A Technical Guide to Developing
Community Forestry Strategic Plans
&
Management Plans

PROJECT CANOPY

Help trees help you.

Adapted from:

"A Technical Guide to Developing Urban Forestry Strategic Plans & Urban Forest Management Plans"
Wisconsin Department of Natural Resources
Bureau of Forestry
AND
"Guidelines for Developing Urban & Community Forestry Plans; Strategic Plans & Management Plans for Street and Park Tree Management"
Vermont Urban & Community Forestry Program

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Developing Strategic and Management Plans

This guide is intended to help local units of government and others develop community forestry plans that: 1) address local needs, and 2) meet the standards of Maine's 'Project Canopy' grant program.

WHY PLAN?

Planning is key to effective management of any program. Good plans make the difference between cost-effective, pro-active management and costly crisis management. Plans establish focus and direction. They provide the framework for program implementation and a basis for consistent decision making. They are tools for determining budgets and other support needs.

WHAT ARE COMMUNITY FORESTRY PLANS?

Community forestry planning occurs on several levels. At the broadest level, strategic plans establish the overall goals and objectives of the organization's community forestry efforts. Ideally, strategic planning is one of the first tasks undertaken in the establishment of a community forestry program. Also called long-range, comprehensive or master plans, strategic plans create a blueprint for administration and management of a community tree program. Strategic plans include input from local citizens, organizations, businesses, municipal staff and elected officials. They are integrated with other strategic community plans. The term "comprehensive plan" is often used to describe the preparation of strategic and long-range plans and goals for human and physical resources development and utilization within municipalities. In the context of community forestry, a comprehensive plan or strategic plan focuses on community forestry resource and is not a substitute for a municipal comprehensive plan.

Community forest management plans are specific to the field operations of the community tree program. Typically based on a detailed tree inventory, management plans identify and prioritize site-specific tree planting, maintenance and removal activities within a multi-year time frame. **Management plans written for municipal woodlots, from 10-5,000 acres in size, are required to follow current Maine Forest Service Forest Stewardship Assistance Management Plan Guidelines.**

Community forestry planning also takes on a variety of other forms. Land use plans, greenway plans, site development plans, public landscape design and maintenance plans and similar planning efforts require input from those involved with public tree care.

PRE-PLANNING

Pre-planning is done to establish basic parameters for plan development. Pre-planning should identify such things as:

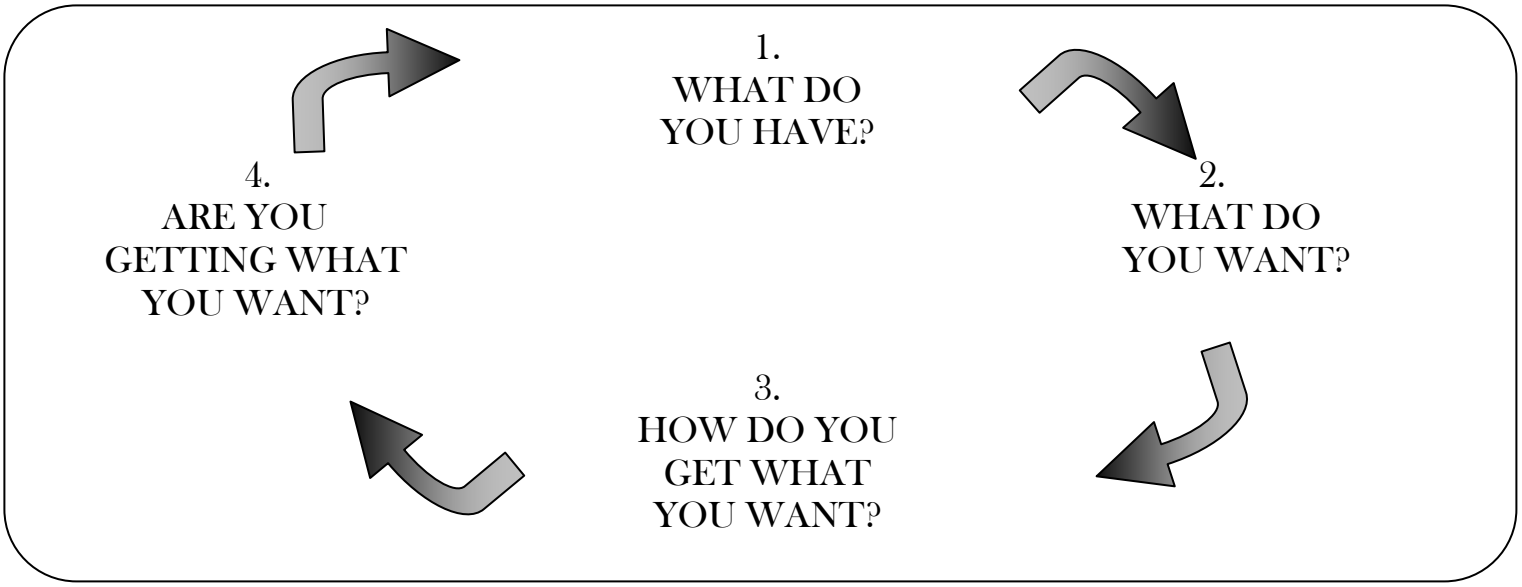
- what kind of plan is needed
- who will be involved in its development and at what stage
- how the plan will be used
- how awareness and support for the plan will be generated

Available interest, expertise, time and financial resources of the organization should be considered when determining how to develop the plan. Organizations lacking the necessary human resources might choose to hire a community forestry consultant to prepare the plan.

'Project Canopy' grants, administered by the Department of Conservation, are available for projects that develop or expand management capacity for sustained community forestry programs at the local level. This cost-share program favors development of strategic and management plans; however other types of community forestry plans may also be eligible for funding. Grant funded plans must meet Maine Planning Standards (see pages 18-20).

THE PLANNING PROCESS

Planning is a continuous process that follows a logical sequence of steps. Four principal questions drive the process, regardless of the type of plan or its complexity:



HOW TO USE THIS GUIDE

The wide spectrum of community tree issues and planning considerations can make the task of developing an community forestry strategic or management plan appear formidable, particularly to organizations lacking trained staff. This guide offers a "how to" approach to community forestry planning, utilizing the four step process shown above. By following step-by-step through the guide, any organization can develop a thorough, functional community forestry plan, regardless of community size or technical resources.

The examples contained in this guide are given merely to stimulate ideas and illustrate concepts. Because each community is unique, plans will differ from one community to another. Not all plans will need to address every point discussed. Some communities may wish to include information beyond that presented in the guide. There is no prescribed order, length, format or style for a plan. Organizations are encouraged to develop clear, action oriented plans that best suit their unique needs and circumstances. Above all, a plan must be useful or it won't get used!

The items with a box around them are specific to the development of Management Plans. For further planning assistance, contact the Project Canopy Program Coordinator or Community Forestry Specialist.

Sample Outlines
Strategic and Management Plans

Strategic Plan

I. Executive Summary

II. Introduction*
- A. Statement of Purpose and Scope*
- B. Historical Background*
- C. Current Situation*
  - 1. People
  - 2. Policies
  - 3. Funding
  - 4. Trees

III. Goals*
- A. Administrative/Management*
- B. Public Awareness*
- C. Tree Resource*

IV. Strategies*
- A. Actions*
  - 1. Regulation/Policy
  - 2. Public Awareness/Education
  - 3. Program Management
  - 4. Funding
- B. Implementation Schedule with Budget *
- C. Budget Justification

V. Evaluation Mechanism*

VI. Appendices
- A. Community Map
- B. Survey Summaries
- C. Potential Funding Source(s)
- D. Technical Resources
- E. Tree City USA Information
- F. Relevant Ordinances

* *Management Plan

I. Executive Summary

II. Introduction*
- A. Statement of Purpose and Scope*
- B. Historical Background
- C. Current Situation*
  - 1. Tree Planting & Care
    - a. Key Players & Roles
    - b. Contracted vs. In-house
    - c. Equipment Inventory
    - d. Funding
  - 2. Tree Inventory Summary & Analysis

III. Goals: Forest*

IV. Strategies*
- A. Actions*
  - 1. Tree and Stump Removal*
  - 2. Maintenance*
  - 3. Planting*
  - 4. Administrative Support*
- B. Implementation Schedule with Budget*
- C. Budget Justification

V. Evaluation Mechanism*

VI. Appendices
- A. Map of Management Districts*
- B. Map of Utilities
- C. Technical & Safety Standards
- D. Species Lists
- E. Equipment & Vehicle Rates
- F. Inventory Documentation (data summary)*
- G. List of Vendors
- H. Storm Management Plan

* Required elements for plans developed with funding from a Project Canopy grant from the Maine Forest (see pages 18-20)

* *Management plans written for municipal woodlots, from 10-5,000 acres in size, are required to follow current Maine Forest Service Forest Stewardship Assistance Management Plan Guidelines.

**Combined Strategic and Management Plan

I. Executive Summary

II. Introduction
- A. Statement of Purpose and Scope*
- B. Historical Background*
- C. Current Situation*
  - 1. People
    - a. Key Players & Roles
    - b. Town Support
    - c. Community Awareness
  - 2. Policies
  - 3. Equipment
  - 4. Funding
  - 5. Program Management
  - 6. Tree Inventory Summary & Analysis

What Do You Have?

III. Goals*
- A. Administrative/Management*
- B. Public Awareness*
- C. Tree Resource*

What Do You Want?

IV. Strategies
- A. Actions/Tasks*
  - 1. Program Administration
    - a. Funding
    - b. Staffing
    - c. Equipment
    - d. Policies and Plans
  - 2. Public Awareness/Education
  - 3. Tree Resource/Program Management
    - a. Tree and Stump Removal
    - b. Maintenance
    - c. Planting
- B. Implementation Schedule with Budget*
- C. Budget Justification

How Do You Get What You Want?

V. Evaluation Mechanism*
- A. Monitoring & Evaluation Techniques
- B. Schedule for Plan Updates

Are You Getting What You Want?

VI. Appendices
- A. Community Map
- B. Survey Summaries
- C. Potential Funding Source(s)
- D. Technical Resources
- E. Tree City USA
- F. Relevant Ordinances
- G. Map of Management Districts*
- H. Map of Utilities
- I. Technical & Safety Standards
- J. Species Lists
- K. Equipment & Vehicle Rates
- L. Inventory Documentation*
- M. List of Vendors
- N. Storm Management Plan

* Required elements for plans developed with funding from a 'Project Canopy' grant from the Maine Forest Service (see pages 18-20)

**Management plans, funded through Project Canopy, that are for municipal woodlots, from 10-5,000 acres in size, are required to follow current Maine Forest Service Forest Stewardship Assistance Management Plan Guidelines.

Purpose and Scope
Strategic and Management Plan

Before beginning the four step planning process, establish the purpose and scope of your plan. Why are you developing this plan? What is it supposed to do? How will it be used? Document your intentions with written statements.

For example...
Purpose: The purpose of the Pleasantville Community Forestry Strategic Plan is to lay the groundwork for the development of a strategic community forestry program.

Scope: This plan provides a 20-year outline for achieving community forestry administrative, policy, educational and management goals. It gives citizens of Pleasantville, community decision makers and staff a clear set of prioritized recommendations to accomplish these goals. The plan proposes a timetable of implementation and, where possible, provides estimated costs. This plan is intended to become part of Pleasantville's Community Master Plan.

For example...
Purpose: The purpose of the Pleasantville community forest management plan is to recommend specific tree planting, maintenance and removal activities to cost-effectively improve the public tree resource.

Scope: This plan will make site-specific, prioritized, inventory-based recommendations for managing Pleasantville's public tree resource for a five-year time period. It will identify staffing and other support needs and will include projected annual budgets for the five-year planning period.

Step 1: What Do You Have?
Background and Current Conditions

HISTORICAL BACKGROUND
A brief review of the history of your community's tree resource and its management adds useful perspective. Tracing the community back to its development, what has been the role of trees? What values were placed on them? What cultural influences shaped these values? Are there trees of historical significance in the community? Has tree planting been a part of the community's history? How have trees been taken care of in the past? Have there been events that have changed the public's attitude toward trees (e.g., Dutch elm disease, tree removal for road projects, etc.)?

CURRENT SITUATION
Assess your current situation in terms of:

- people: key players and roles, awareness and interest among community residents and officials
- policies
- equipment
- funding
- trees/status of the community forest resource

This assessment may require some investigation. You might conduct a survey or hold a public meeting to determine residents' attitudes, preferences and level of knowledge about trees, tree care and public tree management. Are there organizations or individuals interested in community tree planting and care?

How do local elected officials and staff feel about public trees? Are public trees adequately cared for in your community? Is there an adequate budget for trees? How is it determined? Are there written policies or ordinances concerning trees? Are they adequate? Are they enforced? Is tree well being considered in development and construction projects? ...in strategic community planning? ...in subdivision planning? Are the persons in charge of public trees trained in proper tree care practices? Is there an adequate budget for overall management of the tree program, including staff training, public education and administrative support? What equipment is available within the municipal fleet for forestry operations? Is tree care equipment available locally for lease? What is the availability and quality of commercial tree care service in the area?

Inventory Summary and Analysis
A recent inventory of tree and site information forms the basis for the management plan. A thorough summary and analysis of the inventory data will enable you to identify existing resource needs and anticipate future ones. Does any one species comprise a high percentage of the total public tree resource? ...a high percentage of trees of a certain age or size class? At what age or size are trees regularly developing structural problems? Does this vary by species? ...by location? Is width of tree lawn correlated with tree condition? Does this vary by species? Does tree condition vary by land use or location? Are there areas where trees are needed? Such questions are just a few examples of those you might consider in an inventory analysis.

OTHER VARIABLES/CIRCUMSTANCES
What other circumstances are likely to influence your short-term resource management activities?
Consider these examples:

- new subdivision under development
- tall-growing trees to be removed from beneath power lines by the local utility company
- stump grinding, previously contracted, now to be done by staff
- formation of volunteer tree board

Step 2: What Do You Want?
Goals

GOALS
Develop broad goals. Steer away from vague statements such as, "improve the quality of life." Goals should be quantifiable so that progress can be measured.

For example...

1. The community forestry program has community and political support.
2. Residents are knowledgeable about proper tree planting and care.
3. Trees are integral in all community planning decisions.
4. Optimum tree cover is established and maintained.
5. Community trees are maintained at optimum levels of stocking, health, age and species diversity, and are appropriate for the site.
6. Conservation of tree resources is promoted.
7. Street trees are appropriately selected, situated and maintained to minimize hazard, nuisance, hardscape damage and maintenance costs.
8. Management of the community forest is cost-effective and efficient.
9. Management strategies are acknowledged, understood and cooperatively implemented by appropriate municipal departments.
etc.

You might want to group goals into categories.

For example...

Public Awareness
- strong public awareness of the values and benefits of community trees
- local support for the community forest management program
- understanding among residents about proper tree selection, planting and care

Administration & Management
- trained program staff
- updated municipal tree ordinance
- alternative sources of program funding
- active tree board

Tree Resource
- species and age diversity in population
- well-maintained public trees
- safe tree population

Step 3: How Do You Get What You Want?
Strategies and Implementation

STRATEGIES
Once goals are determined, start figuring out ways to achieve them. Recommendations should be in the form of specific strategies or objectives. If desired, strategies can be further broken down into specific actions and tasks.

For example...
Recommendations in a Strategic Plan might look something like this:
Strategy 1: Complete a community tree inventory.
- Action: Determine how inventory will be conducted.
- Action: Apply for Project Canopy grant.
- Action: Hire intern or consultant, as necessary.
- Action: Conduct inventory.
- Action: Analyze inventory findings.

Recommendations in a Management Plan might look something like this:
- Strategy 1: Remove 14 hazardous trees
- Strategy 2: Conduct safety pruning* on 45 trees
- Strategy 3: Conduct training pruning* on 50 existing trees
- Strategy 4: Conduct maintenance pruning* on 20 mature trees
- Strategy 5: Fill 25 existing and 14 anticipated planting vacancies (from removals)

Management Plan strategies (the meat-and-potatoes of the plan) should consist of site-specific, inventory-based recommendations for accomplishing stated goals, to include:

Tree and stump removal
- priority (hazard) removals ... how many, rate of removal, where
- replacement needs
- wood residue utilization
- stump grinding, reseeding ... how many existing & anticipated, how many per year, where

Maintenance
- priority pruning (safety, health) ... how many, rate of removal, where
- other maintenance - watering, insect & disease control, mulching, cabling & bracing, fertilizing, stake removal, etc... what, where, what species, when/how often
- mature tree pruning (maintenance)... how many, where, when/how often
- young tree pruning (training)

Planting
- planting site assessment ... how many existing and anticipated planting sites, where, constraints & opportunities, new tree protection
- prioritized planting plan ... optimum stocking level, planting rate, citizen requests
- site specific evaluation of diversity, design & function
- site specific species recommendations

Administrative Support
- analysis of adequacy of current staffing levels and recommendations on any or all work to be done by staff, outside contractors, volunteers, or if additional staff is or will be needed
- equipment needs ... what type, how many, purchase or lease
- staff training/education
- storm damage & hazard tree plans; inspections
- policies re: citizen requests, permits for tree work, public notification of scheduled operations

Note: Recommendations should make reference to any existing policies and industry standards, as appropriate. Referenced policies and technical standards should be incorporated into the plan appendix.

IMPLEMENTATION SCHEDULE AND BUDGETS

Plans are unlikely to be implemented without a clear indication of who will do what, when, and at what cost. Develop an implementation schedule that identifies who is responsible for each strategy (and action), when each will be completed and what each will cost. Be sure to prioritize the implementation schedule. The implementation schedule worksheet and samples on pages 12-14 may be helpful.

Budgets should be based on real information (e.g., what does it cost to conduct "maintenance pruning" on a 14" tree?) The budget worksheet and instructions on page 15 will help you estimate the cost of planting, maintenance and removal activities specified in your plan.

When developing a management plan, consider the following priorities of activities:
1. Public Safety! Remove hazardous trees and limbs.
2. Maintain what you have.
3. Plant after maintenance needs have been met.

Remember also to build in funding for maintenance when you plant, just as you would for any other component of infrastructure (roads, bridges, utilities, etc.). According to the USDA Forest Service, new programs or those in which routine maintenance and removals have been neglected should spend approximately 80% of their operations budget on maintenance and removals. The remaining 20% is for planting and administration. Once the initial heavy maintenance and hazard tree removals have been performed, the following IDEAL* budget is suggested:

	IDEAL	TYPICAL
Pruning and other maintenance	45-50%	38%
Removals	20%	35%
Planting	20-25%	14%
Administration & supervision	10%	13%

Note that maintenance expenditures should be about twice those for planting. Also, TYPICAL expenditures for removals are much higher than IDEAL. With greater emphasis on maintenance, the tree population should become healthier and longer lived, decreasing removal costs.

The "ideal" budget figures are offered as a guideline only. In all cases, forestry expenditures should be based on actual needs as determined from a tree inventory and other local circumstances.

Here's an example of how a portion of an implementation schedule might look:

GOAL #5: COMMUNITY TREES ARE MAINTAINED AT OPTIMUM LEVELS OF STOCKING, HEALTH, AGE AND SPECIES DIVERSITY, AND ARE APPROPRIATE FOR THE SITE

Strategy 1: Complete a community tree inventory Priority - 1

Recommended Actions	Cost/Funding Source	Performed By	Status/Completion Date
Determine how inventory will be conducted	N/A	tree board	September, 2003
Apply for Project Canopy grant	N/A	tree board	October, 2003
Hire intern or consultant	$1000 - 4000 Project Canopy grant & staff	tree board	February, 2004
Perform inventory	N/A	intern or consultant	June - July, 2004
Conduct training, as necessary	N/A	technical advisor	June, 2004
Purchase equipment and materials, as necessary	$0 - 500 community forestry grant	tree board	June, 2004
Analyze inventory findings	N/A	intern or consultant & tree board	August, 2004

JUSTIFICATION OF RECOMMENDATIONS

Plans whose recommendations would require a substantial budget increase should include specific justification, either in the plan itself or in an attachment. You might address how implementation will improve public safety, customer satisfaction or cost-effectiveness. What problems will be solved or reduced? What alternative recommendations were considered and why were they rejected? It might be helpful to make a side-by-side comparison between existing and proposed program costs and benefits. Administrators and budget decision-makers are unlikely to endorse your plan or supply budget requests without a clear, convincing argument for doing so.

Step 4: Are You Getting What You Want?
Monitor/Evaluate Progress and Update Plan

MONITOR AND EVALUATE
How will you assess whether the strategies, once implemented, are moving you toward your goals? For example, to determine whether strategies for reaching sample goal #2 are working, you might look around the community at trees on private property. Are they being planted and cared for properly? Are you getting feedback on municipal tree planting and care practices? Has the quality of commercial tree care services changed? Are local commercial arborists certified? Are there other ways to measure tree knowledge among residents? Include specific monitoring recommendations in your plan.

TAKE CORRECTIVE ACTION
Include a schedule for reviewing and updating the plan. Goals, strategies and priorities may change over time. New program staff or volunteers may bring different ideas or priorities. Periodic review and updating are important to avoid wasted effort and to keep the plan a working document.

APPENDIX AND SUMMARY
Your plan should also include an appendix of reference information useful for plan implementation. Appropriate material might include: community map(s), relevant ordinances or tree policies, technical resources, potential sources of funding, summaries of surveys, etc. Finally, for a plan that is quite lengthy or detailed, it is helpful to include a one or two page "executive summary." For those who haven't the time or interest to read the entire plan, a short summary of its highlights should provide a fair idea of the plan's general direction and major recommendations.

Budget Worksheet to Estimate Costs
Appendix A

Diameter class is a measure of the size of the trees. Diameter is measured at 4.5 feet above the ground. The diameter classes shown may differ depending on the inventory program used. For each activity, determine the $/tree for accomplishing that activity in each diameter class. This amount will encompass the average time multiplied by the personnel and equipment costs required to complete that activity for that size class.

Immediate priority and High priority pruning is for public safety - removal of hazardous and/or potentially hazardous limbs (those which are dead, dying, diseased, decayed or structurally unsound). Maintenance pruning indicates trees that are pruned on a regular cycle. If trees have not been routinely pruned in the past, the first cycle of Routine pruning may involve more work and be more expensive due to the trees having many large branches, deadwood or poor form that must be corrected via pruning. The subsequent cycles of Maintenance pruning usually takes far less time than other pruning, since only minor corrections or deadwooding are needed. Some "maintenance prune" trees may not need any work even though according to the pruning cycle, they are due for pruning. Note that once the immediate priority and high priority pruning have been completed, all mature trees will fall within the routine pruning category. From that point on, each year should include one-sixth of the total mature tree population (for a 6 year pruning cycle) for maintenance pruning.

New tree maintenance includes several activities. It involves training pruning - the systematic corrective and directional pruning of newly planted trees, usually done twice in the first ten years (at 2-3 years and 5-7 years after planting). After this time they are incorporated into the routine pruning cycle. It also involves mulching, watering and other necessary activities.

Other maintenance can include a wide variety of activities, such as watering, mulching, insect & disease monitoring and treatment, fertilizing, cabling & bracing, etc. for all trees. You should modify this column to accommodate your anticipated maintenance needs. Although weather, pest outbreaks and similar circumstances can make it difficult to accurately project other maintenance costs, an estimate should be included in the budget. Enter the number of trees you expect to handle each year by activity and size class, then calculate the total cost for each year as follows: $/tree x # of trees = Total cost for each year.

The number of trees to be planted each year is determined as follows:

$$\frac{\text{Number of planting sites + number of removals}}{\text{Number of years to full stocking}} + \text{Number of trees that are expected to die each year} = \text{Number of trees to be planted each year}$$

Ideally, tree planting does not begin until the high priority and maintenance pruning is complete. Newly planted trees should be pruned at least twice within the first ten years of planting. For example, trees planted in 2000 could be pruned (training pruning) in 2003 and 2007. After this they should be placed on the five to six year pruning rotation with the other trees. Training pruning will eliminate 90% of all structural problems throughout the life of the tree. Pruning small trees with small limbs is far less costly to do and will save a lot of money long term, while greatly increasing the health and value of the community trees. Note: Any tree service involved in municipal pruning should be able to supply average cost and time estimates.

Note that this table will only provide costs for the operations part of the program, typically what is covered within a management plan. Additional costs for public education, staff training, administering the program, equipment purchase and maintenance costs, etc. should also be calculated into the overall community forestry budget.

Estimated Costs for a Five Year Urban Forest Management Program

Estimated costs for each activity			2004		2005		2006		2007		2008		
Activity	Diameter Class	Cost/Tree ($)	# of trees	Total Cost	# of trees	Total Cost	# of trees	Total Cost	# of trees	Total Cost	# of trees	Total Cost	Five Year Cost
Tree Removals	1-6”												
	7-12”												
	13-18”												
	19-24”												
	25-30”												
	31-36”												
	Over 36”												
Activity Totals													
Priority Pruning	1-6”												
	7-12”												
	13-18”												
	19-24”												
	25-30”												
	31-36”												
Activity Totals	Over 36”												
Training Pruning	1-3”												
	4-6”												
Activity Totals													
Maintenance Pruning	7-12”												
	13-18”												
	19-24”												
	25-30”												
	31-36”												
	7-12”												
Activity Totals													
Tree Planting	Site Prep												
	Tree Cost												
	Planting												
Activity Totals													
Other Maintenance	Watering												
	Mulching												
Activity Totals													
Totals per Year													

Planning Tips & Troubleshooting

Appendix B

A plan is not an end unto itself, rather it is the chosen route to a destination. Many impressive looking plans end up on a shelf gathering dust because there is no vehicle for reaching the destination, or because the vehicle becomes stalled along the way. A plan will be more useful and more likely to be implemented if:

* it is ambitious but realistic, achievable within the abilities and constraints of the organization. A plan that might work well for one community or organization could be a "pie in the sky" for another.

* it contains a full complement of clear and specific recommendations for action based on stated goals. Anyone who reviews the plan should be able to answer such questions as: What is the first step toward implementing this plan? Who is responsible for initiating that step? Who else will be involved? What equipment, training &/or technical resources are needed to take that step? What will it cost? What happens after that step is completed? A good plan provides enough information to give a clear idea of the next step(s) and the resources (time, dollars, people) needed to take that step.

* it is used to develop annual work plans. Ideally, annual work plans are developed from both strategic and management plans. Prior to the start of a new year, establish a calendar of tasks based on recommendations in the strategic and management plans.

* it has a broad support base. Avoid the temptation to include only tree enthusiasts or insiders in the planning process. Identify and include all affected parties and adversaries.

* plan development is a team effort. Regardless who prepares the plan, everyone who will be involved in its implementation should thoroughly review all drafts and provide objective input. The Project Canopy Coordinator , the Community Forestry Specialist, or the District Forester serving your region is available to review and comment on drafts.

* plenty of time is allowed for plan development and review. Community forestry planning is a complex and protracted process. Anticipate numerous revisions, setting interim deadlines as needed. Regardless who prepares the plan, it is unlikely that a first draft, or even a second, will fully address your planning needs.

* your community's elected officials are made aware of your planning effort. Their interest and support will help ensure integration with the plans and activities of other municipal departments and will increase the likelihood of plan implementation.

* someone is given responsibility for overall plan development, implementation and evaluation. To help ensure thoroughness and continuity, responsibility is best given to someone with the time and interest to give the plan the attention it deserves.

Maine Planning Standards

Required Components of Project Canopy Grant-funded Strategic and Management Plans

Management plans, funded through Project Canopy, that are for municipal woodlots, from 10-5,000 acres in size, are required to follow current Maine Forest Service Forest Stewardship Assistance Management Plan Guidelines.

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Minimum Requirements for Grant-Funded Strategic Plans

Management plans, funded through Project Canopy, that are for municipal woodlots, from 10-5,000 acres in size, are required to follow the Maine Forest Service Forest Stewardship Assistance Management Plan Guidelines (see below).

Author of Plan: _____ Grant Number: _____

1. Statement of Purpose and Scope of plan, to include intent, geographic area included in plan, and timeframe.

2. Background and Current Situation (key players & roles, community awareness, political support, policies, funding, and key tree issues)

3. Long-term Goals for shaping program direction, priorities & policies; these must address, at a minimum:
   - tree resource
   - program administration
   - awareness & program support needs

4. Proposed Strategies to accomplish tree resource goals (i.e., a broad range of recommendations detailing how to develop and establish such things as: community forest management plans; hazard tree management plans; tree health care plans; greenway &/or open space plans; tree inventories; technical standards & specifications; design standards; stocking objectives; species/site criteria; maintenance cycles & priorities; tree protection policy; tree removal criteria; etc.)

5. Proposed Strategies to accomplish program administration goals (i.e., a broad range of recommendations detailing how to develop and establish such things as: funding sources; program budgets; staffing & staff training; tree board &/or other program volunteers; ordinances; policy & procedures for equipment procurement & disposal, contractual services, permits &/or licenses, public & worker safety, tree work documentation, accomplishment reporting & program evaluation, assessing & collecting tree damages, handling citizen requests, emergency response, abatement of public & private tree hazards, hardscape conflict resolution, wood waste utilization, etc.)

6. Proposed Strategies to accomplish awareness & program support goals (i.e., a broad range of recommendations detailing how to develop and establish such things as: information & education programs for homeowners, schools, organizations, or neighborhoods; Arbor Day & other awareness opportunities; Tree City USA participation; recognition &/or awards programs; news media relationships; inter- and intra-departmental cooperation; political support; sources of technical assistance, communications, &/or partnerships with utilities, real estate developers & builders, businesses, green industry, Agency of Transportation, etc.)

7. Implementation Schedule of all activities; must include:
   a. priorities
   b. who is responsible for each activity
   c. target dates for completing each activity
   d. projected costs
   e. funding sources, as appropriate
8. Mechanism for Evaluating & Updating Plan (i.e., who, when & how?)

9. Plan must be fluent, functional, technically sound & appropriate to the needs of the community

10. Plan must include a statement that credits the funding source on the front.

*Minimum Requirements for Grant-Funded Management Plans

Author of Plan: _____ Grant Number: _____

Technical Specifications - FOREST MANAGEMENT PLANS

These standards outline requirements for Forest Management Plans prepared with Maine Forest Service cost-sharing funds. In a few instances, the standards specify the sources of, or methods for developing, certain information. The standards also include suggested, optional items.

These standards are established to:

- Inform participating landowners and foresters;
- Ensure that public funds are expended on work that meets a minimum standard of quality and completeness, and that plans adequately address measures to protect public resources; and
- Ensure that landowners receiving assistance are provided with Forest Management Plans that are accurate, informative, easy to understand and use, and that reflect and advance their forest management objectives.

The format for presenting this information is up to the landowner and the Licensed Forester. Plans must be clear, easily understood, and well organized. The outline suggested by these standards may be followed, but is not required. Use of tables, graphics, appendices, etc. is acceptable and encouraged.

General Property Information[1]		
Topic		**Description**
Landowner	R[2]	Owner of record, including name & current address, consistent with town tax and county deed information, for all parcels included in the plan.
Plan preparer	R	Contact information for Maine Forester (including name, address, telephone, and license number) who prepared the plan. (If prepared by an Intern Forester, both the Intern's and the Supervising Forester's contact information must be given.)
Plan date	R	Date the final plan was completed or was presented to the landowner for final review/acceptance.
Planning Period	R	Period (years) covered by the plan (minimum 10 years).
Town and county	R	Name of town, township, or plantation, and county.
Tax information	R	Tax map/plan number and lot number(s) of the parcel(s), based on town tax maps or LURC maps.
Parcel location	R	Sufficient information to locate the parcel(s) on the ground, including reference to local landmarks, and the nearest road.
Landowner goals and objectives	R	A complete statement of the landowner's long-term forest ownership, stewardship and related objectives for the property (minimum 10 year planning horizon). Multiple objectives should be listed in priority order.
Plan Summary	O	A brief summary of highlights from the plan, management direction, recommendations, and how the landowner's objectives will be met by following the plan. (Typically 1 page or less.)

Acreage[3] **of Land Use/Cover Types**

[1] The headings for separate sections in these standards are to identify and group similar information. They suggest, but do not require, a possible outline for the plan.

[2] Items marked "R" **must** be included in all plans.
Items marked "(R)" are required under certain circumstances, or if warranted by landowner objectives stated in the plan.
Items marked "O" are optional.

Topic		Description
Forestland (productive)	R	Acreage of forested land with existing tree cover with at least 10% stocking, capable of producing commercial timber products (>= 20 cu. ft. /acre/year), and that is not/will not be developed or maintained for a nonforest land use.
Reserved forestland (productive)	(R)	Acreage of forestland (if any) which the landowner intends to withhold permanently from timber harvesting, or land which is permanently reserved from timber harvest due to legal constraints. Required if property is enrolled in the Maine Tree Growth Tax Program.
Non-commercial/ Unproductive forestland	R	Acreage of forestland which is incapable of producing 20 cubic feet of wood per acre per year due to persistent natural conditions.
Non-forested area: [4]	R	Acreage of areas without existing tree cover, or land with trees maintained for another use (e.g. residential, fields, heath, barren, etc.)
Water bodies	R	Area of lakes or ponds contained by the property
Wetlands	R	Area of nonforested wetlands (bog, swamp, marsh)
Developed land	R	Land developed for residential, commercial, or associated uses.
Agricultural land	R	Cropland, hayfields, pasture, orchard, blueberries

Maps[5]		
Topic		**Description**
Location map	R	A map to locate the property with respect to public roads and known landscape features.
Land use/Forest stand map	R	A map of sufficient quality, scale, and level of detail to be both descriptive of the existing forest and useful for management planning purposes. At a minimum, must include property boundaries, main access ways, forest stands identified in the plan, nonforested wetlands, water bodies, and other nonforested areas. (If used, photocopies or reproductions of other maps or air photos must be easily readable, of good quality, and clearly annotated/enhanced to identify required features). Natural features identified by the Maine Natural Areas program (including significant or essential wildlife habitats, habitats supporting rare, threatened or endangered plants and animals, and rare or exemplary natural communities) must be included on this or as a separate map or maps[6].
Soils map	R	A map showing soil types/conditions found on the property. Indicate the source of soils data.
Other maps	(R)	Optional unless the landowner's stated objectives (e.g. for recreational roads & trails, important wildlife habitat features, etc.) warrant additional map information. May be a separate map or incorporated into the main/forest stand map.

[3] All acreage should be listed to the nearest acre.

[4] Breakdown on non-forested acres beyond the subcategories shown is not required.

[5] All maps require:

1. Landowner name, town map and lot number
2. North arrow (indicate magnetic or true north)
3. Scale (scale bar and representative fraction or ratio scale)
4. Sources of information used
5. Legend of primary symbols used (including Forest Stand designations/symbols).

The Land use/Forest type map also requires:

6. Preparer's name, signature, and date of preparation
7. Latitude/longitude of a reference point on the property (degrees, minutes, seconds) based on topographic maps, GPS, or similar source.

[6] MNAP natural resource information is available at no cost to landowners and foresters.

General Conditions of the Woodlot		
Topic		**Description**
General woodland description/history	R	A property overview giving major forest types, general description of the landscape, and general land use and recent ownership history (including tenure of current owner).
Boundary lines	R	A description of the condition of all property lines, as observed in the field. Identify in the plan where field evidence is lacking or inadequate, and include recommendations to preserve/establish evidence.
Terrain/Hydrology	R	A general description of terrain (land form, slopes, and general geology). A description of hydrology, including water bodies and/or wetlands occurring on the property.
Watershed name/position	O	The watershed (stream, lake, river, etc.) in which the property is located, the relative position of the property in the watershed, the HUC (Hydrologic Unit Code) number of the watershed, and/or similar information.
Soils information	R	A brief description of soils on the property referencing the USDA county soils map. Soil suitability in relation to current/potential tree species composition and growth (e.g. site index). Limitations to operability related to soil type (such as slope, drainage, erosion potential, etc.).
Access	R	A description of existing public and private roads, trails, and related improvements or conditions that allow access to and over the property by forest management equipment, for recreation, or other uses.
Interaction with surrounding properties	O	A description of natural or human influences on/from adjacent properties, that may affect forest management decisions.
Legal obligations	R	A brief summary of forest laws that apply (e.g. Forest Practices Act), as well as legal requirements that affect forestry specific to the parcel (e.g. zoning, shoreland areas). Describe any lease agreements, deed restrictions, covenants, or similar land use restrictions relating to forestry, and their management implications.
Property tax status	R	Specify if/which forested portions of the property are enrolled in Tree Growth, Farmland, or Open Space.
Field methods statement	R	A brief narrative outlining the fieldwork done to prepare the plan, esp. to develop stand descriptions/prescriptions and other information. If applicable, include the number/type of field plots/points, and related methods used.
Accomplishments	(R)	A summary of accomplishments, projects, and/or harvesting completed under a pre-existing cost-shared plan (in the past 10 years), and an assessment of how the landowner's objectives have been met. Required if the plan is a Periodic Update of a previously cost-shared Forest Management Plan.

Non-Timber Resource Planning Considerations[7]		
Topic		**Description**
Threatened and endangered species, and rare or exemplary natural communities.	R	A description of the known or likely presence of state and/or federal, threatened, or endangered plant and animal species, and rare and exemplary natural communities. At a minimum, must be based on maps from, or consultation with, Maine Natural Areas Program and Maine Department of Inland Fisheries and Wildlife, including: • Habitat supporting threatened or endangered plants and animals; • Rare or exemplary natural communities; • Significant wildlife habitats (e.g. Deer Wintering Areas, Wading Bird and Waterfowl Habitats); and • Essential habitats (e.g. Bald Eagle nesting sites) (If no occurrences are identified, include a statement to that effect.)
Fish and wildlife habitat elements	R	A general description of primary existing/observed fish or wildlife habitat elements and opportunities to maintain or enhance current diversity. (Based on forest structure, composition, and related features such as presence of snags/den trees, coarse woody debris, mast trees, openings, wetlands, etc.). Describe specific habitat interests identified by the landowner (if any).
Water quality, wetlands, riparian areas	R	A description of water bodies, wetlands, and riparian areas present, and current or potential concerns/benefits related to forest management.
Historical, cultural & archeological sites[8]	R	Identification of sites of historical, cultural, and archaeological interest on the property. Must include information based on consultation with the Maine Historic Preservation Commission. If no occurrences are identified, include a statement to that effect. Other information from field observation such as stone walls, cellar holes, etc. may be included if indicated by the landowner's interests.
Recreational opportunities	(R)	A discussion of primary recreational activities that occur on the property. Required if recreation is a landowner objective; or if unauthorized recreation is significant and/or impacts other management activities/objectives.
Aesthetic quality	(R)	A discussion of scenic and aesthetic resources of the property. Required if aesthetic/scenic qualities are a landowner objective.
Protection from fire	O	A discussion of any unusual vulnerability to fire and recommended measures, if any, to reduce the likelihood of forest fire.
Other important natural features	O	A description of other natural features on the property of special interest to the landowner, and how they will be protected.

[7] Discussion of these considerations should include a description of specific values/resources based on field reconnaissance and other sources, and identify how these relate to landowner objectives.

[8] Information on known historical, cultural, and archaeological resources is available at no cost from the Maine Historic Preservation Commission.

Individual Stand Descriptions[9]		
Topic		**Description**
Cover type	R	Identification of the stand type, identifying dominant species and size class. Must reference one of several common stand typing systems (USFS Forest types; SAF cover types; Maine Natural Community Classification, or similar).
Stand area (acres)	R	The area of the stand in acres. The same stand (i.e. same cover type and structure) may occur in several locations on the property.
Stand composition and structure	R	A description of the tree species present and stand structure. Include canopy structure and primary tree species by size (e.g. by diameter/height classes, canopy position, crown class, etc.); understory trees, if present; regeneration of seedlings/saplings by species and frequency/abundance.
Stand age/history	R	A description of past land use(s) of the stand. Include current age structure, and the approximate date of stand establishment (if even-aged), or of establishment of the primary age classes/cohorts (if multi-aged). A general description of stand development processes/events. (May be based on field observations, increment boring, and/or historical information, e.g. aerial photographs.)
Stand health	R	A description of the health and condition of the stand, based on direct field observation and other documentation. If significant problems exist, include species affected, observed type/degree of damage, and agent(s) (if known) e.g. insect, disease, animal, wind, ice, etc. Indicate any special vulnerability of the stand to future damage. Identify (generally) available silvicultural methods to control existing or future damage.
Stand volume	R	An estimate of stand volume. Include primary species/species groups and general product classes (e.g. percentage of sawtimber/pulp).
Stand stocking	R	A quantitative estimate of site occupancy by primary species, including an estimate of basal area. May be supplemented by stem density, average stand diameter, diameter distributions, and/or other descriptors.
Stand quality	R	A description of current and potential timber quality of the stand based on species composition, acceptable growing stock, and general product classes.
Growth rate	R	An estimate of current stand-level annual growth rates. (May be based on soils, increment borings, stand growth models, USFS growth estimation methods, or similar methods).
Long range silvicultural objectives	R	A description of long-range, achievable silvicultural objectives for the stand and silvicultural systems to achieve landowner goals. Include a description of the desired future condition of the stand, and the recommended silvicultural system's primary components (e.g. regeneration, intermediate treatments).

Prescriptions & Recommendations

[9] These requirements apply to each stand. Stand descriptions must be provided for all areas of productive and nonproductive forestland. All stand descriptions must be based on adequate fieldwork to provide accurate and useful information.

Required fieldwork: A field inventory based on fixed area plots or variable radius points is required, to include all productive stands EXCEPT:

- Seedling and sapling stands with less than 6 cords per acre volume (by ocular estimate);
- Other stands with less than 6 cords per acre volume (by ocular estimate), where no harvesting is planned within ten years;
- Other stands where no harvest is planned/likely within ten years due to:
  - legal restriction, or
  - terrain that is inoperable with conventional equipment. Lack of existing access does not exempt stands from this requirement.

Where no inventory is required, field observations and ocular estimates are acceptable as a basis for required stand information.

Plot data: Field plots/points must include, at a minimum, species and diameter (at breast height, <=2" classes) for all trees >5.0 dbh inches.

Sample size: A field inventory must include a minimum of 10 samples on any parcel. The field inventory for the property must meet one of the following standards for sampling intensity. Sampling must occur in all stands where the inventory is required:

- Fixed area plots: a minimum 3% sample by area (distributed randomly or systematically);
- Variable radius plots: an average minimum intensity of 1 sample point (10 BAF) per 3 acres, or 1 sample point (15 BAF) per 2.25 acres, or 1 sample point (20 BAF) per 1.5 acres (distributed randomly or systematically);
- A showing that estimated Total Stand Basal Area, for each inventoried stand, is within a sampling error of 30% with a probability (confidence interval) of 68% or greater. For statistical purposes individual stands of 10 acres or less may be grouped with another stand of similar type and structure to produce a single statistical estimate/error;
- A showing that estimated Total Woodlot Basal Area for all inventoried stands is within a sampling error of less than 15% with a probability (confidence interval) of 90% or greater. For statistical purposes (e.g. stratified sampling) individual stands of 10 acres or less may be grouped with another stand of similar type and structure to produce a statistical estimate/error.

Recommendations must be consistent with the landowner's objectives, and all objectives must be addressed.		
Topic		**Description**
Stand Prescription(s)	R	A statement of recommendations regarding silvicultural treatments, based on field observations, stand inventory data, and silvicultural principles specific to each stand, which will most effectively advance long term silvicultural objectives over the ten-year planning period in that stand. May include both non-commercial and commercial treatments. Include sufficient quantitative stand information (e.g. basal area pre- and post treatment)) to implement the prescription.
Stand Summary Table	O	A summary table listing all stands found on the property, and including stand type, area, prescriptions, recommendations, etc.
Project recommendations	R	A description of individual projects recommended for the next ten years (minimum). Include planned noncommercial silvicultural activities and commercial harvests based on individual stand prescriptions. Include sufficient information to describe how each project will be implemented, expected outcome(s), and how it will meet the landowner's objectives. Include essential project details or requirements (project planning & monitoring, location(s)/area, season, approximate volumes to be harvested, estimated cost/revenue), as appropriate for the landowner to evaluate the recommendation.
Recommendations to protect environmental values[10]	R	Recommendations for protecting environmental values including, but not limited to: • Threatened and endangered animal species; • Rare plant species ranked S1 or S2 by the Maine Natural Areas Program; • Exemplary natural communities identified by the Maine Natural Areas Program; • Fish & wildlife habitat; • Water quality, wetlands and riparian areas; • Historic, cultural or archeological values identified by the Maine Historic Preservation Commission; • Others as identified by the landowner (e.g. recreational values, aesthetics). These recommendations may be included in stand prescriptions/project recommendations.
Other management activities	(R)	A statement of non-silvicultural recommendations for management activities to meet the landowner's objectives (e.g. boundary line maintenance, nest boxes, access improvements, administrative tasks, management plan update, etc.) Required if warranted by the landowner objectives and field conditions.
Project schedule	R	Table or similar chronological overview of all recommended actions or projects over the life of the plan (10 years). Should include a brief description of the activity, affected stands/areas, estimated costs or revenues, and timeframe.

[10] Note: Leaving natural or other features (e.g. nonforested wetlands) undisturbed/as they are may be an appropriate recommendation in some cases. In others, harvesting may be compatible. Maine Natural Areas Program can assist in developing appropriate management strategies. Maine Historic Preservation Commission can also provide assistance for protection of historical, cultural, archaeological features. For federally listed species, recommendations should avoid or minimize impacts to habitat.

	Maine Forest Service **WoodsWISE Forest Management Plan Standards - Checklist**				
	General Property Information		**Non-timber Resource Planning Considerations**		
	Landowner	R*	Threatened and endangered species, rare or exemplary natural communities	R	
	Plan Preparer	R	Fish and wildlife habitat	R	
	Plan date	R	Water quality, wetlands, riparian areas	R	
	Planning period	R	Historical, cultural, archaeological sites	R	
	Town and county	R	Recreational opportunities	(R)	
	Tax map information	R	Aesthetic quality	(R)	
	Parcel location	R	Protection from fire	O	
	Landowner goals and objectives	R	Other important natural features	O	
	Plan summary	O			
	Acreage of Land Use/Cover Types		**Individual Stand Descriptions****		
	Forestland (productive)	R	Cover type	R	
	Reserved forestland (productive)	(R)	Stand area	R	
	Noncommercial/unproductive forestland	R	Composition and structure	R	
	Nonforested area:		Age/history	R	
	Water bodies	R	Stand health	R	
	Wetlands	R	Stand volume	R	
	Developed land	R	Stand stocking	R	
	Agricultural land	R	Stand quality	R	
			Growth rate	R	
	Maps		Long range silvicultural objectives	R	
	Location map	R			
	Land use/Forest stand map	R			
	Soils map	R			
	Other maps	(R)			
	General Conditions of the Woodlot		**Prescriptions and Recommendations**		
	General woodland description/history	R	Stand prescriptions	R	
	Boundary lines	R	Stand summary table	O	
	Terrain/Hydrology	R	Project recommendations	R	
	Watershed name/position	O	Recommendations to protect environmental values	R	
	Soils information	R	Other management activities	(R)	
	Access	R	Project schedule	R	
	Interaction with surrounding properties	O			
	Legal obligations	R			
	Property tax status	R			
	Field methods statement	R			
	Accomplishments	(R)			

Note: The above list represents a checklist only. The full standards further explain required items.

* Items marked "R" **must** be included in all plans.
Items marked "(R)" are required under certain circumstances, or if warranted by landowner objectives stated in the plan.
Items marked "O" are optional.

** These items are required for all stands. Stand descriptions must be based on adequate fieldwork and an inventory for some conditions.

Minimum Requirements for Grant-Funded Street Tree Inventories

Author of Inventory: _____ Grant Number: _____

1. Fields that must be included in the Inventory (but not limited to)
   a. address
   b. species
   c. dbh
   d. site assessment (where appropriate: physical characteristics & limitations; proposed site modifications; tree placement/siting considerations; species & size considerations)
   e. presence of overhead utilities
   f. condition assessment (presence of co-dominent stems; root and/or trunk damage; cavities; deadwood; hanging limbs; etc.)
   g. prioritized pruning by location & type of pruning (e.g., safety, training, maintenance)
   h. prioritized tree & stump removal (by degree of hazard, species, size, location, land use or similar parameter); tree replacement or site restoration
   i. prioritized planting locations (by location, land use or other parameter)

2. Inventory must be compiled in a computerized database or spreadsheet, which is easily updated

3. Inventory must be fluent, functional, technically sound & appropriate to the needs of the community

4. Inventory must include a statement that credits the funding source on the front.

For more information, contact:

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