



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NEW JERSEY STATE FORESTRY SERVICES

MAIL CODE 501-04

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CATHERINE R. McCABE
Commissioner

February 10, 2020

Maria Elena Kozak
61 Church Rd
Milford, NJ 08848

Transmitted via email: planningbaord@hollandtownship.org

Dear Ms. Kozak:

Congratulations! On behalf of New Jersey State Forest Service (NJFS), I am pleased to inform you that the Holland Township's second 5-year Community Forestry Management Plan is approved for 2020-2024.

The major goal of the state's Community Forestry Program is to educate all municipalities and counties in the state about the benefits of developing their own distinctive Community Forestry Management Plan. As these plans develop, the health of the tree cover will improve, the number of trees will increase and the awareness of our state's residents will rise.

As you know, a management plan is an essential guide to successfully achieving a healthy and safe community forest. The approval of your second 5 year Community Forestry Management Plan is a great accomplishment, and a testament to the growth and sustainability to your shade tree program. We look forward to continuing this partnership with you and your community, and your continued success.

If you are a participant in the Green Communities grant program, NJFS will follow-up with you on the documentation required for the reimbursement request.

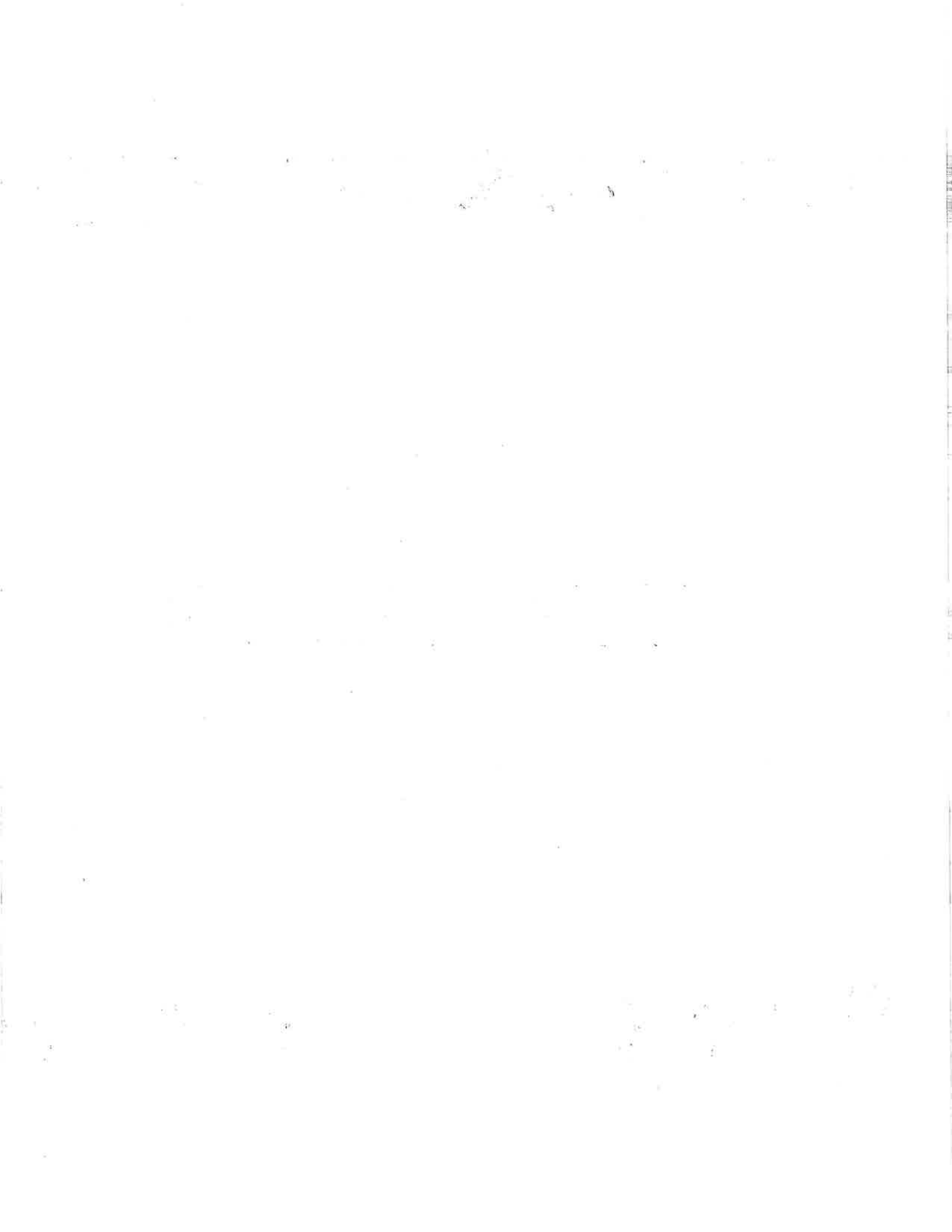
Please find the enclosed certificate of approval and a signed certification by the State Forester within your management plan.

Sincerely,

Carrie A. Sargeant
Urban & Community Forestry Coordinator

Encl. (2)

eCC: Ronald Farr; Carrie Sargeant, NJFS; Patricia Shapella, NJFS



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
New Jersey State Forestry Services

Hereby presents the

Certificate of Approval

awarded to

Holland Township

*For the successful completion of an approved
2nd 5-year Community Forestry Management Plan in accordance with the
New Jersey Shade Tree and Community Forestry Assistance Act,
P.L. 1996, Chapter 135.*


State Forester
February 10, 2020

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**2020 – 2024
COMMUNITY FORESTRY MANAGEMENT PLAN**

**Holland Township
Hunterdon County
New Jersey**

Mayor & Committee Members

Daniel T. Bush, Mayor
Ray Krov, Deputy Mayor
Lisa Mickey, Committeewoman
Scott Wilhelm, Committeeman
Robert Thurgarland, Committeeman

Township Clerk
Catherine M. Miller, RMC



Environmental Commission

Maria Elena Kozak, Secretary*
Michael Keady, Environmental Commission Chair
Raymond Note, Forestry Subcommittee Chair*
Jerry Bowers
Ted Harwick*
Dwight Pederson
Susan Meacham
David Harrison*
Henry Gore, Member Emeritus, Vol. Consultant*
Robert Thurgarland, Township Committee Liaison
Ray Krov, Assistant Liaison

**Denotes Forestry Subcommittee*

**Farr
Forestry
Services, LLC**

Plan Prepared by
Farr Forestry Services
6 Ricker Road
Newfoundland, NJ 07435
farrforest@yahoo.com
973-908-2136

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1.

MUNICIPAL/COUNTY INFORMATION FORM

Municipality Holland Township
County Hunterdon County
Address 61 Church Road
Milford, NJ 08848

Contact Name and Title Maria Elena Kozak, Environmental Commission Secretary
Phone Number 908-995-0057
Fax # and E-mail 908-995-7112 planningboard@hollandtownship.org
Organization Name Holland Township Environmental Commission

Mayor's Signature 
I certify that this Community Forestry Management Plan was developed specifically and exclusively for our municipality.

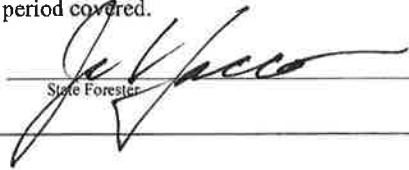

Date of Management Plan Submission October 1, 2019

Time Period Covered In Management Plan 2020-2024

- Community Stewardship Incentive Program (CSIP) Identified in Management Plan
- X CSIP# 1 Training
- X CSIP# 2 Community Forestry Ordinance Establishment
- X CSIP# 3 Public Education and Awareness
- X CSIP# 4 Arbor Day Activities
- X CSIP# 5 Tree Inventory
- X CSIP# 6 Hazard Tree Assessment
- X CSIP# 7 Storm Damage Assessment
- X CSIP# 8 Tree Maintenance and Removals
- X CSIP# 9 Insect and Disease Management
- X CSIP# 10 Wildfire Protection
- X CSIP# 11 Tree Planting
- X CSIP# 12 Tree Recycling
- X CSIP# 13 Sidewalk Maintenance Program
- X CSIP# 14 Storm Water Management
- X CSIP# 15 Other

Official Use Only Certification

The above-named municipality/county has made formal application to the New Jersey Forest Service. I am pleased to advise you that after our review, the NJ Forest Service has concluded that this plan meets the standards set forth by the State and the NJ Community Forestry Council and is approved for the period covered.

Signed  
State Forester Approval Date

INTRODUCTION

2. Introduction

SCOPE

Holland Township applied for and received a Green Communities Grant to finance the development of their second five-year plan. The Holland Township Community Forestry Plan is being developed by the Holland Township Environmental Commission.

The community forest resource is an important resource that contributes to the quality of life for the residents of Holland Township. This community forest resource works to improve air and water quality, reduce energy costs, increase property values, improve citizen health and beautify the Township.



The following outlines the programs, policies and procedures by which tree resources within Holland Township will be managed during the period of January 2020 through December 2024. The objectives in this five-year plan address street trees, park trees, trees on other public grounds and the education of private tree forest

owners.

Mission Statement:

The overall goal of the Holland Community Forestry and Shade Tree Program is to improve the quality of life throughout Holland Township by maximizing the attractive vistas, aesthetic value of the landscape, the environmental, social and economic benefits of trees to the community while minimizing the associated costs and liabilities.

Overall Program Goals:

The New Jersey Community Forestry Council has identified fifteen Community Stewardship Incentive Program (CSIP) practices that together comprise a complete and comprehensive community forestry program that will help the Township complete the goals laid out in this plan.

Within each of the plan elements that follow, existing Township programs, policies and procedures are described, intermediate end element-specific goals are established, and five-year CSIP-based objectives are set.

Systematic fulfillment of the CSIP-specific goals and objectives will gradually move the Township's Community Forestry and Shade Tree Program toward its overall program goals, which have been established as follows:

1. Develop and perpetuate a beneficial tree resource to maximize long-term stability and sustainability of the shade tree resource.
 - a. Maintain the current tree canopy coverage while removing hazard trees.
 - b. Encourage planting and native regeneration on private and public land.
 - c. Develop a planting plan in response to the large-scale loss of Ash by Emerald Ash Borer.
 - d. Apply for CSIP to increase tree planting by the Township.
2. Develop Forest Stewardship Plans on Township owned land, control invasive species and educate the public on the benefits of planting native species.
 - a. Using CSIP or other funds, develop Forest Stewardship Plans on Holland owned properties.
 - b. Work toward removing invasive species on public land, especially Ailanthus given the Spotted Lanternfly infestation.
 - c. Educate the public on the benefits of removing invasive species and planting native species.
 - d. Encourage private landowners to complete Forest Stewardship Plans to focus on restoring forest health.
3. Reverse the tree deficit; minimize “blow downs” and the harmful effects; and minimize deer damage.
 - a. Increase planting if outside funding can be received; either CSIP or other sources.
 - b. Protect seedlings from deer browse.
 - c. Complete the hazard tree survey and systematically remove the hazards to prevent blowdowns and reduce the damage caused.
4. Maximize the benefits of trees to the community.
 - a. Encourage a healthy, species diverse and age-diverse forest for long term sustainability of the benefits forests provide.
 - b. Monitor easements that Holland Township holds on private land and encourage the removal of invasive species and gauge the impacts of deer.
5. Optimize the balance between tree health, maintenance costs and budgetary constraints.
 - a. The hazard tree survey will allow the Township to prioritize high hazard trees and apply for CSIP funding for hazard tree removal.
6. Minimize the risks of hazardous trees to public safety.
 - a. Holland is currently working on a tree inventory and hazard tree survey on high priority roads within the Township.
 - b. Once recorded, hazard trees will be removed as funding allows and monitored annually for further decline.
 - c. Work with utility companies where possible to reduce the risks.
7. Minimize conflicts with and recognize trees as infrastructure within the Township.
 - a. Work with utilities to reduce conflicts with utilities.
 - b. Improve public understanding of trees as infrastructure that require routine maintenance.
8. Educate the community concerning community forest benefits regarding storm water issues.
 - a. Utilize and promote trees as a storm water reduction tool.
 - b. Use CSIP funds if available to complete a riparian buffer planting and a Green Stormwater management system.
 - c. Encourage planting on large lawns to improve canopy cover and reduce stormwater runoff.

9. Improve and maintain public interest, appreciation and support for public Community Forestry and Shade Tree Programs and encourage volunteer participation.
 - a. Continue to distribute information and have a presence at local fairs and green events.
 - b. Continue to add to the label trees at Riegel Ridge Community Center.
 - c. Continue to provide information to residents concerning Emerald Ash Borer and Spotted Lanternfly.
 - d. Once a tree ordinance is adopted apply for Tree City USA.
 - e. Continue to give away free trees to residents as long as they are available.
10. Encourage the planting and proper care of trees on private property.
 - a. When available, continue to distribute free seedlings to residents.
 - b. Educate residents on the destructive impact of deer on seedlings and saplings.
11. Meet all eligibility requirements of the NJ Shade Tree & Community Forestry Assistance Act.
 - a. Ensure that at least one current staff member and one volunteer completes CORE Training.
 - b. Continue to achieve more than 8 continuing education units annually.

Hazards and Liability:

As is the case with all municipal assets and infrastructure, trees require maintenance and it is inevitable that potentially hazardous conditions will emerge without periodic maintenance. Nevertheless, a complete, comprehensive and proactive Community Forestry and Shade Tree Program will strive to prevent, anticipate and correct such problems to maximize the benefits of trees to the community while minimizing the threat to public safety and exposure to liability. All elements of the Community Forestry

Management Plan are designed to optimize the balance between tree benefits and risks.



Photo by Mike Keady.

Holland Township acknowledges that not all hazardous conditions can be or will be predicted. It must work within a limited budget and may not be able to meet every need immediately. The intent of the plan is to direct available resources toward the greatest needs and systematically develop and maintain a healthy shade tree resource with a commensurate reduction in any threats to public safety.

Public safety will be a primary consideration in the development and implementation of all shade tree plans and programs. This plan provides a means of identifying and abating existing tree hazards on a prioritized basis. Further, it provides a means of reducing the potential for future hazards and liability through responsible planting and preventive maintenance.

3. Community Overview

Holland Township

Humans arrived in New Jersey at least 9,000 – 10,000 year ago. In nearby Kingwood, an archeological study found more than 3,000 Native American artifacts from the *Paleo-Indian Period*, many dating back to 841 BC or earlier, including ceramics, stone tools and food remains.

At the time the first Europeans arrived in the area, there were as few as 2,000 or as many as 12,000 humans living in what is now New Jersey (compared to 5,291 now living in Holland Township and 8.7 million in New Jersey, according to the 2010 Census). These Indians belonged to the Lenape tribe.

The Indians cleared the forest for village sites and agriculture and cut wood for fuel, shelters, canoes, tools and other implements. It was also common practice to deliberately set fires for the purpose of driving game and thinning and opening up forests.

The earliest non-Indian settlers came to Hunterdon County around 1700 from the Netherlands, Germany, Scotland, England and Ireland. These settlers acquired most of the land from Native Americans, who relocated to other areas. The Early Agrarian Period is characterized by the clearing of woodlands for agriculture. A variety of crops and vegetables were grown, and sawmills and gristmills were built along streams.

Although the Indians affected the landscape of New Jersey it was the Europeans and their descendants who truly disturbed the vegetation. “By the time New Jersey became a state in 1778, no extensive areas of land well suited to farming remained woodland in the central part of the state” (Robichaud and Anderson, 1994). The remaining forests were repeatedly cut for cordwood.

The Late Agrarian and Industrial Period began in the late 1800’s. Railroad lines allowed farmers to transport products throughout the East. Iron was mined from Holland Township between 1776 and 1890. The human population of New Jersey continued to grow, but the introduction of coal in 1850 began to allow woodlands to recover to some extent. For example, Hunterdon County was only 14% forested in 1899, but it had increased to 36% forest cover in 1987.

The villages and small towns that flourished in the last half of the 19th century have changed little, including Pursley’s Ferry, Amsterdam, Little York and Mount Pleasant. Many of the older farmsteads still exist.

In the Modern Period, agriculture still dominated the local economy for the first half of the 20th century, but then waned, due to competition from large scale farms in other states and the value of land for other uses. Industry in



Photo by Michael Keady

Holland Township included mining and paper factories. John L. Riegel built a paper factory at Warren Glen on the Musconetcong River in 1873, and another at Hughesville in 1889. The Gilbert Power Generating site began operation in 1970, expanded in 1976 and 1996, for a total of 614 megawatts. All units have fuel capability and can burn either natural gas or oil.

Despite the burgeoning human population of NJ, the fact that most of the population is concentrated in urban areas has allowed some areas to remain rural or natural. Holland Township is one of these areas. However, there has been a shift in population from urban and developed areas to rural areas, extending from the suburbs and eliminating farms, forests and wetlands along the way.

Holland Township Forest Past

Holland Township land use was mainly agricultural, based upon the 1930 aerial photographs. While heavily cleared, there were still large contiguous forested parcels, one from south of Church Road to the East of Crab Apple Hill Road. Another large forested parcel was located north of Bellis Road from Cyphers Road to Route 519 and another south of Bellis Road to Mount Joy Road and north of Adamic Hill Road. The majority of these three areas are still forested today but have been bisected by power lines.

Holland Township Today

Holland Township is located in the northwestern part of the County. The Delaware River forms its boundary with Pennsylvania and the Musconetcong River its boundary with Warren County. It was created from Alexandria Township in 1874. In 1876 it was re-merged with Alexandria Township and separated as a municipality of its own again in 1879. The approximate square mileage of Holland Township is 22 square miles and the estimated population is 5,291.

Land Use Type	1995 Percentage	2002 Percentage
Agriculture	31.0%	27.7%
Barren Land	0.1%	0.5%
Forest	47.3%	42.7%
Urban	14.2%	20.3%
Water	2.2%	1.9%
Wetlands	5.2%	6.9%
Total	100%	100%
Sources: 1995 and 2002 Land Use/Land Cover GIS Data		

Five years of progress

The Township of Holland completed its first Community Forestry Plan in 2015. That plan is expiring at the end of 2019. Three Annual Reports have been submitted to date for years 2016-2018. Below is a summary of the accomplishments during this time period.

2016

The Environmental Commission created a subcommittee to handle the Community Forestry Plan responsibilities. One volunteer, Henry Gore, attended CORE Training. In 2016, 21 CEU's were achieved by the Township. A course was conducted in September for several members of the Environmental Commission on Tree Identification. Other continuing education included: Water Needs of Landscape Trees; Roadside Trees; UTC Assessment and Responsibilities of Consulting Arborists.

The Holland Township Committee adopted a resolution supporting Arbor Day. This was linked to a free tree give away conducted by the Environmental Commission. One thousand tree seedlings were distributed to residents. The Environmental Commission sponsored the Township's first Green Fair as part of the Community Day festivities. Information distributed included brochures concerning the Emerald Ash Borer.

The DPW removed hazard trees with their own personnel and contractors. The total annual budget is estimated to be under \$10,000.

2017

Tree seedlings were given away at the Township Recycling Center for Arbor Day.

Training included a Keys to Identify Trees Course. Nine volunteers attended. 32 CEU's total were completed. EAB materials were handed out and discussed at two fairs. Tree labels with name and QR code were installed on 6 trees at Riegel Ridge Community Center. The QR code links to a webpage that includes video, pictures and other information on the specific tree species.



Residents using the QR codes to learn about trees.

Volunteer hours resulted in \$5,878.00 of service. Other tree related costs were \$19,400, including \$ 1,500 on tree removal and \$6,000 for leaf collection.

2018

Arbor Day was celebrated on April 28, 2018 and included a discussion of the trees signage project, and introduction of a new trail system. Participation includes the Holland Recycling Department, DPW, Police Dept, Boy Scouts and Cub Scouts. The entire Environmental Commission volunteered the entire day. 30 CEU's were attained in 2018.

A \$10,000 tree inventory grant was received. A two-hour Tree Identification Class was held again for the Environmental Commission at one of the Environmental Commissioner's home.

Volunteer hours included \$5,878 of service. \$4,000 was spent on EAB issues, \$10,000 on leaf collection and \$1,500 on tree removal. Total tree related costs were \$27,380.

Current Forest Resource

Holland Township received a CSIP Grant and is currently working on an inventory of trees and hazard trees within the Township Right of Way on township roads. The roads were evaluated and prioritized in advance by the Environmental Commission and Department of Public Works to determine which were the highest priority roads on which to complete this work first since the funding would not cover a complete inventory of all municipal roads. The field work is over 80% complete on these high priority roads with over 2,300 trees being identified and evaluated to date and over 18.7 miles of Township Roads completed to date.

Data has not been fully entered at this writing, but the trees located within the right of way tend to be dominated by native tree species with a high percentage of White Ash where some sections of roadway are nearly 80% White Ash, most of which are in serious decline. The Township will use this inventory to prioritize removal of the most hazardous trees and apply for a CSIP grant to help defray the substantial cost involved. There are many large trees over 30 inches in diameter which may be approaching the end of their lifespan and will begin to decline.

The Township also has a significant Spotted Lanternfly infestation. While there are relatively few Ailanthus trees within the Township Right of Way there are very large numbers of them noted on adjacent private properties. As part of the educational component of this plan the Environmental Commission and Forest subcommittee will be working to educate the public on identifying Ailanthus and the Spotted Lanternfly and control measures for each. Currently, USDA is working with residents who grant permission for them to access private property.

There are possibly hundreds of potentially hazardous trees that will have to be monitored and/or removed during this and future planning periods.

Holland Township Forest Future

Holland Township's future forest will have substantially fewer Ash trees than the current forest. There are numerous Ash seedlings on the ground that will not be large enough to be infested by the Emerald Ash Borer. If these trees can make it past deer browse levels they may continue to grow into the canopy. The Oak canopy will continue to fade with age and be replaced by more shade tolerant Beech, Maple and Birch.

The future forest will move toward being safe as hazard trees are removed as funding permits. Steps will be taken to keep the forests native and more resilient through future tree planting and natural regeneration. Ailanthus trees will be reduced, by the USDA, the Spotted Lanternfly or by residents who should be encouraged to remove Ailanthus trees on their own where practical or at a minimum allow USDA or its contractors access to treat those trees. The Township will investigate any funding sources available to assist with the removal of hazard trees as the Township has a limited budget as well as working closely with power utilities to remove potential hazards that will impact power delivery.

No tree ordinance has been adopted. When the Highlands Council completes its sample ordinance, Holland Township will adopt a modified version as part of the Conformance Process.

There is a goal in this plan to complete a Stewardship Plan on municipally owned forest land. The township has also added QR codes to identify trees on public property. This work has been expanded annually. Much of the Green Acres Properties in Holland Township are infested with invasive species.

The Municipal Master Plan is being reexamined at this time. If the Community Forestry Plan is approved it may be adopted or linked as part of the Conservation or Land Use Components of the Municipal Master Plan Re-Examination.

This plan should be tied to any updates to the Township of Holland Environmental Inventory.




Photo by Mike Keady



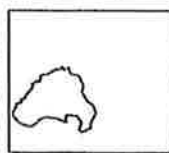
Township of Holland
Highlands Environmental Inventory

Figure 1 Total Forest Area



-  Forested Areas
-  Preservation Area
-  Municipal Boundaries

Holland Township



1 inch = 0.943 miles



August 2011

Holland's Community Forestry and Shade Tree Program

Many Holland Township streets are heavily treed/forested, and agricultural areas often contain large open grown trees. Trees within the right of way in Holland are overwhelmingly native trees species often grown in a forest setting.

Despite all of the positives, many of the trees are aging and inevitably will require replacement or maintenance. With age and deterioration come increased needs for hazard identification and abatement. As a result, segments of the public tree population are demanding a higher level of attention than before and removal and replacement needs are increasing. Many of the potential hazard trees found along roadways will likely be found in forest environs.

Holland Township will attempt to reverse the tree deficit, but this will be an unrealistic goal during this planning period due to the large numbers of ash that will be lost and removed. A tree deficit means that the Township has been removing more trees than it is replanting. Many trees were lost over the last two years as a result of the Emerald Ash Borers and Ash Yellows. The town also has a heavy infestation of Spotted Lantern Fly.

New Jersey Highlands Council

The Highlands Water Protection and Planning Act (Highlands Act) (NJSA, 13:20-1 et. seq.) which became effective in August 2004, is a law that aims to preserve open space and protect the state's greatest diversity of natural resources, including precious water resources that supply drinking water to more than half of New Jersey's population. The Highlands Act defines the geographical boundary of the Highlands Region and the Highlands Preservation and Planning Areas; requires the NJDEP to

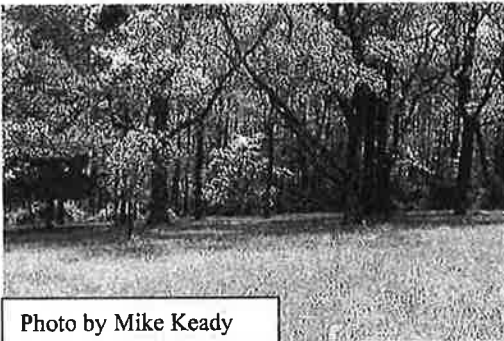


Photo by Mike Keady

establish regulations in the Highlands Preservation Area; and creates the Highlands Water Protection and Planning Council, which was tasked with developing a regional master plan for the Highlands Region.

Holland Township is partially within the Preservation Area and partially within the Planning Area. The Township petitioned to conform to the Highlands Regional Master Plan both in the mandatory Preservation Area and in the voluntary Planning Area. The Township completed the conformance process in November of 2017.

Forest Resources

The forests of the Highlands Region provide essential ecosystem functions, including surface water filtration, which is important to protecting essential drinking water supplies for the Highlands Region, and air filtration, which helps to reduce the effects of global warming through carbon sequestration. Forests also serve as habitat for animal and plant species and are critically important to maintenance of biodiversity in the Highlands Region. In addition, properly managed, they provide an important renewable source of wood products.

Historically, forests were the predominant land cover of the Highlands. Today, more than half of the Highlands Region consists of upland and wetland forested communities (approximately 453,941 acres or 53% of the total land area). Despite increasing forest loss due to land development patterns, the Highlands Region still includes extensive areas of relatively intact forested tracts. More than half of the existing forests in the Highlands Region consist of contiguous forested tracts greater than 500 acres in size.








Photo by Mike Keady

Township of Holland
Highlands Environmental Inventory

Figure 2 Forest Subwatersheds



Forest Integrity by HUC14 Subwatershed

-  Low
-  Moderate
-  High
-  Preservation Area
-  Municipal Boundaries

Holland Township



1 inch = 0.943 miles



August 2011

Protecting the integrity of Highland forests is dependent on maintaining large contiguous forested areas and healthy forest stands. Large contiguous forest tracts have a higher degree of interior, or core, forest. Interior or core forests provide important ecological values. Core forest habitat is defined as a forest located more than 300 feet from altered land or a road. Approximately 43% of the total Highlands Region forest area is core forest habitat. It is important to note, however, that even these large contiguous areas may consist of many smaller parcels under individual ownership. This presents a significant challenge to efforts to manage forest for sustained ecological and water quality benefits.



Increased fragmentation of forest tracts is occurring due to land use alterations. This fragmentation results in quantifiable landscape level changes which include increased edge, reduced forest interior, increased number of patches, forest patch isolation, and reduced habitat area. Historical and current forest losses due to changes in land development patterns and poor management activities threaten the protection of the region's wildlife, water quality, air quality, and overall ecosystem health.

Sustainable forestry becomes more difficult as woodlot sizes decrease, particularly with increased suburbanization occurring around larger properties. Deer overabundance and introduction of non-native pest species are of significant threat to the region's forests. An overabundance of white tailed deer, in particular, is detrimental to forest health and regeneration due to over-browsing.

The Highlands Council assessed the ecological integrity of forests through the examination of landscape level characteristics at both the forest patch and subwatershed (HUC14) level, utilizing measures of forest fragmentation, to identify where regionally significant forests are located in the Highlands Region. These are the forests that are most suited to support ecological processes. The result of this assessment is the spatial delineation of the Forest Resource Area within the Highlands Region. The Forest Resource Area includes high ecological value forest areas including those forested areas that exhibit the least fragmentation and are vital for the maintenance of ecological processes.

The Highlands Council spatially delineated the Forest Resource Area by including those forested areas that express one or more of the following indicators – a contiguous forest patch of equal to or greater than 500 acres in size, an area consisting of >250 acres of core forest area greater than 300 feet from an altered edge, or areas that include >45% of mean total forest cover, and mean distance to nearest patch (HUC14 only).

In addition, the Highlands Council assessed forest cover integrity in the Highlands Region at the watershed level. Forests are important for the protection of water quality and quantity. To assess forest

cover integrity at a subwatershed level, the Highlands Council assigned a value class to each of the 183 HUC14 subwatersheds in the Highlands Region as follows:

- **High Integrity Forest Area** – Predominantly forested, including a high proportion of forest cover consisting of high core area, large patch size, and a low distance to nearest patch.
- **Moderate Integrity Forest Area** – Predominantly forested, but do not exhibit a high proportion of forest cover, core area or patch size and an increase in distance to nearest patch.
- **Low Integrity Forest Area** – Predominantly non-forested or include low values for proportion of forest cover and patch size, or a high distance to nearest patch.

Each subwatershed within the Highlands Region was evaluated, using these indicators of forest watershed integrity to identify forested subwatersheds that provide important water quality benefits.



The Forest Resource Area and the Forest Integrity Indicators are used in the Highlands RMP to achieve the protection of forest areas in the Highlands Region.

Holland Township contains 7,224 acres of Forest Resource Areas (5,298 in the Planning Area and 1,926 acres in the Preservation Area). The Township contains 7,061 acres of Total Forest (5,909 acres in the Planning Area and 1,152 acres in the Preservation Area), as depicted in Figure 1. The HUC14 subwatershed scores for forest

integrity for Holland Township are outlined in the table below, and are depicted in Figure 2. It should be noted that the Township NRI presents a detailed discussion and mapping of dominant vegetation including forested areas in Chapter 7: Biological Resources.

HUC 14 Subwatersheds	HUC 14 Subwatershed Name	Forest Integrity Score
02040105160060	Musconetcong R (Warren Glen to I-78)	MOD
02040105160070	Musconetcong R (below Warren Glen)	HIGH
02040105170010	Holland Twp (Hakihokake to Musconetcong)	MOD
02040105170020	Hakihokake Creek	HIGH
02040105170030	Harihokake Creek (and to Hakihokake Ck)	LOW

Relation to the Township's Master Plan

Implementation of this Community Forestry Management Plan will directly or indirectly help satisfy many of the goals and objectives of the Township's Master Plan and subsequent reexaminations. Holland Township's most recent Master Plan was adopted in November 2007. That was completed in coordination with the Highlands Conformance Process. On November 11, 2013 the Holland Township Planning Board adopted the Highlands Council Master Plan Element and the Highlands Environmental Resource Inventory. The Master Plan is currently being reexamined.

Trees, forests and this Community Forestry Plan can go a long way toward meeting many of the goals discussed in the Highlands Master Plan Element. Preservation goals listed below can utilize tree and forest resources as a tool to meet these goals found on pages 3 and 4.

1. To protect, restore, and enhance the quality and quantity of surface and ground waters;
2. To preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state, thereby ensuring retention of the unique and significant natural, scenic, and other resources representative of the Township Highlands Area;
3. To protect the natural, scenic, and other resources of the Township Highlands Area, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora;



5. To preserve outdoor recreation opportunities on publicly owned land;

6. To prohibit or limit to the maximum extent possible construction or development which is incompatible with preservation of this unique area.

Planning area goals are very similar with trees and healthy forests providing the backbone for attaining many of these goals found on page 4.

1. To protect, restore, and enhance the quality and quantity of surface and ground waters;
2. To preserve to the maximum extent possible any environmentally sensitive lands and other lands needed for recreation and conservation purposes;
3. To protect and maintain the essential character of the Township Highlands Area environment;
4. To promote the continuation and expansion of agricultural, horticultural, recreational, and cultural uses and opportunities;
5. To preserve outdoor recreation opportunities on publicly owned land.

Page 15, Section D. Cluster Development may be addressed in the model Forest/Tree ordinance. The ultimate goal is to keep as many trees on site, reduce fragmentation and maintain core forests intact as possible for declining species that require such habitat.

Page 19 numbers 2 and 3 deal with redevelopment areas. Trees should be added or maintained in such areas as much as is possible. Redevelopment projects create great opportunity for introducing trees into the built landscape. Trees in developed areas can reduce stormwater flows, provide cooling effect in summer and help developed areas mimic the rural/forested character of the rest of Holland Township.

This plan addresses page 23 section A Forest Resources. Trees are critical to the Highlands Open Water and Riparian Buffers page 23 section B. Improving tree cover and restoring forested buffers are critical to meeting the goals in this section of the Master Plan Element. The development of a Restoration Plan for stream corridors may be funded by CSIP 15 with a well written proposal to the NJ Forest Service. Another possible source for funding for such a project could be the Delaware River Basin Commission.

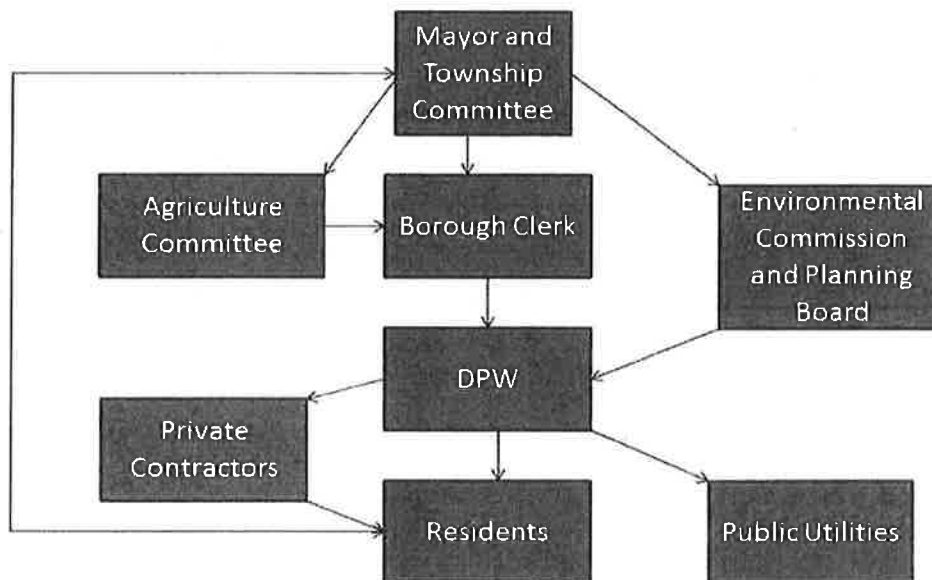
The Highlands Council is working on developing a model tree ordinance which may become part of the conformance process. This ordinance should provide a framework for meeting many of the goals discussed in the Highlands Master Plan Element. This Community Forestry Plan once approved by the NJ Forest Service should be adopted as an element of the Master Plan.



4. PROGRAM ADMINISTRATION

COMMUNITY FORESTRY AND SHADE TREE PROGRAM STRUCTURE AND RESPONSIBILITIES

The Department of Public Works is primarily responsible for the management of public trees in Holland Township. However, the Department of Public Works will work cooperatively with advisement from the Environmental Commission and in cooperation with various other bodies as follows.



1. Mayor and Township Committee

- a) The Mayor is responsible for appointing members of the Environmental Commission.
- b) The Mayor and Township Committee have ultimate authority over the policies, procedures and programs of the Community Forestry and Shade Tree Program and are responsible for approving its budget.
- c) The Mayor and Township Committee will approve any projects in association with the Community Forestry Program such as the application for CSIP grants.

2. Township Clerk

- a) Under the direction of the Mayor and Township Committee, the Township Clerk supervises the daily operations of the Township's various departments and serves as its Chief Administrative Officer.
- b) In addition, the Township Clerk is responsible for:

- Developing the municipal budget.
- Handling citizen inquiries.
- Performing various other administrative duties and completing special projects in connection with the Mayor and Township Committee.



3. Environmental Commission

- a) The Environmental Commission is a group of seven residential volunteers, who are appointed by the Mayor.
- b) The Environmental Commission is responsible for among other things:
 - Advising the Township Committee and the Department of Public Works as to the future plans for the planting and removal of trees within Township rights-of-way and on public lands.
 - Assisting in the development and implementation of solutions for problems and issues relating to public trees.
 - Reviewing plans before the Planning Board and making recommendations for planting and species selections.
 - Conducting research of current and potential future use of open land areas of the Township.
 - Developing grants through CSIP to fund programs discussed in this plan.
 - Keeping an index of all open areas.

4. Planning Board

- a) The Planning Board is responsible for implementing and enforcing various elements of the Township Code and Master Plan that relate to the planting and preservation of public and private trees, landscaping and buffers.

5. The Agriculture Committee

- a) The Agricultural Committee serves as an advisory committee and shall: make recommendations to the Planning Board concerning the need to prepare or amend the Farmland Preservation Plan Element of the Master Plan; gather data concerning farm ownership, farming activity and farming characteristics within Holland Township; promote community awareness of the significance of farming in Holland Township; communicate with Holland Township's farmers concerning available resources and opportunities for participation in the state's and County's development easement purchase programs; serve as alternate liaisons from Holland Township to the Hunterdon County Agriculture Development Board; share primary responsibility for the preparation of the Planning Incentive Grant application to be submitted by Holland Township to the State Agriculture Development Committee or to the Hunterdon County Agriculture Development Board; and engage in such other activities as may be needed to foster the development of farming and promote the preservation of agricultural land in Holland Township or as may be requested of it by the Planning Board.

6. Other Township Departments and Boards

- All Departments notify the Department of Public Works of tree-related hazards for emergency response (e.g. Police Department notifies Superintendent of Public Works of downed trees for emergency service, etc.)
- The Agricultural Committee prepares the Open Space Element of the Master Plan.

7. Property Owners

- a) Private property owners are indirectly involved in the Community Forestry and Shade Tree Programs to the extent that they:
 - Notify the Township of potential hazard trees and future planting locations.
 - Are asked to be stewards of new public tree plantings adjacent to their properties.
 - Are encouraged to plant and properly maintain trees and landscaping on private property, native trees where possible.
 - Some Forest Owners prepare and maintain a Forest Management Plan to obtain Farmland Assessment within the Township.

7. Community Volunteers

- a) Community Volunteers may assist in the future in completing certain projects and tasks relating to the Community Forestry and Shade Tree Program, including planting and education and outreach programs.

8. Department of Public Works

- a) The Department of Public Works manages the daily operations of the Community Forestry and Shade Tree Program with the advice and advisement of the Environmental Commission.
- b) Specifically, the Superintendent of Public Works is responsible for:

- Assisting in the planting, maintenance and removal of public trees.
- Providing emergency response services, when appropriate.
- Following all current and accepted arboricultural standards and practices and abiding by all current safety standards relating to tree care operations.

9. Tree Maintenance Contractors

- a) Private tree maintenance contractors may be hired to complete public tree planting and are occasionally hired to assist with removal and maintenance work and provide emergency service.
- b) Contractors are, within the terms of their agreement, responsible for:
 - Following all current and accepted arboricultural standards and practices and abiding by all current and applicable safety standards relating to tree care operations.
 - Reporting any tree-related hazards or other problems immediately to the Township.

10. Public Utilities

- a) The role of public utilities in the Community Forestry and Shade Tree Program is primarily to minimize conflicts between trees and their facilities and infrastructure.
- b) While working on or around Township trees, public utilities report to the Department of Public Works and the Environmental Commission and are responsible for:
 - Abiding by all applicable ordinances.
 - Keeping the Township informed as to their work plans and schedules.
 - Exercising reasonable diligence in the installation and maintenance of their facilities to avoid damage to public and private trees.
 - Not removing any tree without prior approval of the Township or its owner.
 - Following all current and accepted arboricultural standards and practices.
 - Assisting the Department of Public Works or Township contractors in completing tree removal and maintenance work around their facilities, where necessary.

CSIP #2 COMMUNITY FORESTRY TREE ORDINANCE

Holland Township's Community Forestry and Shade Tree Program will be governed by and with the authority of:

1. The Environmental Commission which is governed under Chapter 7. Holland Township does not have the volunteer pool to create a Shade Tree Commission at this time but it has created a Forestry subcommittee within the Environmental Commission. Final decisions would be made by the Township Committee.

Holland Township does not currently have a Shade Tree/Forestry Ordinance. It is recommended that the Township wait to develop an ordinance. The Highlands Council has a contract for a model

Forestry/Shade Tree Ordinance to be developed. Once the Highlands Council approves this ordinance Holland Township should adopt it as part of the conformance process. Various other elements of the Code of Holland Township that directly and indirectly relate to trees, landscaping, and buffers include:

- a) Chapter 7 - Environmental Commission
- b) Chapter 53 – Burning
- c) Chapter 81 – Farming
- d) Chapter 100 – Land Use
- e) Chapter 121 – Plant Life
- f) Chapter 148 – Streets and Sidewalks
- g) Chapter 164 – Trees

2020 - 2024 OBJECTIVES

1. Community Forestry Ordinance Establishment

a) Holland Township will adopt the Model Forest Ordinance once it has been completed by the Highlands Council which should be completed prior to the end of this planning period. Once adopted by the Highlands Council, Holland Township will review its applicability to its needs and adopt or modify as necessary. Adopting such an ordinance will likely be part of the conformance process.

SHADE TREE POLICIES

Holland Township's Community Forestry and Shade Tree Program does not currently have formal, written policies beyond what is dictated by the applicable ordinances. However, the Program does operate in accordance with several unwritten policies, as indicated in the following sections.

TREE SERVICE REQUEST PROCEDURES

Requests for the pruning, removal or other treatment of public trees are primarily received from property owners and occasionally from Township Departments and others. All service requests are addressed in the following manner:

1. All service requests are received by or forwarded to the Department of Public Works Supervisor.
2. For pruning requests:
 - a) The appropriate work is completed by the DPW or contractor on a priority basis.
3. For tree removal requests:
 - a) The tree is inspected by the Department of Public Works to determine the validity of the request.
 - b) In cases where the justification for the removal is in question outside assistance may be sought.

- c) If removal is not justified, the requester is notified and, if necessary, a DPW work order for other corrective work is generated.
 - d) The appropriate work is completed by the DPW or contractor on a priority basis.
4. Emergency service requests are responded to immediately by the DPW, mutual aid agreements and/or an outside contractor, as appropriate. All others are completed in order of priority and/or as time permits.
 5. Records of completed work are maintained via standard work order records and monthly reports.

2020-2024 Administration Objectives

1. Ongoing Administrative Programs

1. 2020-2024

- Continue implementing the administrative programs, policies and procedures already in effect. This system has worked effectively and efficiently over time.



6. Training Plan CSIP #1

TRAINING AND PROFESSIONAL DEVELOPMENT GOALS

Holland Township recognizes that a continuous, comprehensive training program is necessary for individuals at all levels of the Community Forestry and Shade Tree Program to ensure effective shade tree management over the long term. Specifically, ongoing training and professional development will:

1. Ensure that individuals within the Community Forestry and Shade Tree Program have sufficient knowledge to make appropriate and effective management decisions.
2. Ensure that all tree planting and maintenance activities are planned and completed in accordance with the latest scientific knowledge and current industry standards.
3. Ensure that tree inspections and evaluations follow accepted standard procedures and that the results are objective, and technically correct and consistent.
4. Ensure continuity in the overall level of knowledge and expertise within the Community Forestry and Shade Tree Program as individuals leave the Program and new ones join.
5. Satisfy the requirements of the New Jersey Shade Tree and Community Forestry Assistance Act Training Skills and Accreditation Program.

EXISTING PROGRAMS, POLICES AND PROCEDURES

1. Training Provision:

- a) Employees of the Department of Public Works (DPW) are provided with ongoing safety and related training.
- b) The DPW provides "cross-training" by rotating its employees between various crews so that they can master a variety of skills. As a result, all of the DPW employees can lend a capable hand when assistance is needed.
- c) The cost of existing training programs is covered by the operating budget of the DPW, and in the future through CSIP grants as appropriate. However, the objectives listed below will require a significant increase over current training budgets. The Township's ability to meet these objectives may fully depend upon the availability of external sources of funding.

2. Licenses, Certifications and Recent Training:

- a) Members of the Environmental Commission and Township employees do not currently hold licenses or certifications directly related to arboriculture and urban forestry, and are not required to.
- b) The current Department of Public Works is knowledgeable and capable in all aspects of shade tree management, tree evaluation, and tree maintenance techniques.

3. New Jersey Community Forestry's Training Skills and Accreditation Program:

- a) At the time this plan was prepared, one Township employee (Maria Elena Kozak) and two volunteers (Henry Gore and David Harrison) have completed the CORE Training requirements of the New Jersey Shade Tree and Community Forestry Assistance Act Training Skills and Accreditation Program. More employees and volunteers should complete the training to provide for smooth successional planning.

CURRENT TRAINING NEEDS

The Township has identified the following areas in which training is currently needed or desired:

1. Ongoing, advanced level tree hazard identification and assessment for DPW employees and any Environmental Commission volunteers.
2. Training on emerging invasive species, both insect and plant invaders.
3. General urban forestry training (legal issues, community forestry planning, etc.) for DPW employees or Environmental Commission members.
4. New Jersey Shade Tree and Community Forestry Assistance Act CORE Training for at least one additional volunteer and at least one additional Township employee. To maintain certification and help with transition.

2020-2024 OBJECTIVES

1. Ongoing Training Programs

a) 2020-2024

- Continue implementing all existing training and professional development programs, policies and procedures based on need in order to maintain accreditation.
- Strive to maximize the number of individuals receiving training—including both employees and volunteers—and increase their level of expertise.

2. N.J. Community Forestry's Training Skills and Accreditation Program

January – March, Annually

- Review training needs and upcoming training opportunities. Ensure that the Township will accumulate the necessary continuing education credits required by the N.J. Shade Tree and Community Forestry Assistance Act Training Skills and Accreditation Program by the end of each year. This may be provided by the Forester if desired.

January 2020-December 2024

- Obtain CORE Training for at least one additional Environmental Commission volunteer and one additional DPW/Township employee.

- Current needs include Hazard Tree Identification and Emerging Invasive Insects, Pathogens and Plants have been identified by the Environmental Commission. Training should include volunteers and Township Employees and Elected Officials.

CONTRACTORS AND PUBLIC UTILITIES

Contractors working for the Township and utility contractors working in or around Township trees must have sufficient training and knowledge to ensure that all treatments are completed to applicable American National Standards Institute (ANSI) and Occupational Health and Safety Administration (OSHA) standards and practices and performed in a safe manner. They must also possess all appropriate certifications.

Evidence of training and appropriate certifications must be provided to the Department of Public Works prior to commencing work.

7. PUBLIC EDUCATION, AWARENESS AND OUTREACH CSIP #3

PUBLIC EDUCATION, AWARENESS AND OUTREACH GOALS

The Environmental Commission will work to develop strong Township and citizen support. However, it recognizes that ongoing public education, awareness and outreach programs are necessary to ensure continued success over the long term. Specifically, such programs will:

1. Maintain and further increase the interest and active support for Holland Township's Community Forestry and Shade Tree Program.
2. Encourage community assistance in implementing various programs, protecting public trees, and beautifying the Township.
3. Encourage the planting, protection and care of trees on private property for the benefit of the entire community.
4. Educate all citizens in the importance of environmental stewardship and native species.
5. Educate people on the potential of preserved land and the benefits of active stewardship and management.



EXISTING PROGRAMS, POLICIES AND PROCEDURES

1. Township website has been and will continue to be a source of tree and forest health news, including but not limited to.

a) Tree Owner's Manual for the Northeastern & Midwestern United States
www.treeownersmanual.info.

b) Spotted Lanternfly Information and other emerging invasive species to raise the public's awareness and provide them with proactive management options to slow, reduce or eliminate the threats.

c) Natural Resource Inventory and other pertinent environmental and tree related information.

d) Holland Township School participates in the Free Tree program for 3rd Graders. Students also studied tree leaves. The School also participates with Project Learning Tree.

2020-2024 OBJECTIVES

1. Work to develop Public Education, Awareness and Outreach Programs to meet the requirements of the Community Forestry and Shade Tree Act and build public support.
2. Work towards recognition by Tree City USA and work to maintain the certification. The township meets all the requirements with the exception of the Tree Ordinance which will be approved when the Highlands Council completes the model ordinance for the Highlands.
3. Utilize the Township's internet web site (<http://hollandtownship.org>) to post announcements relating to the Community Forestry and Shade Tree Program, such as the educational materials, grants applied for and received and information about progress being made in this program.
4. Submit at least two articles a year discussing the Community Forest, accomplishments of the program, educational articles, etc to Holland Happenings or regional newspapers.
5. Continue to educate residents and work with the US Department of Agriculture in dealing with the Spotted Lanternfly as well as dealing with failing ash trees due to Ash Yellows and Emerald Ash Borer.
6. Students at the Holland Township School may, during this planning period, participate in the PLT Branching Out in Working Forests Game. Students have also attended Township Meetings for Water Conservation and will plan to speak about the importance of trees this planning period.

8. STATEMENT OF ANNUAL BUDGET AND RESOURCES

OVERVIEW

The following is a summary of the resources available to Holland's Community Forestry and Shade Tree Program, on average, in each of the past three years.

Completion of some of the objectives contained in the Plan will require resources that the Township may not be able to produce or sustain. The Township's ability to satisfy these objectives may fully depend on obtaining additional funding through external sources and grant programs.

EMPLOYEE SALARY AND WAGES

Township Clerk, Department of Public Works Personnel, Clerical Assistance
4-year average \$11,790.00
(total prorated by % of time dedicated to the Community Forestry and Shade Tree Program)

OPERATIONS

Contracted Services, Training, Materials and Supplies, Consulting, Other Miscellaneous Expenses
4-year average \$ 5,700.00

TOWNSHIP EQUIPMENT

Two Chippers
One Dump Truck
Various Chain Saws
Various Small Tools

Subtotal \$90,000.00
(Estimated annual value based on 5-10 year service life, maintenance repairs, etc.)

TREE PLANTING

Contracted Tree Planting

Subtotal \$200.00

WASTE RECYCLING

Leaf and Wood Disposal
Township facilities and equipment for storing
Processing and distributing recycled tree waste

Subtotal \$8,000.00

VOLUNTEER SERVICES

Environmental Commission members
Other Volunteers

Subtotal \$5,878.00
(97 hours per year @ \$21.79)

TOTALS

Township Resources (4-year average) \$29,268.00
Value of Volunteer Contributions \$5,878.00

2020-2024 Budget Objectives

1. Ongoing Budget

1. 2020-2024

- I. The budget for the Community Forestry and Shade Tree Program should be maintained at current levels with slight yearly increases when feasible.
- II. Volunteer hours will continue to be tracked closely as their number and hours will increase over time with the implementation of this plan.

9. STATEMENT OF PLAN IMPLEMENTATION

PLAN IMPLEMENTATION

Successful implementation of this plan will require a dedicated core of volunteers, community acceptance and buy in from municipal employees and elected officials. Based on the participation during these planning meetings and hazard tree field work, by volunteers and elected officials, Holland Township has shown and will continue to show dedication to its tree and forest resources.

This plan lays out the specific actions to be carried out each year for the next five years and the group responsible for carrying out these actions. This Implementation Timetable is a projected schedule. There may be unforeseen circumstances that may result in an alteration to this timetable. For this reason, some projects may be completed earlier or later than projected in this plan.

At each Environmental Commission meeting progress will be reported, it will be clearly laid out who is responsible each task, who will assist in completion of the task and clear deadline will be established for completion of the task. It is also understood that Holland Township has a limited pool of employees available to carry out this plan. Success breeds interest and each successful project should result in a press release.

PLAN PREPARATION AND EVALUATION

PLAN PREPARATION AND EVALUATION GOALS

The Township recognizes the benefits of a Community Forestry Management Plan toward attaining long term success of its Community Forestry and Shade Tree Program. The Township is committed to developing and implementing consecutive five-year plans and remaining in compliance with the New Jersey Shade Tree and Community Forestry Assistance Act. This plan is the second plan being completed by Holland Township.



EXISTING PROGRAMS, POLICIES AND PROCEDURES

Plan Preparation

Preparation of this second five-year plan was a cooperative effort of the Environmental Commission and their Consulting Forester. This plan was funded by the Green Communities Grant Program through the New Jersey Forest Service's Community Forestry Program.

2020-2024 OBJECTIVES

1. Annual Program Evaluation – December annually

- a) Every December the Environmental Commission, DPW, and the Consulting Forester will evaluate the success of the past year's activities and accomplishments relative to the goals and objectives laid out in this plan.
- b) Programs will be adjusted as necessary based upon this evaluation and emerging invasive insects or diseases.
- c) Prepare and submit the Annual Accomplishment Report to the New Jersey Forest Service in accordance with the requirements of the New Jersey Shade Tree and Community Forestry Assistance Act.

2. Five-year Evaluation

- a) The achievement of goals and objectives will be evaluated for completion to date as laid out in this plan.
- b) New objectives and adjustments to existing policies will be made and changed if necessary, for the 2025-2029 management planning period by August 2025.
- c) A new plan shall be written and submitted for approval to the New Jersey Community Forestry Council by October 1st, 2025.

Implementation Timeline

Date	Activity	Responsible Party	
2020			
Spring 2020	Arbor Day Tree Planting	Environmental Commission Dept. of Public Works Volunteers	Annual
2020	Track hours and expenditures for Community Forestry Program	Dept. of Public Works Environmental Commission	Annual
2020	Submit two articles to the Township website, local and regional newspapers	Environmental Commission	Annual
Fall 2020	Plan and develop outreach efforts at community events	Environmental Commission Consulting Forester Volunteers	Annual
2020	Identify and label individual trees on township property.	Environmental Commission	Annual
2020	Plan and develop outreach efforts at Community Day	Environmental Commission Consulting Forester Volunteers	New
2020	If funding available apply for a Township Seedling Giveaway	Environmental Commission	Annual
2020	Register all 3 rd Graders in the Township for the free tree program from NJ Tree Foundation	Environmental Commission 3 rd Grade teachers	New
2020	Recruit volunteers for implementing the plan	Mayor and Council Environmental Commission	New
2020	Complete the Hazard Tree Survey Grant	Environmental Commission Consulting Forester	New
2021			
Spring 2021	Arbor Day Tree Planting	Environmental Commission Dept. of Public Works Volunteers	Annual
2021	Track hours and expenditures for Community Forestry Program	Dept. of Public Works Environmental Commission	Annual
2021	Complete annual training requirements; 8 Continuing Education Units	Environmental Commission Dept. of Public Works Consulting Forester	Annual
2021	Submit 2 tree or forest related articles to local and regional newspapers and Township website.	Consulting Forester Environmental Commission	Annual
2021	Identify and label individual trees on Township Property	Environmental Commission	Annual
2021	Plan and develop outreach efforts at Community Day	Environmental Commission Consulting Forester	Annual

		Volunteers	
2021	If funding available apply for a Township Seedling Giveaway	Environmental Commission	Annual
2021	Investigate alternate sources of funding and possibly create a non-profit shade tree group	Environmental Commission	New
2021	Work with Environmental Commission and create and present a tree related program within the school district	Environmental Commission Consulting Forester School Board	New
2021	Attain CORE Training for at least one volunteer and/or DPW Employee	Dept. of Public Works Environmental Commission Mayor and Council	New
2021	Apply for CSIP funding to implement a Riparian Buffer Program	Environmental Commission Consulting Forester	New
2022			
Spring 2022	Arbor Day Tree Planting	Environmental Commission Dept. of Public Works Volunteers	Annual
2022	Track hours and expenditures for Community Forestry Program	Dept. of Public Works Environmental Commission	Annual
2022	Identify and Label individual trees on Township Property	Environmental Commission	Annual
2022	Continue and improve outreach efforts at community events.	Environmental Commission Consulting Forester Volunteers	Annual
2022	Complete annual training requirements 8 Continuing Education Units	Environmental Commission Dept. of Public Works Consulting Forester	Annual
2022	If funding available apply for a Township Seedling Giveaway	Environmental Commission	Annual
2022	Submit 2 tree or forest related articles to local and regional newspapers and Township website.	Consulting Forester Environmental Commission	Annual
2022	Identify and Label individual trees on Township Property	Environmental Commission	Annual
2022	Begin implementing the Riparian Planting Project	Environmental Commission Consulting Forester	New
2022	Apply for a CSIP grant to implement a Green Stormwater Management System	Environmental Commission Consulting Forester	New
2022	Complete a Forest Inventory if CSIP funding has been received	Consulting Forester Environmental Commission	New
2022	Apply for CSIP funding to remove invasive species on Township Owned land	Consulting Forester Environmental Commission	New

2022	Adopt the Model Highlands Shade Tree Ordinance	Environmental Commission Mayor and Council	New
2023			
Spring 2023	Arbor Day Tree Planting	Environmental Commission Dept. of Public Works Volunteers	Annual
2023	Explore the feasibility of Tree City USA certification	Environmental Commission	Annual
2023	Track hours and expenditures for Community Forestry Program	Dept. of Public Works Environmental Commission	Annual
2023	Complete annual training requirements 8 Continuing Education Units	Environmental Commission Dept. of Public Works Consulting Forester	Annual
2023	Identify and Label individual trees on Township Property	Environmental Commission	Annual
2023	Continue and improve outreach efforts at community events.	Environmental Commission Consulting Forester Volunteers	Annual
2023	Submit 2 tree or forest related articles to local and regional newspapers and Township website.	Consulting Forester Environmental Commission	Annual
2023	If funding available apply for a Township Seedling Giveaway	Environmental Commission	Annual
2023	Apply for CSIP funds to develop a Forest Stewardship Plan for Township owned land and a baseline study and mapping project on conservation easements.	Environmental Commission Consulting Forester	New
2024			
Spring 2024	Arbor Day Tree Planting	Environmental Commission Dept. of Public Works Volunteers	Annual
2024	Submit 2 tree or forest related articles to local and regional newspapers and Township website.	Consulting Forester Environmental Commission	Annual
2024	If feasible apply for Tree City USA recertification	Environmental Commission	Annual
2024	Track hours and expenditures for Community Forestry Program	Dept. of Public Works Environmental Commission	Annual
2024	Complete annual training requirements 8 Continuing Education Units	Environmental Commission Dept. of Public Works Consulting Forester	Annual
2024	Identify and Label individual trees on Township Property	Environmental Commission	Annual
2024	Continue and improve outreach efforts at community events.	Environmental Commission Consulting Forester Volunteers	Annual

2024	Reevaluate hazard trees and update the list	Environmental Commission Consulting Forester	Annual
2024	If funding available, apply for a Township Seedling Giveaway	Environmental Commission	Annual
2024	Strategic planning, goal development and evaluate the successes and failures of the second CFMP.	Environmental Commission Consulting Forester	New
2024	Apply for Green Communities funding for the creation of the third five-year plan	Environmental Commission Consulting Forester	New
2024	Map and complete baseline surveys on properties with conservation easements	Consulting Forester Environmental Commission	New
2024	Implement removal if invasive species on Township owned land if CSIP funding is received to implement the program	Environmental Commission Consulting Forester Volunteers	New

COMMUNITY STEWARDSHIP INCENTIVE PROGRAM (CSIP)

The completion and State approval of this plan will allow Holland Township to be eligible for CSIP grants when they are available to complete specific tasks laid out within the plan. The Township's current CSIP grant will have to be completed prior to applying for another CSIP Grant. As the Township has limited funds, any CSIP funds that are made available will help to facilitate the implementation of the plan and completion of goals and objectives laid out in this plan.

Due to recent State budget problems some of these CSIP programs may not be funded year to year. The attainment of some objectives shown in the Objectives Timeline may be contingent on the availability of adequate funding from the State and/or other sources.

TREE INVENTORY CSIP #5

EXISTING PROGRAMS, POLICIES AND PROCEDURES

Through a CSIP grant the Township Environmental Commission in cooperation with the Consulting Forester are working on an inventory of street trees and hazard trees within the Township right of way. Over 2,300 trees have been measured, identified and evaluated to date. The final product will not be a



complete inventory of all Township Roads but will be a complete inventory of the highest priority roads designated by the Department of Public Works and the Environmental Commission. The \$10,000 grant was received in February of 2019 with the work period being between August 3, 2018 and August 3,

2020. The contract was awarded in February of 2019 and field work was initiated May 15, 2019.

INVENTORY AND ASSESSMENT GOALS

The goals of a tree inventory are to:

1. Provide accurate baseline information upon which sound shade tree management plans and decisions can be based.
2. Monitor and evaluate the impact of management activities on the tree population and progress towards the overall goals of the Community Forestry and Shade Tree Program.

2020-2024 OBJECTIVES

1. Shade Tree Inventory

a) January 2020 – December 2020

- Complete the existing CSIP grant with an inventory of the highest priority roads within Holland Township.

2. Street Tree Inventory Report

a) January – April 2021

- Produce a variety of charts and reports that summarize the current state of the street tree population. This report will serve as a baseline to which future reports can be compared and the impact of management activities can be evaluated.

HAZARD TREE IDENTIFICATION CSIP #6

This is likely the most important part of the Community Forestry Program and where the Township can systematically remove potential hazards and maximize efficiency in a fiscally responsible fashion.

EXISTING PROGRAMS, POLICIES AND PROCEDURES

1. Tree Hazard Identification

- a) The Township received CSIP grant funding, which is being utilized to complete a hazard tree survey of the highest priority roads as designated by the DPW and Environmental Commission. There are extensive numbers of declining Ash trees that have been located during



the inventory to date. Most are in severe decline due to a combination of Emerald Ash Borer and Ash Yellows.

HAZARD MANAGEMENT GOALS

While the benefits of shade trees to Holland Township residents are obvious, the Township recognizes that they also present risks and the potential for liability.

The sole purpose of the Tree Hazard Management element of this plan is to ensure public safety. The Township is committed to improving safety and reducing liability through comprehensive and proactive shade tree management. Public safety shall be the primary consideration in all shade tree planning, decision-making and activities at all levels of the Community Forestry and Shade Tree Program. There have been fatal tree accidents in neighboring communities and advancing this program will help reduce the potential for such accidents in the future.

2020-2024 OBJECTIVES

1. Future Tree Hazard Management Programs

a) January – December 2020

- Complete to the extent possible with the funding provided by the CSIP grant, a formal hazard tree survey of the highest priority streets within Holland Township.
- Apply for CSIP funding to help offset the costs of hazard tree removal.

b) January 2020 – April 2024

- Continue to address hazard abatement priorities from the Hazard Tree Survey as funding allows.
- Conduct an annual review of the high priority hazards or conduct a windshield survey to assess trees in decline and address new hazards created by insect or disease infestations or storms.

TREE PLANTING CSIP #11

PLANTING GOALS

The stability of the tree population will be improved by manipulating and optimizing its species composition and age distribution via careful species selection and consistent planting from year to year. The White Ash in the Township is being decimated by Ash Yellows and Emerald Ash Borer leading to the removal of thousands of Ash trees by the Township, County, Power Utilities and Private Landowners. This should create large numbers of planting space although many of these trees are located in wooded areas and may be located in areas that are difficult to replant. Further, responsible species selection, placement and planting techniques will help reduce further tree and infrastructure conflicts. Native species will be recommended for planting.

1. Improve and maintain species diversity to help insulate the tree population from catastrophic losses to species-specific insects and diseases.
2. Improve and maintain age diversity so that the number of trees requiring removal and replacement due to advanced age is consistent from year to year.
3. Minimize conflicts between trees and buildings, utilities and other public and private fixtures.
4. Minimize future maintenance needs and costs.
5. Strategically plant the right species in the right place with tree size at full development in mind.
6. Potential plantations or tree nurseries on preserved land.



EXISTING PROGRAMS, POLICIES AND PROCEDURES

The Township does not have a planting program and is operating in a tree deficit, removing more trees than it is planting.

2020-2024 OBJECTIVES

1. Ongoing Tree Planting Programs

a) 2020-2024

- Apply for CSIP funding to increase tree planting by the Township.
- Develop underwire planting criteria.
- Develop a planting response to large scale tree loss due to losses by Emerald Ash Borer.
- The Township Environmental Commission will encourage private landowners to enroll in the new Forest Stewardship Program which eliminates excessive income requirements and excessive cutting. Landowners focused on replanting and forest restoration could compliment this goal nicely.
- Private landowners should also be encouraged to remove Ailanthus on their property and to work with USDA to treat Ailanthus to attract and kill Spotted Lantern Fly.

2. Vacant Planting Site Identification

a) July – October 2023

- Prioritize all existing vacant planting sites identified by the tree inventory and the Environmental Commission to be utilized for future planting projects if CSIP funding is available.
- Contact landowners to determine if they want replacement trees.

TREE MAINTENANCE AND REMOVALS CSIP #8

MAINTENANCE GOALS

The Township recognizes that proactive, systematic tree maintenance more cost-effectively improves tree condition and appearance, extends their service life, and reduces hazards instead of having a haphazard “crisis” approach. There is currently no pruning/maintenance that takes place. The township does not have the staff, equipment or funding to complete proactive tree maintenance.

Developmental pruning early in the tree’s life will minimize future pruning needs and the development of structural defects. Conditioned maintenance as they mature will help extend their service life, increase their benefits relative to costs, and reduce their hazard potential.



Specifically, the goals of the tree maintenance program are to:

1. Improve and maintain the health and physical condition of the tree population.
2. Maximize the service life of existing trees.
3. Maximize the cost-efficiency of tree maintenance activities.
4. Maintain public safety.
5. Optimize the benefits that trees provide to the community relative to the cost of maintaining them.

EXISTING PROGRAMS, POLICIES AND PROCEDURES

1. DPW Crews

a) The Township has a DPW that is available for tree projects. The entire DPW is made up of six men who are responsible for all of the duties of the Department of Public Works.

b) This DPW is equipped with:

- (1) chip truck
- (2) chipper
- Various chainsaws, pruners and other small tools

c) The DPW completes:

- Approximately sixty percent of all tree removal work and very little if any pruning. Trees removed are typically on an emergency basis or trees that have already fallen.

2. Private Contractors

a) Private tree maintenance firms are routinely hired to complete pruning and limited specialty treatments.

b) Private contractors complete:

- Any other tree work including trees removed with power line conflicts, etc.
- High priority trees as designated by the DPW are removed by private contractors as much as funding level allow.

3. Inter-Local and Mutual Assistance Agreements

a) The Township currently has informal agreements with neighboring municipalities for sharing of equipment and personnel for tree maintenance.

4. Private Landowners

a) Private landowners are responsible for tree maintenance on their property and outside the Township right of way.

b) Home owners should notify the Township or County DPW of downed trees or hazardous trees in the adjacent right of way.

5. Tree Removal

a) It is the Township's policy to not remove public trees unless they are dead or hazardous or there is some other valid reason, subject to the approval by the Department of Public Works.

b) In recent years, the Township has removed 20 trees per year on average, particularly as a result of the Emerald Ash Borer Infestation over the last few years, mainly as emergency calls.

6. Funding

a) The DPW operating budget covers the cost of tree work completed by its employees and contractors.

2020-2024 OBJECTIVES

1. Ongoing Tree Maintenance Programs

a) 2020-2024

- Continue implementing existing tree maintenance programs, policies and procedures on a regular basis.
- Once the Hazard Tree Survey is completed, Holland Township will apply for CSIP funding to help defray cost of hazard tree removal, if funding is available.

Other Activities

ARBOR DAY ACTIVITIES CSIP #4

EXISTING PROGRAMS, POLICIES AND PROCEDURES

A formal Arbor Day observation is conducted by Holland Township since Arbor Day in 2017 and has included distribution of free tree seedlings and a tree planting. The Township also participated in the free tree give away every year when seedlings were available in the aftermath of Hurricane Sandy. The School currently receives and distributes free trees for 3rd graders. The township has also distributed free trees for Arbor Day as well as conducted ceremonial plantings.

ARBOR DAY GOALS

The Township will continue to formally celebrate Arbor Day with a proclamation by the Township Committee and a ceremonial tree planting. Arbor Day is an excellent public relations tool for the Community Forestry Program for Holland Township. Over time this will build public support for the program. Any articles related to the Arbor Day Program can be utilized as part of the two press releases annually.

2020-2024 OBJECTIVES

1. Arbor Day

- a) Holland Township will formally celebrate Arbor Day with ceremonial plantings and a formal proclamation by the Township Committee.
- b) Programs can be run in cooperation with the Township school. Such programs shall include a formal proclamation and ceremonial tree plantings.

STORM DAMAGE ASSESSMENT CSIP #7

STORM DAMAGE ASSESSMENT GOALS

Tree-related emergencies are primarily the result of structural failure during severe weather events. The Township is prepared to respond promptly to such emergencies so that electrical service, communications and transportation can be restored with minimal disruption for residents. Other

possible sources of widespread tree loss include insect and disease outbreaks and are less likely to cause mass losses due to the implementation of this plan.

The frequency and severity of tree-related emergencies and widespread tree loss are minimized through well-designed planting, maintenance and hazard tree management programs already being implemented by the Township.

EXISTING PROGRAMS, POLICIES AND PROCEDURES

1. Tree Emergency and Disaster Threats

- a) Severe weather leading to mass loss and structural failures are the primary disaster threat to Township trees.
- b) Structural failures pose a serious threat to electric service, communications, travel and public health. Downed trees may hamper the Township's ability to provide critical services during an emergency or disaster.
- c) Brush fires pose a threat to Township trees in all parts of the township, including trees on private property, township-owned property, and on preserved properties.

2. Existing Emergency and Disaster Plans

- a) The Township has an emergency response team and operations plans are in place. The Township DPW works with its staff, private tree removal companies and public utility companies to deal with tree related emergencies.
- b) The Township does not have a plan beyond the initial response efforts, that would specifically deal with large scale tree replacements after such events.

3. Emergency Response

- a) The DPW in cooperation with public utilities and contractors are responsible for immediately clearing trees and debris from open roadways and those that hamper the restoration of electrical service and communications.
- b) DPW staff are on call 24 hours a day to respond to tree related emergencies.
- c) Arrangements have been made with private contractors to provide support in emergency situations when this assistance is considered necessary.

2020-2024 OBJECTIVES

1. On-going Programs

- a) 2020-2024

- Continue to implement the programs above and review them on a regular basis.
- Reduce the risks of mass tree failure by continuing to implement and expand sound and responsible planting, preventative maintenance, hazard identification and remediation programs as laid out in this plan.

INSECT AND DISEASE MANAGEMENT CSIP #9

The Township of Holland is getting hit hard by invasive insects. The Hemlock Woolley Adelgid, Emerald Ash Borer and Spotted Lanternfly are found extensively throughout the Township. USDA is working with private landowners who grant permission to kill Ailanthus trees on their property as well as chemically treat other trees to kill Spotted Lanternfly as they feed on Ailanthus trees. The Department of Public Works, Environmental Commission and Consulting Forester will continue to stay up to date on current conditions and potential forest health issues which may affect the community forest. This will be an on-going and reactive process.

Oak Wilt and Bacterial Leaf Scorch are concerns within the township and many of the Colorado Blue Spruce in town are affected by Cytospora canker. These diseases will be monitored and education provided to private landowners to increase awareness of these species, treatment and prevention and potential impacts.

2020-2024 OBJECTIVES

Goal: Maintain community forest health to provide as many environmental services and positive community benefits as possible for Holland Township.

Objectives:

- Conduct continuous periodic monitoring of forest health issues throughout the Township.
- Create awareness among the public of forest health issues and the importance of trees to the community in order to increase appreciation for the community forest cover and create municipal pride and ownership.
- Should a major forest health issues be identified, CSIP funding may be applied for to reduce the financial impact on the Township.
- The Township and the Environmental Commission will continue to work with USDA to combat the Spotted Lantern Fly infestation. The Emerald Ash Borer and Ash Yellows have had a devastating impact on Ash trees and Hemlock Woolley Adelgid have drastically reduced the Hemlock population within town.
- The Township will attempt to provide education on emerging tree pests before they become entrenched within the Township. Diseases to be discussed currently are Bacterial Leaf Scorch and Oak Wilt which would have a devastating impact on the oak resource within the Township. Cytospora is causing serious decline of Colorado Blue Spruce throughout town at this time.



Photo by Mike Keady

WILDFIRE PROTECTION CSIP #10

Wildfire is not a significant threat in Holland Township. The oak forests of the past may have been maintained by clear cutting or forest fire but it is currently a reduced risk in this Township. With areas in the Township with steep slopes and thin soils, fire could nonetheless become a hazard during dry conditions. If Holland Township is interested it should pursue becoming a Firewise Community if funding is available from the New Jersey Forest Fire Service and the CSIP program. This would be a jointly managed program between the Fire Department and the Environmental Commission should a Firewise Grant be pursued.

Goal: Holland Township should pursue becoming a Firewise Community.

Objective:

- Determine if forest fire is enough of a threat to apply for Firewise funding and become a Firewise Community.
- Raise awareness of the potential for damage from wildfire within the township.
- Raise awareness of potential benefits of prescribed burning for the control of invasive species and re-establishment of native Oak-Hickory forests on public and privately-owned forest tracts.

TREE RECYCLING CSIP #12

RECYCLING GOALS

Holland Township's Community Forestry and Shade Tree Program generates large volumes of vegetative waste. The Township recognizes the cost savings and benefits associated with properly recycling these materials and using the resulting products for beneficial use.

A comprehensive tree waste recycling program will:

1. Minimize the cost of tree related waste to the Township.
2. Produce beneficial recycled products for use on Township and residential properties.

EXISTING PROGRAMS, POLICIES AND PROCEDURES

1. Recycling facilities
 - a) The Township recycling center is used to store, process and distribute these recycled products.

2. Material Processing, Use and Distribution

a) Leaves

- All leaves are delivered to the recycling yard for composting.
- The finished compost is made available for use by residents as well as on Township-owned property.

b) Brush and Wood Chips

- Brush can be dropped off by residents.
- All wood chips are stockpiled on Township property.
- These wood chips are utilized by residents as well as on Township-owned property as mulch.

c) Bulk Wood

- To the extent possible, bulk wood products are cut and left on site for use by residents for firewood.
- Limited amounts of wood are delivered to commercial recycling facilities for processing into mulch and other wood products.
- Wood can also be processed into usable timber through a cooperative agreement with a saw mill. Holland Township should investigate saw mill facilities which can process street trees into usable products for the municipality.

2020- 2024 OBJECTIVES

1. Tree waste recycling programs will continue as they have in the past.
2. Bulk wood utilization will be reviewed for possible use in traditional forest products. The Environmental Commission should investigate developing an agreement with saw mills that are in closer proximity to utilize wood removed.
3. Develop a policy for residents to take advantage of wood from trees removed by the Township.

SIDEWALK MAINTENANCE PROGRAM CSIP #13

There are virtually no sidewalks within Holland Township. There will likely be no activity involving sidewalks and CSIP #13 during this planning period.

STORMWATER MANAGEMENT CSIP #14

The Township has a Storm Water Management Plan backed by a Storm Water Management Ordinance. It is also referenced in the Township Master Plan. It may be possible to develop a grant for CSIP funding. There is a limited mention of trees and their positive impact controlling storm water.

2020 - 2024 Objective

1. Utilize trees and the community forest as a storm water management tool.



Confluence of the Musconetcong River and Delaware River, photo by Mike Keady and Henry Gore

OTHER CSIP #15

Forest Stewardship Planning on Preserved Land

The objective is to become a steward and guardian for township owned and conservation easement properties. Holland Township will utilize CSIP funding to complete Forest Stewardship Plans on municipally owned and managed land where easements are held. These Forest Stewardship Plans will include identification and classification of the resources found on the parcel, baseline studies of preserved land and easements, management recommendations for controlling invasive species, forest and wildlife management recommendations, trail development, signage of owned properties and encouraging recreational use of the properties. Under these plans property boundaries should be clearly marked and delineated. Other goals may include but are not limited to maintenance and protection of scenic vistas and rare plant communities.

After plans are created on municipally owned lands the Township will investigate cooperatively creating Stewardship Plans on land owned by Hunterdon Land Trust and Hunterdon County.

Newly acquired township property at Bethany Ridge is to be the first priority because of its strategic location next to Riegel Ridge Community Center.



Saeger Land Preserve after invasive species control, photo by Mike Keady and Henry Gore

Invasive Species Control

Holland Township will consider the possibility of also applying for CSIP or State or County Stewardship funding to facilitate the removal of invasive species from public land and to provide education to residents about removing invasive species on their properties and avoiding planting them. This could include Spotted Lantern Fly, Mile-a-Minute Vine, Japanese Barberry, Multiflora Rose, Bamboo and Japanese Knotweed.

Easement Monitoring

The Township of Holland holds conservation easements on private properties. A working list will be compiled of easements held by the Township. These easements should be monitored to assure the easements are being honored. A baseline study should be followed up with annual inspections.

2020 - 2024 Objectives

1. Communicate with easement holders about the inspection process.
2. Inspection should be conducted by the Consulting Forester of all town owned and conservation easement properties for resource inventories, baseline studies, boundary markings and problems (i.e. unauthorized uses, forest health issues). These inspections will be conducted annually.
3. Establishment of a database of properties and easement locations, GIS mapped baseline studies of easement properties, problems and opportunities.
4. Establish a Forest Stewardship Plan for the Bethany Ridge Property. Include preservation, passive and active recreation and silviculture management. A CSIP grant to engage a Forester should be obtained to complete this task.
5. Identify and resolve land use problems.
6. Identify potential projects and obtain grants to complete them for trail development, blowdown recovery, permitted recreational uses and signs.

Restoration of Riparian Areas

A Stream Corridor Protection and Restoration Plan will be completed as part of Highlands Conformance. Holland Township should apply for CSIP funding in order to carry out the goals of this plan and utilize the funding to develop restoration and planting plans. Trees are a critical component of riparian buffers and provide streambank stability, shade for keeping water cool, nutrients that drive the aquatic food chain, and can reduce nitrogen and phosphorus loading.

Creation of a Green Stormwater Management System

The Township may be able to utilize CSIP funding to create a model stormwater system which utilizes green technology to help infiltrate stormwater, remove sediments and nutrients. This model could be created on a municipally owned property and could serve as an education tool for residents to implement on their own properties.

CSIP 1 Training pgs 28-29

CSIP 2 Shade Tree Ordinance Establishment pgs 24-25

CSIP 3 Public Education and Outreach pg 30-31

CSIP 4 Arbor Day Activities pg 39

CSIP 5 Tree Inventory and Assessment pg 33-34

CSIP 6 Hazard Tree Assessment pg 34-35

CSIP 7 Storm Damage Assessment pgs 39-40

CSIP 8 Tree Maintenance and Removal pgs 37-38

CSIP 9 Insect and Disease Management pgs 41-42

CSIP 10 Wildfire Protection pg 42

CSIP 11 Tree Planting pgs 35-36

CSIP 12 Tree Recycling pgs 43-44

CSIP 13 Sidewalk Maintenance pg 44

CSIP 14 Storm Water Management pg 44

CSIP 15 Other pgs 45-46