



VILLAGE OF COLD SPRING

TREE MANAGEMENT PLAN

A strategic approach to managing our public trees

PRELIMINARY DRAFT

Prepared by: the Tree Advisory Committee

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ACKNOWLEDGEMENTS

Thank you to all those in our community, past and present, who have taken an interest in caring for village trees. Special thanks to all the volunteers who have helped prepare the Village of Cold Spring Tree Management Plan and to those village officials, employees, residents and business owners who continue to donate their time and resources toward making and maintaining efficiencies and improvements in the village treescape.

Tree Advisory Committee members (A to Z): Tony Bardes; Dana Bol; Kathleen Foley; Rich Franco; Trustee Stephanie Hawkins; Trustee Charles Hustis; Donald MacDonald; Kory Riesterer; Mary Saari; Richard Weissbrod; Jennifer Zwarich (chairperson).

TABLE OF CONTENTS

Introduction	1
Graphict: Steps to Instituting a Tree Management Plan.....	4
Current Management Practices	5
Current State of Village Trees	7
TREE INVENTORY OVERVIEW	7
JULY 2011 TREE INVENTORY HIGHLIGHTS	9
Total trees and species distribution	9
Total trees and condition	10
Management needed	10
Planting sites and stockage.....	11
Tree size distribution.....	11
Tree coverage maps	12
Main Street business district	12
Lower Main Street business district.....	13
Chestnut Street business district.....	14
Tree Inventory Maintenance recommendations	15
Tree Management Plan	16
MISSION STATEMENT.....	16
GOALS	16
Implementation Strategy Overview	17
5 year action plan	17
Year 1 actions	16
Year 2 actions	18
Year 3 actions	19
Year 4 actions	19
Year 5 actions	19
Appendices	20
1. TREE REPLACEMENT VALUES	20
2. TREE CARE DOCUMENTS (FOR FUTURE MAINTENANCE MANUAL)...	X
3. DEFINITION OF VILLAGE-OWNED TREE & SETBACKS	X
4. CURRENT CS VILLAGE CODE RELATING TO TREES.....	X

INTRODUCTION

Healthy trees do more than shade our village streets and parks. They provide economic, aesthetic and environmental benefits to our entire community. Trees entice visitors to stroll and shop along the streets of our business districts and add to the beauty of Cold Spring's historic byways, waterfront and parks. They increase our property values, create pleasant walking environments in our neighborhoods and help provide a buffer from traffic for pedestrians on our busier thoroughfares. They reduce costs associated with stormwater runoff and energy consumption and help improve the quality of the air that we breathe.

In July 2011, the total replacement value of the public street and park trees owned by the Village of Cold Spring was estimated to be \$1,845,650 by Cornell's Cooperative Extension Service SWAT Arborist team (See: Appendix 1). This represents a significant investment with considerable—and growing—returns for our entire community. The Tree Management Plan is designed to protect that investment by creating an organized, efficient and well-informed program for the care and management of the village's community "forest."

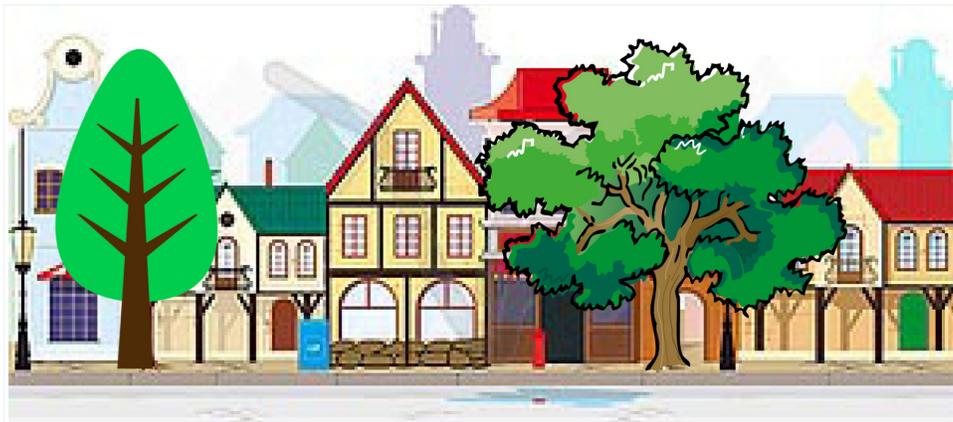
In January 2014 the Village Board of Trustees established an Advisory Committee to Develop a Tree Commission and Tree Management Plan (hereafter referred to as the Tree Advisory Committee). The overarching goal of this eleven-member committee, made up of village residents and business owners, is to recommend a basic framework for tree management that would improve the village's public treescape both in the short and long term through efficient use of budgetary and community resources.

The Tree Advisory Committee has taken stock of current practices and problems relating to village street and park trees, consulted in detail the 2011 Village Street Tree Inventory, and reviewed and compared numerous Tree Management Plans of similarly-sized municipalities in the Northeast. We have utilized current guides published by the United States Department of Agriculture Forest Service's Northeast Center for Urban and Community Forestry and the International Society of Arboriculture in order to compose this initial draft the Tree Management Plan.

A Tree Management Plan is a method of implementing an overall, long-view program of tree care. As it is continually augmented and updated, it will offer guidance for tree maintenance and improvements within the Village of Cold Spring and will provide a

simple, organized strategy for implementing key goals and objectives in order that actual results can be achieved and observed on our streets and in our parks.

The Village of Cold Spring Tree Management Plan includes the recommended establishment of a permanent volunteer Tree Commission to efficiently coordinate the care of public trees, the maintenance of the newly established Village Tree Nursery and numerous community volunteer efforts and to work with village officials and staff to manage these according to agreed upon goals and priorities. A Tree Commission made up of knowledgeable volunteers will take a lot of the worry about tree tasks and planning off the plates of already overworked village employees. It will ease these burdens at the same time that it enables the gradual implementation of a long-view “big picture” plan for the community forest that can be easily passed along and maintained by future generations of village tree stewards. Importantly, a Tree Commission will bring together informed and motivated individuals to pursue outside sources of additional funding for tree improvements and to provide educated advice to the Village Board of Trustees on actions relating to the village’s street and park trees.



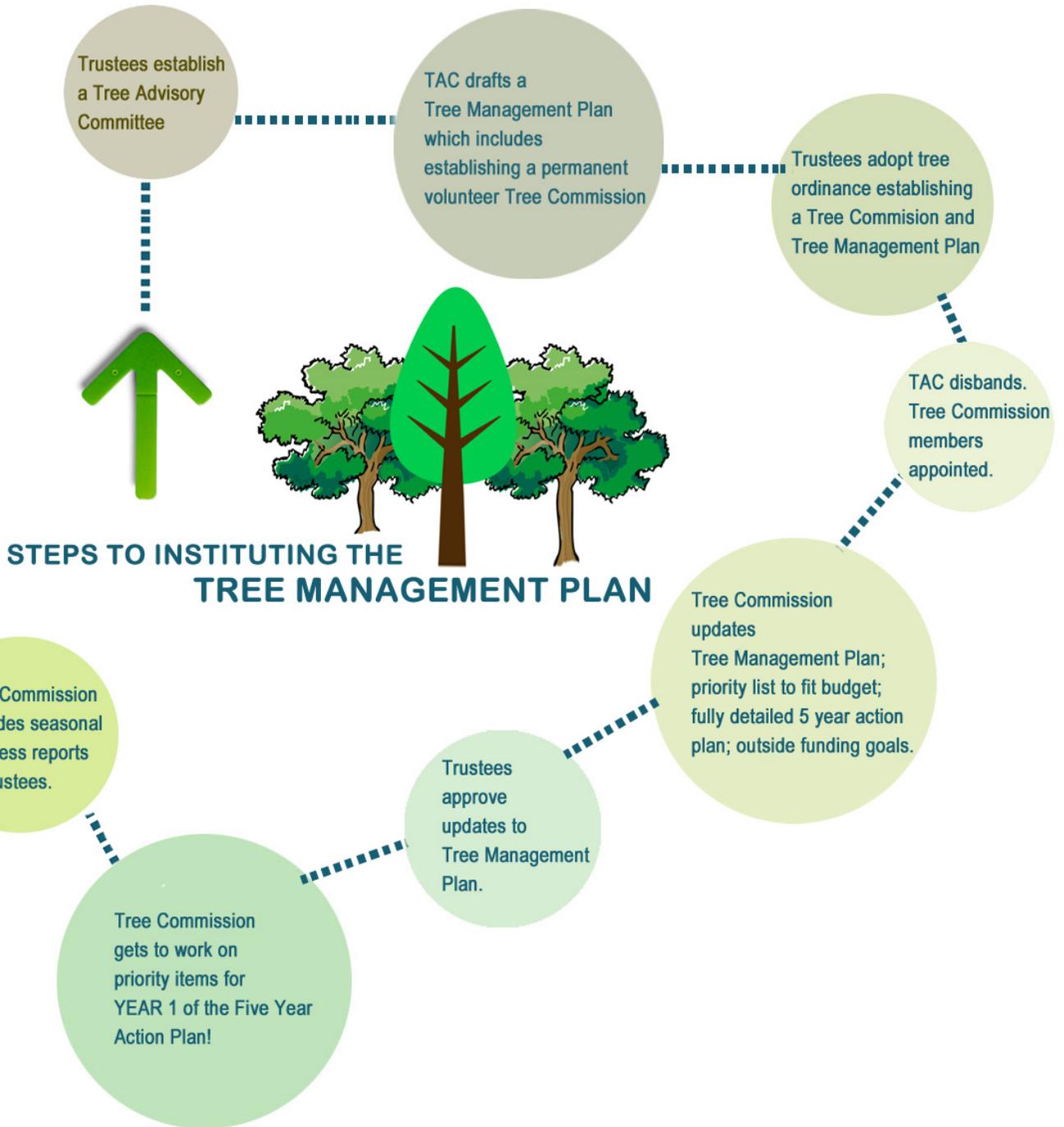
The Tree Commission will have jurisdiction over PUBLIC TREES.



NOT over PRIVATE TREES.

This initial draft of the Village of Cold Spring Tree Management Plan gives an overview of the current state of our community forest including the most pressing problems in need of addressing, states the core goals and overall vision for management of Cold Spring's community forest and provides a blueprint for a 5 year "action plan" to begin improving the lot of public trees in the village. It is intended that the members of the future Tree Commission will update and flesh out this blueprint such that the Tree Management Plan will also provide specific guidance regarding the planting, removal, pruning, trimming and other tree work necessary to avoid hazards and reduce liability, assure tree health over the long term and to maintain a quality, thriving community "forest." A periodically updated plan will serve as a basis for prioritization, scheduling and budgeting for the management of this valuable resource.

The Tree Management Plan on the following pages represents a "living document" and is intended to be reviewed and updated every 5 years by a member or members of village's Tree Commission and approved by the Village Board of Trustees.



CURRENT MANAGEMENT PRACTICES

The Mayor and Village Board of Trustees are responsible for making budgetary decisions and setting priorities for the care and maintenance of the village street and park trees. The annual budget of \$3,000 includes an appropriation for tree planting and tree removal. In 2014 a budget line has been added for tree maintenance but the total allocation for tree care is unchanged. The village was awarded a grant in 2008 from the New York State Department of Environmental Conservation to perform a street tree inventory, which was completed in 2011. It is hoped that with the assistance of volunteers and by becoming a "Tree City USA" that the village be able to avail itself of additional grant monies for tree maintenance and planting.

The village highway department performs assessment of street trees during their routine activities or in response to citizen complaints. In the past, the village sought the assistance of a Regional New York State Urban Forester to assess the condition of large or diseased trees. The Urban Forester is no longer available to provide an assessment of hazardous tree conditions due to concerns about the state's liability. The village has considered employing an arborist, on a contractual basis, but due to budgetary reasons, this has not been accomplished.

If a hazardous tree condition is identified, the highway department is able to trim smaller trees and limbs but does not have access to equipment needed for trimming tall trees. The highway department utilizes the services of an outside contractor for this activity. Recently, the village highway department successfully cooperated with Putnam County Highway to trim street trees. In circumstances where tree limbs are close to electrical lines Central Hudson is contacted.

Members of the highway department are responsible for planting street trees with selection decisions made under the guidance of the mayor and village board. In recent years, a volunteer landscape architect assisted the mayor with tree species selection and locating healthy tree stock. The water/ wastewater department assists with tree planting by locating water service lines prior to excavation. Locating sewer laterals prior to tree planting poses a real challenge as these lines are almost impossible to detect with the department's equipment. Tree watering is performed during the first year of planting by the highway department or with the assistance of volunteers.

In 1999, our local urban forester performed an inventory of street trees which provided rough data and highlighted conditions requiring village attention. In 2011, as part of an Urban Forestry Grant, a more detailed inventory of the village's street trees was performed by Cornell Cooperative Extension Service's SWAT Arborist Team and a report was provided to the Village Board. The 2011 tree inventory is currently maintained by a Village Trustee who adds information on new tree plantings. There is currently no official plan in place that prioritizes or schedules the implementation of the necessary maintenance work identified by the SWAT Arborist Team's 2011 report.

Ancillary work such as the care of tree beds on Main Street and the maintenance of the new Village Tree Nursery is accomplished by volunteers. While Tree Nursery work was coordinated in its first year by a Village Trustee, tree bed maintenance has been largely unsystematic and dependent on the kindness and labor of a few resident volunteers who are now retired.

STATE OF VILLAGE TREES

TREE INVENTORY OVERVIEW

Main problems identified

1. **SPECIES DIVERSIFICATION NEEDED.** Because Norway Maples and Callery Pears represent a large portion of our total public tree inventory a species-specific pest or disease infiltration could quickly and drastically alter tree coverage on our streets.
2. **PRUNING NEEDED.** Most trees are in good condition, but a whopping 54% (233 trees) need pruning at various levels and 15% (65 trees) need consultation by an arborist due to suspected disease or damage.
3. **NEW PLANTINGS NEEDED.** Very few plantings in recent decades have left a gap that could drastically affect the shade coverage on our streets in future years as we lose older trees.

In July 2011 Cornell Cooperative Extension Service's SWAT Arborist Team completed a survey of village street trees and park trees and created an inventory spreadsheet listing the location, species, variety, condition and other data for public street and park trees within the village.

At that time, the SWAT team counted 555 planting sites ideally suited for trees. Of these, 437 were already planted with trees of varying ages and 118 were vacant. Norway Maples and Callery Pears comprise 18% and 12%, respectively, of the village's community "forest," which exceeds the recommended 5-10% representation by a single species. This leaves the village's community forest vulnerable to mass tree loss if a single-species pest or disease were to infiltrate.

Though the majority of trees were listed as "good" or "fair" condition, the SWAT team identified approximately 65 trees in need of consultation by a knowledgeable professional due to presence of disease or other damage. They identified 44 trees in

need of “immediate pruning” due to large dead limbs, 138 trees in need of “routine pruning,” and 47 small trees in need of (easier) “training” and 5 dead trees in need of removal.

The team also noted that our village has a less than ideal distribution of tree age (or diameter) with very few planting of young trees necessary to maintain the treescape over the long term. These are all problem areas that can be addressed little by little over the course of several years with a comprehensive planting and pruning plan and through efficient budgeting enhanced by grants and a community donation and volunteer program.

Since July 2011 a few preliminary steps have been taken to improve several of these problem areas, but limited budgets and time have prevented a fully formed response plan for identified needs. Several dead trees have been removed. Several new 2.5-4” DBH (trunk diameter at breast height) trees classified in species other than Maple or Callery Pear have been planted with the aid of a state grant and community donations. And a village tree nursery has been constructed and planted with a first round of tubelings (12-18” tall young trees).

Also since July 2011, the implementation by Central Hudson of new utility clearance standards has had a heavy pruning effect on village street trees in several highly visible areas. There is a need for better communication with the utility, better planting practices that would alleviate tree-utility conflict and an organized investigation of the cost, outside funding sources and feasibility of more complex options that would help ease this conflict (such as burying utility lines).

Much work remains to be done. The following inventory excerpts provide a useful window onto the task ahead.

JULY 2011 TREE INVENTORY HIGHLIGHTS

Total trees and species distribution

(as of July 2011)

TOTAL TREES	437	
species	quantity	% of total
Norway maple	80	18%
Callery pear	54	12%
Red maple	36	8%
Honeylocust	23	5%
Sugar maple	22	5%
Zelkova	21	5%
Silver maple	17	4%
Locust, Black	17	4%
Pin oak	15	4%
Plum	15	4%
Willow, Weeping	13	3%
Kwanzan cherry	13	3%
Oak	11	2%
Eastern red cedar	10	2%
Ginkgo	7	2%
London planetree	7	2%
Sweetgum	6	1%
Spruce	6	1%
Green ash	5	1%
Plum, Cherry	5	1%
Other (less than 5 each)	54	12%

Total trees and condition*

(as of July 2011)

TOTAL TREES	437	
wood condition	quantity	% of total
GOOD CONDITION	284	65%
FAIR CONDITION	109	25%
POOR CONDITION	39	9%
DEAD	5	1%

Management needed

(as of July 2011)

PRUNING

TOTAL TREES	437	
pruning level	quantity	% of total
NONE NEEDED	205	47%
TRAINING (small tree)	47	11%
ROUTINE PRUNING	138	32%
IMMEDIATE PRUNING	44	10%
REMOVAL	5	1%

PROFESSIONAL CONSULTATION

TOTAL TREES	437	
	quantity	% of total
NONE NEEDED	371	85%
CONSULT ARBORIST	65	15%

* wood condition noted; leaf condition was reported separately

Planting sites and stockage

(as of July 2011)

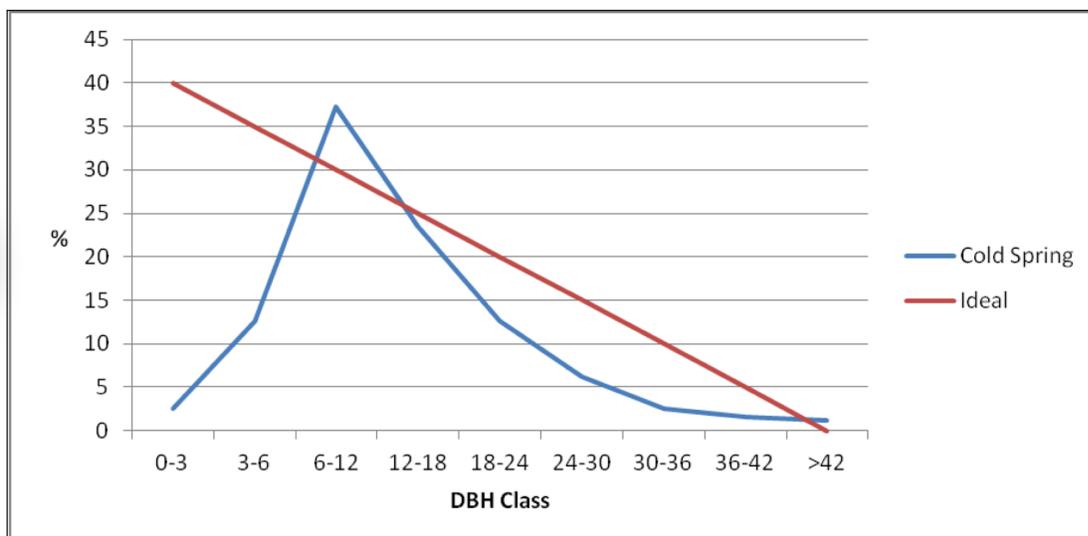
TOTAL SITES	555	
TOTAL TREES	437	
TOTAL VACANT	118	
STOCKAGE	79%	

Tree size distribution

(as of July 2011)

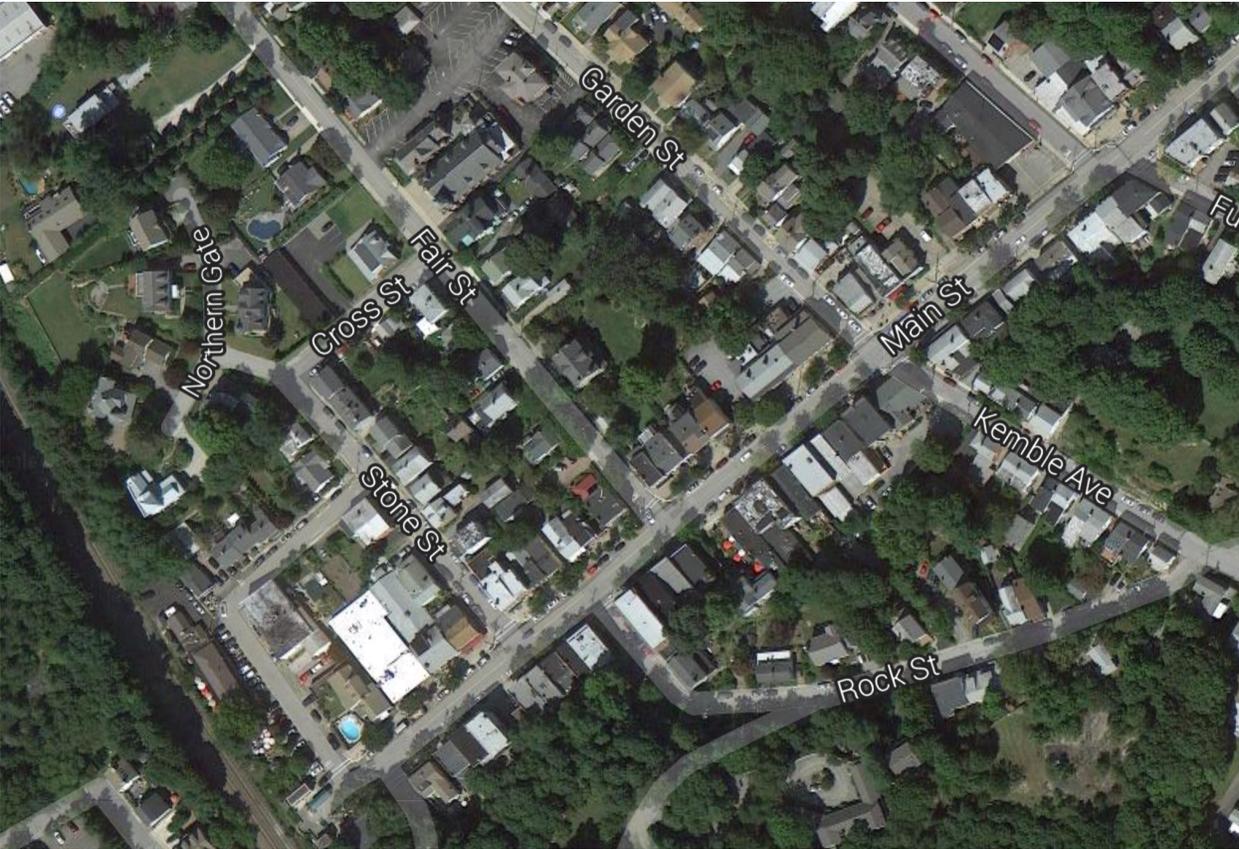
A good range of different size trees is very important to protect the long-term health of the community forest. As older trees die and need to be removed, there should be a solid amount of mature trees to help reduce the impact of their loss as well as a good number of young trees that will eventually become mature trees, etc. In an ideal distribution of different size trees, measured in DBH, about 40% of village trees should fall under the smallest diameter classification to ensure a healthy forest renewal rate. Cold Spring has very few trees in the 0-3 DBH range and too many trees in the 6-12 DBH range indicating a spike in planting several years ago and a dearth in planting in recent years. This suggests a need for many younger trees to be planted.

The chart below shows the diameter distribution as a percent of the total trees in Cold Spring vs. the Ideal cited in N.A. Richards "Diversity and stability in a street tree population."



Tree Coverage Maps

Main Street business district



Lower Main Street business district



Chestnut Street business district



Tree Inventory Maintenance recommendations

It is recommended that the current inventory data be reviewed annually by the future Tree Commission and that the inventory be updated as new trees are added or older trees are removed and corresponding adjustments made to the overall numbers.

In addition an annual “windshield” (or drive-by) assessment, of the health of all trees in the village’s community forest should be performed by the Tree Commission and any additions or changes made to the inventory.

A current inventory should be used to develop an Annual Work Plan based on budgets and available additional funding for each year and to update the Tree Management Plan every five (5) years.

VILLAGE TREE MANAGEMENT PLAN

Vision Statement

The Village of Cold Spring Tree Management Plan shall guide the work of the future Tree Commission. This work will enhance quality of village life for residents by preserving and improving the long-term environmental and aesthetic value of village-owned trees through an efficient, cost-effective, goal-driven strategy.

Goals

1. Promote efficient and cost-effective management of the village's community forest.
2. Reduce the village's exposure to liability by eliminating sources of tree related hazard as they become evident and by reducing occurrence of tree hazards through improved care and maintenance.
3. Maintain all public trees in a healthy and attractive condition through good cultural practices (i.e. accepted standards of maintenance).
4. Establish and maintain the maximum sustainable tree cover for environmental and aesthetic benefits.
5. Establish and maintain an optimal level of age and species diversity through the use of a professionally approved plan and an on going tree inventory.
6. Centralize tree management under a voluntary permanent Tree Commission that has, or has access to, the necessary expertise.
7. Maintain a system that clearly identifies roles for Tree Commission members and community volunteers and facilitates the coordination of tree work between these entities and village officials.
8. Establish and maintain a tree management budget and the means for funding it.
9. Foster community support through regular informational outreach, and encourage good citizen tree management practices through knowledge sharing.

IMPLEMENTATION SUMMARY

The following 5 year Action Plan represents a preliminary organization of actions that would contribute to realizing each of the above stated goals. The first year is the most fleshed out and is intended to be adjusted by the future Tree Commission based on member time constraints, budgetary limits, volunteer interest, etc. After the future Tree Commission develops a comprehensive (and realistic) prioritized maintenance list and map, the plan for years 2 thru 5 will be able to be formed in fuller detail.

5 Year Action Plan

YEAR 1

1. Establish a village Tree Commission and means of support.

Develop and pass a tree ordinance that establishes the legal basis for a permanent Tree Commission.

Establish and staff a 3-5 member Tree Commission, including a Chairperson that will act as the main coordinator, a Tree Nursery Manager and a Professional Services Liaison.

Establish a budget line in the village budget for Tree Maintenance.

Compile a list of state and community forest grants, requirements for eligibility, and deadlines and a schedule for application for the following year.

2. Develop a detailed tree planting maintenance and replacement program.

Develop a prioritized list and map for village tree maintenance and planting and a rough 5-10 year schedule of completion.

Fully update the Street Tree Inventory and add additional information for each tree including: surface root condition, level of overhead wire conflict, tree bed condition and sidewalk conflict.

Evaluate the best and simplest way to maintain and provide access to the Street Tree Inventory for all Tree Commission members, village officials and staff and community

volunteers. (For example, a database linked to an App, GIS mapping, blog, website etc.) and implement this system.

Compile a "Maintenance Manual" that includes guidelines for tree selection, suggested tree species for specific site conditions, spacing standards, planting standards, pruning standards, etc.

Coordinate this program with the management of the village Tree Nursery

Develop standards for the management of the village Tree Nursery.

3. Research and develop a plan for a community "sponsor a tree" program to be established the following year.

4. Become a Tree City USA

Prepare and submit an application

Prepare a resolution committing the necessary \$2 per capita requirement (to include a valuation of volunteer time)

5. Develop a way to attract and organize tree volunteers from the larger community through outreach or partnership with community organizations like the garden clubs, the Shady Lane Campaign, schools, Lion's, etc.

6. Develop a schedule for community outreach and information sharing (Arbor day celebrations, informational pamphlets, website, stories in local papers, etc.)

7. Take stock of milestones, successes and persisting problem areas and obstacles and share these with the Board of Trustees, village officials and the larger community.

YEAR 2

1. Apply for available grants as per pre-established schedule.

2. Annual update of Tree inventory

3. Continue the maintenance of trees as prioritized in the priority list and map from the previous year.

A. more details of these tasks will go here

4. Evaluate inspection procedure to determine that hazards and problems are being properly identified. Modify procedures as necessary.

5. Evaluate needed changes to Tree City USA requirements and reapply. (?)

6. Make annual additions to and evaluation of village Tree Nursery.

6. Implement community "sponsor a tree" program.

7. Implement phase 1 of the community outreach plan as per the pre-established schedule.

6. Take stock of milestones, successes and persisting problem areas and obstacles and share these with the Board of Trustees, village officials and the larger community.

YEAR 3

1. Apply for available grants as per pre-established schedule.

2. Annual update of Tree Inventory

3. Continue the maintenance of trees as prioritized in the priority list and map from the previous year.

A. more details of these tasks will go here

Etc...

YEAR 4

Etc...

YEAR 5

Etc...

Data from: "Street Tree Inventory," Report Submitted to the Village of Cold Spring by the Hudson Valley Special Weekday Arborist Team, Cornell Cooperative Extension Service, December 2011.

REPLACEMENT VALUE

Species	DBH Class (in)											Total	% of Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42				
Norway maple	0.00	3,587.05	26,256.30	55,656.46	155,853.93	127,905.79	84,486.26	0.00	0.00	453,745.79	24.58		
Galley pear	0.00	3,432.24	45,791.09	14,017.88	5,642.25	0.00	0.00	0.00	0.00	68,883.46	3.73		
Red maple	0.00	5,794.90	29,319.87	36,920.99	41,967.67	11,339.21	0.00	0.00	0.00	125,342.63	6.79		
Honeylocust	0.00	5,023.01	15,721.83	23,418.28	0.00	0.00	0.00	0.00	0.00	44,163.12	2.39		
Sugar maple	464.23	707.82	3,927.98	14,893.99	11,284.49	26,228.55	24,684.68	27,404.14	0.00	109,595.88	5.94		
Zelkova	0.00	1,882.42	20,340.23	35,065.67	0.00	20,291.21	0.00	0.00	0.00	77,579.53	4.20		
Silver maple	0.00	0.00	4,281.86	14,017.88	11,284.49	30,014.11	0.00	14,994.72	19,631.60	94,224.65	5.11		
Locust, Black	0.00	0.00	2,809.71	22,693.63	48,368.46	36,888.19	0.00	0.00	0.00	110,760.00	6.00		
Plum	1,092.32	1,095.11	5,980.44	2,540.74	0.00	0.00	0.00	0.00	0.00	10,708.61	0.58		
Pin oak	0.00	0.00	11,323.92	11,477.14	5,642.25	0.00	0.00	0.00	0.00	28,443.30	1.54		
Kwanzan cherry	0.00	0.00	2,809.71	41,837.43	0.00	13,632.59	0.00	0.00	0.00	58,279.73	3.16		
Willow, Weeping	0.00	0.00	1,203.17	5,957.60	28,211.23	9,193.51	13,321.89	35,160.03	19,631.60	112,679.02	6.11		
Oak	0.00	0.00	0.00	22,568.99	65,814.86	0.00	0.00	0.00	38,947.85	127,331.70	6.90		
Eastern red cedar	0.00	0.00	6,346.08	19,650.91	7,084.27	0.00	0.00	0.00	0.00	33,081.26	1.79		
Ginkgo	0.00	627.47	13,197.34	0.00	0.00	0.00	0.00	0.00	0.00	13,824.82	0.75		
London planetree	0.00	0.00	4,181.96	16,926.74	0.00	0.00	48,785.03	0.00	0.00	69,893.73	3.79		
Sweetgum	0.00	0.00	11,224.54	6,308.11	0.00	0.00	0.00	0.00	0.00	17,532.65	0.95		
Spruce	0.00	0.00	2,090.98	11,948.29	18,712.07	0.00	0.00	0.00	0.00	32,751.34	1.77		
Green ash	0.00	369.48	1,162.64	7,353.24	5,862.84	0.00	0.00	0.00	0.00	14,748.21	0.80		
Plum, Cherry	233.48	0.00	1,071.89	2,567.50	0.00	0.00	0.00	0.00	0.00	3,872.87	0.21		
Redbud, Eastern	0.00	841.37	2,406.33	0.00	0.00	0.00	0.00	0.00	0.00	3,247.70	0.18		
Dogwood, Kousa	0.00	627.47	2,312.94	11,688.56	0.00	0.00	0.00	0.00	0.00	14,628.96	0.79		
Japanese tree lilac	0.00	1,046.86	2,809.71	0.00	0.00	0.00	0.00	0.00	0.00	3,856.58	0.21		
Maple	0.00	369.48	0.00	3,676.62	8,305.70	0.00	0.00	0.00	0.00	12,351.80	0.67		
Dogwood	0.00	627.47	1,972.80	5,380.45	0.00	0.00	0.00	0.00	0.00	7,980.72	0.43		
Walnut, Black	0.00	0.00	3,294.15	4,310.52	0.00	0.00	0.00	0.00	0.00	7,604.67	0.41		

REPLACEMENT VALUES are estimates of the costs of replacing trees in their current condition. Species and size are also considered. These values should be considered first-order estimates. They are based on costs obtained from a reference city; the borough of Queens was used for the northeast.

The total replacement value of the public trees of Cold Spring is **\$1,845,650**.



[Additional Appendices to be inserted here.]