

**DCNR Bureau of Forestry**

**Review of the White Township Stewardship Plan**

**March 23, 2020**

The Bureau of Forestry (BOF) respectfully submits the following comments and recommendations on the Stewardship Plan provided by White Township. This review is based on a technical review of the provided documents along with a field visit conducted on June 4, 2020 by a DCNR Service Forester.

**Summary**

The Bureau of Forestry commends White Township for taking an active role and approach to managing its community forests and trees. These natural resources provide critical values and services to residents and visitors alike. Trees and forests in communities help to improve water quality and mitigate stormwater impacts, mitigate climate impacts and improve air quality, provide recreation opportunities and contribute to sense of place and peace-of-mind, provide habitat for plants and animals, increase property values, and generate income from harvesting timber. Combined, these values contribute significantly to increased quality of life in White Township. As such, having a plan to guide management of the properties in ways to help sustain and enhance these values is critically important. A typical plan includes key elements such as an inventory or assessment of conditions, goals or objectives, management units and maps, recommended actions along with an implementation schedule, and an assessment of potential costs and revenues. Understanding and articulating community values, interests, and objectives are especially critical for community-owned trees and forests.

Considering our expectations of a community forest plan as described above, the BOF recommends the Township revise its Forest Stewardship Plan to fully maximize its role for helping to achieve community values and interests. Along with concerns about some of the proposed management activities, we are concerned about what appears to us as a disconnect among the stated goals, the proposed management activities and practices, and the wishes and desires of the public. We understand the considerable effort and investment in the current draft, and that it was based on a template that our agency provided. Our comments and recommendations are intended to be helpful and constructive.

We welcome continued discussions with the Township and its constituents to further explore and explain our recommendations outlined below. Additionally, we offer continued involvement of our local Service Forester and expertise from specialists in our Central Office on wildlife habitat, botany, and riparian restoration; and recreation management advice from the Bureau of Recreation and Conservation as needed. Additionally, we understand the Township may have access to these same fields of expertise locally and through other partners.

We've organized our comments into four categories:

- A. Landowner Goals and Proposed Management Activities
- B. Public Input Process

- C. Forest Resource Inventory
- D. Specific Forest Management Comments and Recommendations

#### **A. Landowner Goals and Proposed Management Activities**

The BOF commends the Township for establishing goals for forest health and sustainability, recreation, aesthetics, and public safety. These goals generally align with our expectations of a community-owned forest. However, we question the expected outcomes of the proposed management practices, the desired future conditions, and how they would align with or contribute to the various goals. What will the resulting management activities look like in the future, and how will these wooded areas function to help achieve the stated goal? For example, is the proposed mulching and subsequent timber harvesting designed to produce an open, park-like setting to improve the aesthetics of the site, and is that the desired condition of township citizens, and how does this relate to forest health and sustainability?

Additionally, we recommend the Township prioritize the overarching goals to better reflect their main desires of the various properties. Not every goal is equally important or could be achieved on every acre of forest. Certain areas lend themselves to certain goals. The BOF is willing to help the Township examine their properties, and portions of each property to better align goals with management activities. Public safety is always a top priority, but it is helpful to think about the interaction of safety with other goals, and the spatial arrangement of these goals and values. Below we itemize our comments for each general goal statement found at the beginning of the plan.

1. **Forest Health and Sustainability:** Improving the health and sustainability of all the township properties is admirable, and a commonly-used forest management goal. Reducing impacts of invasive plants as noted by the township can significantly improve ecological conditions, and overall forest health. However, the BOF is highly concerned with the proposed forest mulching practice and potential unintended consequences of this practice. Mowing, use of herbicides, and other mechanical treatments are commonplace and often successful for controlling invasive species. However, disturbing the soil typically promotes the spread of invasive plants, and is even more-concerning when coupled with opening the canopy and allowing more sunlight to the forest floor. BOF does not support the proposed mulching practice without additional information and discussion on the sequence of this along with other practices. We offer additional technical details below regarding deer impact, tree canopy and forest floor health, and other sustainability concerns.
2. **Recreation:** As a public resource, many of the township properties are heavily used for recreation, and we commend the township for aiming to enhance these opportunities, as they provide many public benefits. However, without careful planning, some areas may suffer from overuse, resulting in environmental damage and reduced recreation benefits. Poorly-located and constructed trails are a prime example, and often cause soil erosion and runoff to nearby streams. The township acknowledged the need to address some of these issues, and BOF/DCNR is willing to offer additional advice on improving recreation

opportunities while minimizing adverse impacts to the forest. Additionally, the proposed harvest on Whites Woods could significantly alter recreation values, notably reducing overhead shade provided by a closed canopy and overall aesthetics. We would not recommend or support the proposed “shelterwood” harvest as planned without additional consideration and planning from a recreation perspective.

3. Based on review of the goals as written, it also appears that Aesthetics and Safety are important goals. As such, the BOF offers the following comments:
  - i. Aesthetics: What are the primary aesthetic values and expectations, and how are citizens’ perspectives incorporated into this goal? Public input could help to understand nuances around aesthetics and the township’s wooded properties. For example, some people who hike prefer an open, park-like setting; while others prefer a closed, shaded canopy; while bird watchers might prefer brushy areas due to the habitat values. Another example includes open lawns of grass that require frequent mowing versus fields of native wildflowers—each has a different aesthetic and varying management considerations. Understanding aesthetic values and incorporating them into management activities is complicated, and at times could contradict other goals such as ecological, habitat, and sustainability. Additional, site-specific aesthetic considerations and how they interact or intersect with other goals would help to avoid and minimize conflicts among citizens and users of the properties.
  - ii. Safety: The township’s concerns are valid with regards to public safety. Dead trees are natural and even beneficial in forested settings. Dead trees and trees dying from insect or disease outbreaks near people can damage property in parking areas or even injure people along trails. BOF commends this safety acknowledgment, and recommends monitoring tree condition in high-use recreation areas and along trail corridors. However, individual dead/dying trees scattered throughout the forest, away from trails or infrastructure are less cause for concern and are not typically considered as a sole justification for harvesting.
4. Related to the Landowner’s Goals, revenue generation from harvesting timber is a legitimate and often beneficial forest management activity. Income from timber sales could help to defray costs of other activities, harvesting can help to create and improve habitat conditions for certain wildlife, improve safety and forest health by removing dead or dying trees, and help to support local jobs and the economy. The BOF recommends the township communicate its revenue generation objectives, and then develop a plan for harvesting considering the other goals and values of the properties. Harvesting could help to enhance certain goals, while conflicting with others.

## **B. Public Input Process**

The Bureau of Forestry recommends the township implement a public input process to help inform both development and implementation of a forest stewardship plan. As a community-owned forest, we believe it is critical for the township to understand the wishes and desires of its residents, and most importantly, identifying and understanding the values citizens hold and expect of these woodlands. Values include concepts like sense of place, peace and solitude, recreation, aesthetics, health and wellness, access, wildlife habitat, water quality, air quality, and revenue generation—how do the various tracts contribute to the community’s quality of life. Based on these community values, specific goals and management objectives could then be developed to identify practices and activities to maintain and/or enhance community values. For example, reducing invasive species impact would be a management objective or activity to help achieve a broader goal or value around wildlife habitat and forest health. Many options exist for assessing and incorporating public input, and it appears that local residents are ready and willing to provide constructive viewpoints and feedback.

### **C. Forest Resource Inventory**

To help support development of specific management activities, the BOF recommends developing a forest resource inventory of the properties to help identify site-specific opportunities, areas of need, anticipate outcomes of management activities, and identify areas of ecological significance that might require additional attention. While we acknowledge the draft Stewardship Plan contains components or pieces of an inventory, we recommend a consistent approach across all the properties, or prioritized based goals and intensity of proposed practices or current use. Before investing in a statistically-sound, comprehensive inventory, the Township could develop a management unit or zoning approach to help articulate the pros and cons of various types of inventories. For example, if any parts of the properties include steep slopes that would likely not receive any management activity or include little infrastructure, a detailed inventory might not be needed in these areas.

In general, the inventory should describe the overall forest condition; include distinct/manageable units; forest type/species composition; stocking of the overstory; description of the understory conditions and regeneration conditions; spatial location and extent of invasive plants; ecologically sensitive or unique areas; infrastructure; recreation uses and features and important areas, etc. These inventories then form the basis of developing management activities and plans to achieve the Township’s goals. The BOF could provide additional details on developing an inventory. Additionally, any proposed timber harvest should be based on a commensurate, statistically-based inventory and accepted silviculturally-based prescription.

### **D. Specific Forest Management Comments and Recommendations**

1. Page 8, regarding the PNDI review:

BOF reviewed the White Township Plan and the accompanying Pennsylvania Natural Diversity Inventory (PNDI). While the PNDI review identified no known species or resources of concern

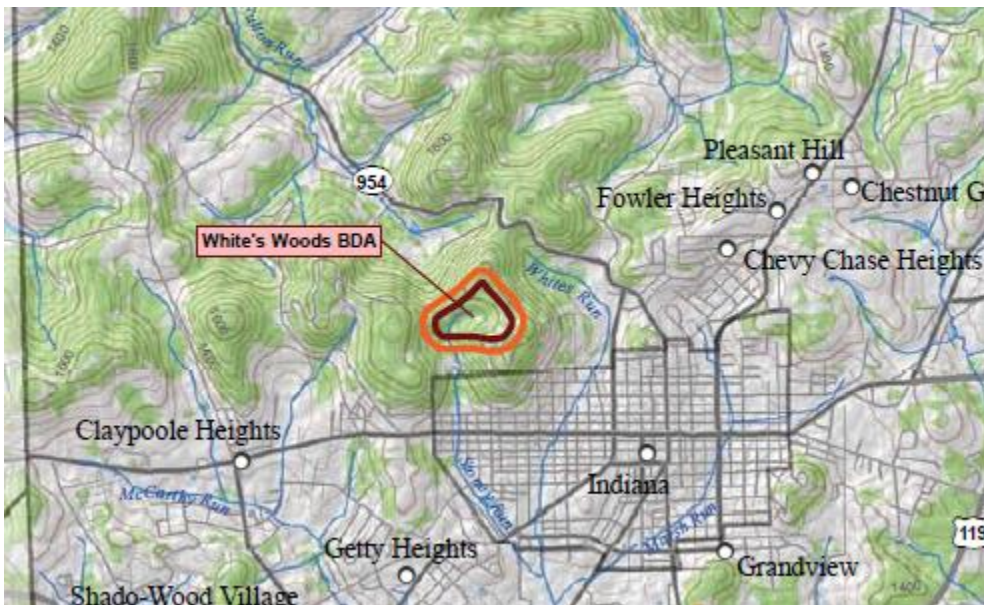
within the White Township properties, a Conservation Measure was provided by the US Fish and Wildlife Service.

White Township is within the range of the federally-endangered Indiana bat and Federally-threatened Northern long-eared bat. Indiana and Northern-long eared bat populations have experienced steep declines across their entire US range due to the fungal infection, White Nose Syndrome. The infection is spread during hibernation in caves. When bats are not hibernating, forested and open woods are habitats used by bats and are crucial to their survival. Therefore, conservation and improvement of foraging, roosting and maternity tree habitat is extremely important. While these bats have not been documented as occurring on the properties, they are within the species' range, and the US Fish and Wildlife Service provides conservation measures that will help the stability and recovery of the species.

The BOF recommends the Township conduct additional PNDI reviews at the time of any proposed management activities to ensure proper conservation measures are followed.

Additionally, in 2011, the Pennsylvania Natural Heritage Program published the Indiana County Natural Heritage Area Report. The goal of this report was to document and integrate ecological and conservation information into municipal planning processes. This report identifies the center portion of the Whites Woods property as a natural biological diversity area of county significance ("White's Woods BDA"). The full report can be found here:

[http://www.naturalheritage.state.pa.us/CNAI\\_PDFs/Indiana\\_CNHI\\_Report\\_2011\\_WEB.pdf](http://www.naturalheritage.state.pa.us/CNAI_PDFs/Indiana_CNHI_Report_2011_WEB.pdf).



Excerpt of Indiana County Natural Heritage Inventory Report, 2011, identifying White's Woods BDA (p. 191).

The BDA was centered on a highly diverse and minimally disturbed stream valley. The report notes the presence of some plant species that tend to be over-collected by humans. Their presence indicates a less-disturbed site.

Invasive species are identified as a major threat to this BDA including Japanese and Morrow's honeysuckle, garlic mustard, Japanese barberry, and oriental bittersweet. The report recommended controlling invasive species. However, as previously mentioned in the BOF's comments, forest mulching is not a recommended method of invasive removal. Generally, spot treatment or cut-stump methods of chemical herbicide treatment are the preferred methods for invasive plant removal used by BOF.

BOF's Conservation Science and Ecological Resources Division and/or Pennsylvania Natural Heritage Program staff and expertise are available for additional technical assistance for this site and its planning efforts.

2. Page 14: "Select Timber Harvest" is not a commonly-recognized silvicultural treatment based on traditional forestry definitions and terminology. As such, we question the purpose of this harvest, intended outcomes, and justification from a forest management perspective. Is this tree removal designed to create a park-like setting or land use change? Otherwise we question the validity of this harvest as described.
3. Page 18: Whites Woods Tract #1
  - a. BOF suggests a restatement of the objectives for this tract. As stated, we think the objective is too broad to inform specific management activities. For example, what components of forest health: overstory, understory, insect and disease impacts, white-tailed deer impact, etc. For wildlife, are there specific species of interest, habitat conditions, etc.? And for recreation, what types of recreation, infrastructure needs, seasonality, etc. Detailing these objectives will help to characterize desired future conditions and then help to formulate specific management practices.
  - b. Regarding the discussion on white-tailed deer, we recommend a clear statement of objectives relative to deer. Is the desire for a more-diverse understory of forest plants, more deer, or an ecosystem in balance?
  - c. The BOF is not familiar with mulching treatments to a depth of 6 inches beneath the soil for typical forestry applications. We understand the potential use in highly-compacted situations such as mining reclamation, or other unique situations, but not for a typical treatment of invasive plants. Forest soils are typically not heavily compacted, unless from recent machinery impacts. Typically, exposing mineral soil will result in additional spread of invasive plants, and we would not recommend this practice. As such, the over-seeding would seem like an unnecessary treatment. Regarding the over-seeding, is there a maintenance requirement in future years? BOF would recommend spot-herbicide treatment, cut-stump with herbicide, or other selective treatments specific to the species. Again, is this over-seeding designed to support a specific objective, desired condition, aesthetic objective, or group of wildlife species? This is not a typical treatment with which we are familiar, and are highly concerned about unintended consequences.
  - d. The purpose of this harvest is not clear, and a "select timber harvest" is not consistent with traditional forestry prescriptions. BOF recommends the township clarify the silvicultural prescription and purpose of this harvest. Is the purpose to

regenerate the site? Is it to remove individual hazard trees? Foresters have different perspectives on “stands,” and as such, we question characterizing the stand as “overstocked.” The trees are big, and it is a closed canopy situation, but having stand and stocking data to characterize the condition of the stand and to support the prescription would be expected and helpful.

Any timber management activity should be conducted only after a proper inventory and development of a science-based prescription, with the aid of a science-based analysis such as the SILVAH program. The prescription should be based on typically-used variables and indicators for decision-making and planning such as basal area, rotation age, species composition, deer impact, seedling and regeneration potential, etc.

Also, any proposed timber management should be awarded to a contractor through a sealed bid process and administered by an independent consulting forester.

And finally, as part of reviewing the draft stewardship plan, the BOF also reviewed the complaint filed on May 22, 2020 by Friends of White’s Woods, Inc. In that complaint, we noticed that Exhibit B references a recommended 240-acre shelterwood harvest to be completed on the White’s Woods Tract. This type of harvest is not referenced in the draft stewardship plan, and we question if this is the Township’s intent. While scientifically-valid and an accepted type of harvest, we question this level of activity across what appears to be nearly the entire tract. This type of harvest typically includes a sequence of treatments designed to regenerate, or ultimately produce a young, new forest. The resulting young forest has many wildlife benefits, as young, early-successional forests are critical habitats for many wildlife species. Large landowners and agencies like the BOF and PA Game Commission often implement shelterwood harvests to create habitat and regenerate forests over large landscapes. These new forests interspersed with older forests create a patchwork of habitats that support many types of wildlife. In contrast, many private forest owners, or owners of smaller tracts of forest often chose not to regenerate their entire forest at once, due to conflicting values and goals. While a harvest of this nature might create desirable habitat conditions, we question the use of this treatment in a community context. Perhaps implementing a regeneration harvest on a portion of the property having forest health concerns, or is less-visited, or would have less of an aesthetic impact would be more appropriate, if indeed planned by the township? Again, to repeat, a shelterwood harvest is a legitimate, beneficial, and often-used silvicultural treatment, especially on large-tracts of forest, but we question the application on this particular tract of woods without further consultation with community members.

4. Page 22: we appreciate the proposal for a research partnership with IUP and Penn State and encourage the Township and its contractor to pursue this partnership with faculty having diverse backgrounds and expertise to fully explore and evaluate the appropriateness and



effectiveness of forest mulching. The Bureau of Forestry would like to be involved if possible.

5. Page 23:
  - a. to reiterate, the BOF is unsure about the proposed mulching, especially for the entire 248 acres. The tract varies considerably, from an oak forest on top to a moist, tulip-poplar forest on the side-hill. Mulching this entire tract is highly concerning and not recommended. Spot-herbicide and other mechanical treatments combined with herbicide would be much more preferred. The BOF recommends reconsideration of expending \$114,000 on these proposed treatments.
  - b. Sustainable Objective Timber Harvest: Is this harvest for the entire site, for a portion? What is the exact prescription? We are not familiar with this terminology. Data and a stand inventory could help to justify additional harvests.
  - c. We commend the township's efforts to improve the streambank and riparian areas. For these activities, we recommend a diverse mix of riparian species, and offer support and expertise in riparian restoration if needed. Maintenance of riparian restoration activities is critical to success; and as such we recommend development of a simple maintenance plan and budget to ensure success. This same comment applies to the proposed pollinator garden on page 24.
  - d. We support the signage, mapping, and improved access. Public input could help to inform and contribute to these efforts.
  
6. Page 24:
  - a. Our comments on harvest terminology and forest mulching apply to other references in the document.
  - b. The American Chestnut tree nursery could be a viable project, and we would be happy to help connect the Township to experts if needed. Volunteers could prove invaluable for maintenance and education and outreach.
  - c. We commend the Township for incorporating projects like the nursery, pollinator garden, community gardens, reduced mowing, and engaging with citizens and volunteers.
  
7. Page 25 and 26: comments address in previous statements.
  
8. Page 26: BOF commends the Township for hiring an arborist to assess and manage community trees. We recommend the Township consider the services of an International Society of Arboriculture (ISA) certified arborist who have received advanced education and training. We also recommend this individual evaluate trees in high-public use areas of other parcels to assess danger trees in proximity to trails.
  
9. Page 27: the recommendations schedule is very useful for planning, budgeting, and communicating when various management practices are expected to occur. Initially, we are concerned about the intensity of proposed activities. Scheduling adequate time between practices to evaluate the outcomes, correct mistakes, account for delays and weather



impacts, and to fully understand the implications is important. We recommend the township revisit this schedule as part of a revised overall plan.