in its natural state.”</p>
	<p>c. Seek a DCNR Bureau of Recreation and Conservation Community Partnership Grant to support development of a vetted WWNC management plan.</p>
	<p>d. Complete an inventory and map of native plants in the WWNC. (Keubbing & Holmes, 2021).</p>
	<p>e. Complete an inventory and map of invasive plants (Keubbing & Holmes, 2021).</p>
	<p>f. Complete an inventory (on-the-ground-count) and map of the species type, size, and location of trees in the WWNC.</p>
	<p>g. Collect data regarding the diversity of people who use the WWNC.</p>

	h. Collect data to determine the presence WWNC of avian, amphibian, and reptilian species that are now listed as “Species of Greatest Concern” by DCNR.
	i. Document date of arrival of migratory bird Species.
	j. Document animal species in the WWNC.
	k. Investigate conservation measures suggested by the U.S. Fish and Wildlife Service that will help the stability and recovery of both the Federally-endangered Indiana bat and Federally-threatened Northern long-eared bat.
	l. Inventory and map ecologically sensitive or unique areas in the WWNC.
	m. Locate and implement plans to preserve the three vulnerable plant species located in the WWNC, as identified in the Natural Heritage Program inventory.
	n. Implement a long-term, volunteer-based plan for the control of invasive species, including garlic mustard, multiflora rose, Japanese barberry and Autumn Olive.
	o. Implement this invasive plant removal plan by focusing on one section of the WWNC at a time.
	p. Implement bi-annual <u>preventative</u> invasive plant plan: survey entry points to WWNC for new invasive plant species..
	q. Implement a long-term plan to promote native plant growth
	r. Conduct an assessment of the size of the WWNC deer population.
	s. Rely on natural succession and take advantage of “blow down” to plant seedlings to maintain WWNC regeneration status.

- t. Consider the use of goats to control especially dense invasive growth, to promote ecologically sound plant removal and to draw visitors into the woods.
- u. Seek partner funding to conduct a deer fencing or deer contraception pilot program.
- v. Create long-term management plans that factor in both (1) the forests surrounding the WWNC and (2) climate change.
- w. Promote forest songbird habit by planting and protecting both habit and food sources.
- x. Support the DCNR Bureau of Forestry's goal of increasing the percentage of Pennsylvania older-growth forests (80+ years old) by leaving the 80-year-old WWNC intact. Protect big trees.



WWNC Trail Map, Jim Clark (2021)

Pennsylvania Environmental Law

Pennsylvania's Environmental Rights Constitutional Amendment

On May 18, 1971, Pennsylvania's voters by a four-to-one margin ratified what is now Article I, Section 27 of our state constitution—the Environmental Rights Amendment:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

Donated or Dedicated Property Act

December 15, 1959

Parks in Perpetuity

"In Pennsylvania, this common law view was both codified and modified in the 1959 law commonly referred to as the *Donated or Dedicated Property Act* or DDPA.^[3] ...The DDPA provides that the donated or dedicated property must stay in trust—its original use must continue—unless the use "is no longer practicable or possible and has ceased to serve the public interest." ...

In the event the court agrees that park use "is no longer practicable or possible and has ceased to serve the public interest," the municipality will still be required to replace the lands leaving the public trust with property of equal size and value for the same purpose or to use any proceeds of sale for the same purpose. In other words, the municipality cannot sell off a park to raise cash for just any purpose; proceeds would have to be directed back into acquiring new parkland."

Overview provided by WeConservePA

<https://conservationtools.org/guides/191-parks-in-perpetuity>

“Climate change will fundamentally reshape life on Earth in the coming decades, even if humans can tame planet-warming greenhouse gas emissions [...] Species extinction, more widespread disease, unlivable heat, ecosystem collapse, cities menaced by rising seas – these and other devastating climate impacts are accelerating and bound to become painfully obvious before a child born today turns 30. The choices societies make now will determine whether our species thrives or simply survives as the 21st century unfolds...”

Intergovernmental Panel on Climate Change, 2021 Report



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