

FOREST PRESERVE ADVISORY BOARD
REPORT TO COUNCIL

Report # 2017-01

SUBJECT: A. Morton Thomas Forest Preserve Forest Health Assessment, Goals
and Recommendations

DATE:

BACKGROUND: In 2015, the City Council approved a contract to engage the firm of A. Morton Thomas and Associates to prepare a forest health assessment for the north and south forest preserves. The purpose of this study was to provide information on the current health of the forest, provide a baseline by which future assessments may be measured, and to prepare recommendations for management of the preserve. In addition, the study was to prepare recommended changes and updates to the Management and Maintenance Guidelines and the city code.

The draft report was received by the city in August, 2016 and was distributed to the members of the Forest Preserve Advisory Board. The FPAB met with the consultant in September, 2016 to receive a briefing on the study. The Board then spent its meetings for the remainder of 2016 and the January, 2017 meeting reviewing the study.

DISCUSSION: The Board has reviewed the study. It has found the study deficient in some areas, particularly as related to the scientific rigor of the data collection and analysis. With respect to the recommendations, particularly the recommendations for the Management and Maintenance Guidelines and the city code, the study provides useful observations and suggestions.

Some of the specific findings of the study include:

- The study serves to describe the current state of the forest preserve and to provide baseline data against which future assessment can be measured.
- The forests are not pristine and have been impacted by human activity.
- Soils can be characterized as highly erodible.
- In relative terms, the forest is young due to farming in the area before Greenbelt was established.
- Stressors to the forest preserve include urbanization, erosion, fragmentation, invasive plants and pollution.
- Lack of storm water management off-site contributes to channel erosion and water quality degradation within the preserve. This results in streams with highly incised channels.
- The mulch pile has a significant negative impact on the preserve.
 - The mulch hill drains into the wetland of special state concern (WSSC) and probably carries a heavy sediment and pollutant load into the stream and wetlands.

- Nothing has been done to mitigate the impact of the mulch pile on the forest.
- Deep forest habitat, called Forest Interior Dwelling Species or FIDS habitat is interrupted by Northway.
- The BW Parkway impacts the forest through noise, air and light pollution. It also impacts the FIDS/green corridor.
- AMT suggests
- That there be a master plan of trails.
- The federal government has adopted new standards for accessibility which should be considered in trails planning. The forest does not qualify for an exemption to the ADA, but the entire woods do not have to be made accessible.
- Trails
 - Trails do not impact the FIDS.
 - Trails are being used by mountain bikes
 - Some trails are eroded channels.
- There was no water quality testing provided in the professional services contract. Therefore, actual impacts on streams are unknown.
- The streams were field located and mapped.

The FPAB's review resulted in a number of questions and comments on the study. These are based on the FPAB's knowledge of correct, rigorous scientific process and a reading of the original Request for Proposals, which the FPAB helped to draft. FPAB did not review the specifics of the contract with AMT in drafting this report.

In general, the FPAB has concluded that the information in the report is inadequate, but has attempted to include in this report a perspective of what value can be derived from AMT's study.

FPAB's comments:

- Data collection
 - General comments
 - Data isn't specific enough.
 - No explanation of the data collection methodology.
 - Forest stands do not appear to be based on plant community associations as required in the RFP.
 - Sample plots
 - Did not provide location data for sample plots. Were plots locations randomly generated? This relates to reliability and repeatability for future studies.
 - Plant Identification
 - How was plant species identified? What methods were used?
 - Streams and trails

- What is the source of the stream data?
 - Were streams and trails field located? How?
- Data issues
 - Need a more detailed map of the plant communities. The RFP was specific in requesting that the plant communities be categorized by “ecological systems or plant community associations using hierarchical system such as the National Vegetation Classification System or Nature Serve’s Ecological Classification Units.”
 - Why was a 1980 map used for forest associations?
 - The study missed pockets of vegetative diversity
 - Study did not identify plants correctly.
 - Datasheets do not show scarlet, pin or black oak as present in any plots. Scarlet oak is the most dominant tree species in the upland parts of the study area. Most plot datasheets include northern red oak instead, which has not been observed by Board members in the study in such density as to be the dominant tree species.
 - Northern red oaks are misidentified and other trees are not identified at all.
 - No data on the density of invasive species overall.
 - The AMT forest structure values do not reflect biodiversity, as required in the RFP.
- Report Volume 2 (AMT’s Recommendations)
 - AMT made good recommendations for code and guideline changes. FPAB has reviewed the code using AMT’s suggestions as a baseline. That will be included in a separate report to Council.
 - Forest management recommendations in Volume 2 are not specific enough.
 - AMT has done no prioritization of plots, stands or management actions.
 - All stands are ranked as high priority, which does not assist the city in making management decisions.
 - There are no specific proposals for dealing with water runoff; AMT could have consulted local watershed groups and large landowners like GHI, Goddard, BARC and the Board of Education.
 - Provide detailed recommendations and prioritization for the treatment of invasive species.

FPAB’s recommendations

- Data Collection
 - General recommendations
 - Re-asses forest plot data to re-draw forest stand boundaries as

- plant community associations to comply with the RFP.
 - AMT must provide a detailed explanation of the data collection methodology. Need to know everything the consultants did and in the order in which it was performed.
 - There should be a list of what data was used and collected.
 - Provide detail as to why and how sample plots were selected.
 - Provide a list of personnel and titles of persons on the team
 - Sample Plots
 - How were plots located/selected? Was the method unbiased?
 - There should be fixed points to measure data historically.
 - GPS coordinates should be provided for each tree-stand plot location.
 - Plant Identification
 - Provide detailed methodology that was used to identify plants; what authorities and plant keys were used?
 - Provide a list of herbaceous plants and rare plants for each plot.
 - Streams and trails
 - Provide source data and/or methodology of how streams and trails were located and mapped.
 - Data Issues
 - Evaluate the use of a more recent and detailed plant association map.
 - Replace forest stand map with more fine-grained plant community maps that capture smaller plant communities and communities of local importance (such as remnant Pine Barrens, hillside seepage communities, and skunk cabbage bogs).
 - There should be more emphasis on biodiversity (e.g. species richness) of the understory of the forest. In order to understand the forest ecosystem there should be a comprehensive assessment/ inventory of the forest understory (e.g. herbs, tree seedlings and juveniles).
 - Revisit and re-identify tree species in stands identified with northern red oak.
 - Report Volume 2 (AMT's Recommendations)
 - Provide detailed recommendations by plant community.
 - Prioritize management strategies by plant community.
 - The Board does not support large-scale stream restoration of any kind in the preserve. The board does support improving storm water management on the borders of the preserve to prevent untreated storm water from entering the streams in the preserve.
 - FPAB does not think that the investment in resources necessary to improve the FIDS along Northway will be worth the return.
 - Ideally move the mulch and asphalt piles, but at a minimum create

a buffer around them with a fence to identify the limits of the piles and the border between the preserve and the land that public works uses.

- Soil and water testing around the piles should be done.
- Remove remnants from the dump area south of the ball fields that are on the surface. Minimize the use of heavy equipment.
- FPAB does not support the recommendations under “highly stressed forest areas”.
- Support educational outreach concerning the impacts of people on the preserve through dumping and littering and clearing of new trails.

ANALYSIS: The Board views this study as being incomplete. Deficiencies in the sampling techniques used to establish tree stands is a fundamental flaw with this study. One of the purposes of this study is to establish a baseline condition of the forest against which future studies may be measured. As the data is presented it is of very limited value in establishing baseline data. The consultant should provide GPS coordinates for each sample plot reflected in the study.

While the Board found the recommendations of the study to be informative and useful the study fails to provide recommendations for the treatment and management of invasive species. This is one of the major threats to the forest preserve and the study should include specific recommendations for treatment of invasive species.

The board identified several areas where the study fails to describe the forest preserve with sufficient detail. For example, the study fails to: identify significant plant associations (e.g. Pine Barrens) within the preserve, identify plant species correctly, and provide information about the forest understory. The study should be revised to address these deficiencies.

The degraded conditions of the streams in the preserve is a significant issue identified in the study, but the board feels that the only strategy for dealing with this problem is to implement off-site storm water management measures. There should be some analysis of options to address stream health beyond on-site storm water management.

Major stressors on the forest preserve are caused by the encroachment and runoff from the mulch pile and the asphalt pile. Ideally these piles should be removed to eliminate their negative impacts. Recognizing that removal or relocation of these piles would be difficult, the Board recommends that certain protections be put in place to reduce the negative impacts. These protections would include establishing a clear zone around the piles and installation of a fence (chain link preferred) to the rear of the piles. It is also recommended that water and soils testing be performed in the area behind the mulch pile, down to the streams into which runoff from the mulch pile flows.

The study includes suggested recommendations, as well as possible edits to the city code and the management and maintenance guidelines. In some areas the recommendations are deficient, particularly as they relate to developing some response to the invasives or dealing with the storm water management issues. These points should be addressed in the final draft. The Board has reviewed the other recommendations. We find the majority of recommendations to be useful and worthy of adoption.

RECOMMENDATION: The Board believes that with additional work, the study can be made a useful tool for the use of the city in developing plans and strategies to address present and future threats to the health of the forest preserve. It is recommended that the City Council forward the Board's observations and questions to the consultant with direction that the study should be revised to address those points as outlined in this report.

This report was approved by consent.