



FOREST MANAGEMENT UPDATE

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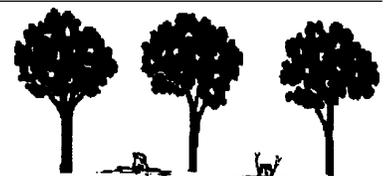
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- Stewardship Planning—When the Minimum Isn't Enough
- Sharing in the Future Forest
- People with Passion
- Site-Sensitive White Ash
- Tanglefoot® Trial

*. . . for Forestland Managers and Others Interested in Stewardship of
the Forest Resource.*



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Cover Picture: Bison were once part of the ecosystem in the eastern United States. Grazing lands were maintained by native Americans periodically burning open areas. Similarly, I am favoring red oak by planting it and releasing it from competition. I think what they did and what I am doing is not only OK — it is good!

Note: All articles contained in Forest Management Update are written by Arlyn W. Perkey (•AWP•) unless otherwise noted.

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Forest Management Update, a Northeastern Area Technology Transfer periodical, is intended to convey technical forestry information to professional foresters and others involved in managing private non-industrial forestland. Readers are encouraged to share experiences and information with others by submitting articles for publication. Please address correspondence, questions, comments, and potential articles to:

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No Ecosystem Management on My Stewardship Forest

•AWP•

As a non-industrial private landowner, tree farmer, forest steward, and forester, I have reflected on the issue of practicing ecosystem management on my own property in southwestern Pennsylvania. I admit to having waffled on the subject as some of you who read this may testify. The first time I publicly discussed the issue in Wisconsin, I had decided, “Sure, why not declare myself to be an ecosystem manager.” When compared to being a non-ecosystem manager, it certainly sounds better. Besides, what could it hurt?

On further reflection, I have changed my mind. I am a tree farmer and forest steward, but I don’t practice ecosystem management as I have come to understand the term. I accept the definition as set forth by the Society of American Foresters Task Force on Sustaining Long-Term Forest Health and Productivity:

Ecosystem management is an ecological approach to forest resource management. It attempts to maintain the complex processes, pathways, and interdependencies of forest ecosystems and keep them functioning well over long periods of time in order to provide resilience to short-term stress and adaptation to long-term change. Thus, the condition of the forest landscape is the dominant focus, and the sustained yield of products and services is provided within this context.

There are differences of opinion regarding what implementing ecosystem management really means in terms of how things are different from forest management as it has been practiced. To some it is “just a new term for what we have always done.” To others, it is much more, including managing to maintain the health of a forest ecosystem at the landscape level. If forest products are produced as a result, that is good, but managing to produce those products is subservient to the broader need of maintaining the ecosystem.

SOME QUESTIONS TO CONSIDER

To further clarify what ecosystem management is really going to mean, it is necessary to answer some specific questions that are relevant to the individual property. For example:

- Does ecosystem management include managing the animals as well as the vegetation? If so, does the manager have the authority to manage both elements, or at least have good cooperation with those who have the authority?
- Has past land use completely altered the vegetative communities growing on specific sites? For example, was the land converted to agricultural use in the past, and is the present vegetation there resulting from natural succession of abandoned agricultural land?
- Are exotic species, invasive or non-invasive, a significant component of existing vegetative communities? If so, are they compatible with the accepted interpretation of ecosystem management? In other words, is it a goal to favor native species and discriminate against exotic species, regardless of the potential value of exotics to achieve property goals?

- Are non-native animals (including insects) present in the ecosystem? Is it a goal to discriminate against them and favor native species?
- Are non-native diseases present in the ecosystem? Is it a goal to discriminate against them?

It is also important to answer some questions that pertain to the management of the landscape that includes the property. For example:

- Do adjacent landowners have land use goals that are reasonably consistent with yours? For example, is maintaining the forest a priority for them, or are they more interested in an alternative land use such as agriculture, mining, or urban development?
- Is there an existing entity (government, quasi-government, or non-profit organization) authorized to play the role of landscape manager or coordinator? If not, is there interest in the community of landowners for establishing such an entity?
- If there is a landscape managing or coordinating entity, are the ecosystem management goals of that group compatible with your property goals? Are you willing to make your property goals subservient to the landscape goals if there is a conflict?

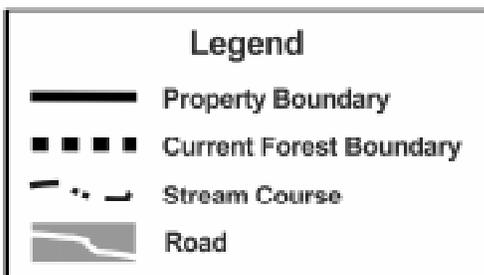
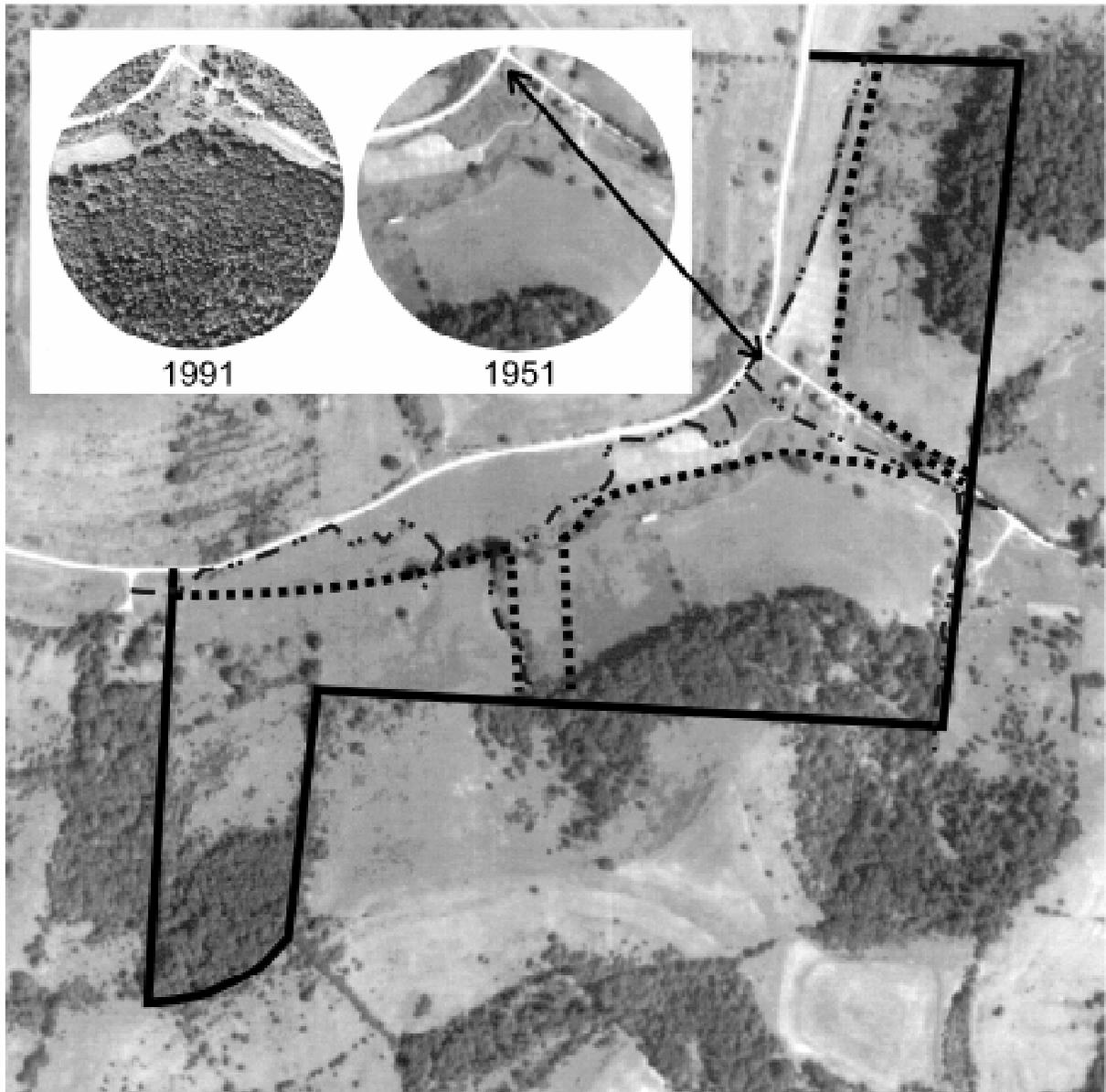
In the paragraphs that follow, I will answer the preceding questions for my stewardship forest—a 77.5-acre property in a rural portion of extreme southwestern Pennsylvania. The landscape there is a mixture of active agricultural land and abandoned farmland. Relatively few people are full-time farmers. Most agricultural activity is oriented around grazing livestock—dairy cattle, beef cattle, or sheep. Row cropland is limited, with the best available land being in the narrow valleys. Much of the abandoned agricultural land is on the hillsides. Sheep farming was once very prominent in the area, but it has lost its dominant role. Much of the non-farm employment in the area is related to the coal mining industry. Two large long-wall mining operations are in the general area. There is currently little threat from urban development.

THE ANSWERS FROM MY PERSPECTIVE

Does ecosystem management include managing the animals as well as the vegetation? If so, does the manager have the authority to manage both elements, or at least have good cooperation with those who have the authority?

In my mind, ecosystem management must include the animals. They certainly are part of the ecosystem. That means the 32 deer per square mile, the gypsy moth, and the eastern tent caterpillar are all part of what I, as an ecosystem manager, would be managing. I certainly don't have the authority to manage the deer herd. Although I am a willing and active cooperator with the Pennsylvania Game Commission, I don't feel that I, as an individual, am able to exert much influence on the management of the deer herd in the wide area surrounding my tree farm. My attempt at managing the gypsy moth can be described as having only minimal effect. I didn't even try with the eastern tent caterpillar.

PERKEY TREE FARM



SCALE: 1" = 280'

July 6, 1951, Aerial Photo

This base map was made from a copied enlargement (400%) of a 1951 aerial photo showing much of this property was in agricultural use (fields). The land between the dotted line and the property boundaries is currently covered with forest. The dated, circular areas on the upper left corner of the photo reflect the vegetative changes from 1951 to 1991.

Has past land use completely altered the vegetative communities growing on specific sites? For example, was the land converted to agricultural use in the past, and is the present vegetation there resulting from natural succession of abandoned agricultural land?

Forty-four of the sixty-one forested acres on the property are abandoned agricultural fields. The remaining seventeen acres that were never completely converted from woods were heavily grazed during the 150-year agricultural era. Some of the present forest was planted in white pine, while the remainder of it seeded in naturally from the residual woods and trees growing along fence lines. The seventeen acres that was never converted has many of the herbaceous plants and shrubs associated with native forests in the area. The forests now colonizing agricultural fields are being reoccupied by native understory plants as well.

Are exotic species, invasive or non-invasive, a significant component of the existing vegetative communities? If so, are they compatible with the accepted interpretation of ecosystem management? In other words, is it a goal to favor native species and discriminate against exotic species, regardless of the potential value of exotics to achieve property goals?



Apple trees and Norway spruce are exotic species that contribute to accomplishing timber and wildlife property goals.

Multiflora rose, tartan honeysuckle, ailanthus, white garlic, yarrow, fescue, domestic apple, and Norway spruce (I planted them) are exotic plants that are prominent. I suspect there are many others. Of these plants, domestic apple and Norway spruce have a role in achieving my property goals.

Are non-native animals (including insects) present in the ecosystem? Is it a goal to discriminate against them and favor native species?

The gypsy moth and eastern tent caterpillar are the most prominent exotic insects that have affected the vegetation since I have owned the property. While I would like to discriminate against them, my ability to do so at reasonable cost is limited.

Are non-native diseases present in the ecosystem? Is it a goal to discriminate against them?

Prominent exotic diseases include Chestnut blight and Dutch elm disease. I would love to eliminate them, but we don't have the technology at this time.

Do adjacent landowners have goals that are reasonably consistent with yours? For example, do they have maintaining the forest as a land use goal, or are they more interested in an alternative



Alternative land uses may make forest ecosystem management at the landscape level impractical in many non-industrial private forest communities. They have as much right to practice their land use as I do mine.

land use such as agriculture, mining, or urban development?

I get along very well with my neighbors (adjoining property owners). However, I would describe only one of the five of them as having goals that are somewhat similar to mine. He is also a forest steward. Three of the five clearly have agricultural goals. The goals of the fifth owner are less apparent, but maintaining and managing a forest does not appear to be a priority.

Is there an existing entity (government, quasi-government, or non-profit organization) authorized to play the role of landscape manager or coordinator? If not, is there interest in the community of landowners for establishing such an entity?

There is no existing entity, and I don't believe there is any interest in this landowner community.

If there is a landscape managing or coordinating entity, are their ecosystem management goals compatible with your property goals? Are you willing to make your property goals subservient to the landscape goals?

There is no existing entity and if there were, I would not be willing to subordinate my property goals to their landscape goals if there was a conflict between the two.



These huge old trees in this uncut forest are the image that many people have of pre-Columbian forests. If Perkey Tree Farm ever looked like this, it was more than 150 years ago. (Note: The old beech has escaped the logger's chainsaw, but not the hiker's knife.)

Looking at the answers to the preceding questions makes me aware of the impracticality of applying ecosystem management on this small acreage with a very significant disturbance history. Besides, I have come to question what is supposed

to be so desirable about doing this. I have concluded that many of the people who think this is a better way to manage really want to restore the ecosystem to what they visualize it was prior to European settlement. The supposition is that what we relative newcomers did was inherently bad, and the way it was before was inherently better.



American chestnuts like this one were once an important part of the forest community on upper slopes at Perkey Tree Farm.

ecosystem management is not only more complex than we think, it is more complex than we can think. If that is really so, I won't do it. I understand multiple-use management, stewardship, and tree farming. Those are things I can do. Seriously, the previous statement may be intended to impress managers with the complexity of the biological world, but I feel some use it as a scare tactic to convince people that natural resource managers should not manage.

I do agree that the biological world is complex, and I also accept that humans will never completely understand it. However, I do not believe we are to be paralyzed by our awe of the complexity. We need to continually observe and learn from each management activity we implement. Historically, our forests have been subjected to stresses like rampant forest fires, clearing for agricultural use, grazing by livestock, defoliation by exotic pests, and now grazing and browsing by excessively high deer populations. These detrimental events have not yet destroyed our forests. That doesn't mean we should let these destructive forces go unchecked. However, it does mean we should be confident enough in the resiliency of the forest to implement well

THE FALLACY OF ECOSYSTEM RESTORATION

Ecosystem restoration in this landscape is impractical in my opinion. It is not feasible to eliminate many of the exotics that are present, and in some cases, I don't think it is desirable to eliminate them. They contribute to accomplishing my goals. Domestic apples and Norway spruces are examples. On the other hand, there are parts of the pre-Columbian ecosystem that are gone and can't be brought back. Biological organisms that used to be here that aren't present as a significant element now are: native Americans, elk, bison, wolves, cougars, passenger pigeons, and American chestnut trees larger than two inches in diameter. Animals that we now have that would be hard to eliminate include starlings, house sparrows, pigeons (rock doves), and eastern coyotes.

THE FEAR OF COMPLEXITY

Advocates of ecosystem management often describe the intricate relationship of organisms and how human interference can upset the perfect balance of nature. An example of a favorite saying is:



This is an intensively managed forest on a productive site. This valuable timber crop tree is aesthetically attractive to me.

planned management activities designed to harvest trees for our use, and to regenerate and culture trees for the next generation's use.

From my perspective, a well managed forest with beautiful, straight, tall trees is just as ecologically sound and aesthetically desirable as a forest that has not been knowingly manipulated by man. I also have no aversion to the increased financial value of the managed forest. Consequently, with all due respect for the complexity of the system, I have the courage to manage a forest to meet my goals with confidence that my management activities are not damaging the ecology of that forest.

THE FALLACY OF EXTREME INTERCONNECTEDNESS

Those of us who like to watch nature programs on television constantly hear terms like *the web of life*, and how doing anything to one element disrupts another. I, like most who have studied plant and animal ecology, appreciate the interaction between plants and animals. I certainly advocate and encourage consideration of those interactions when making management decisions. I especially urge silviculturists to consider the stage of succession of plant communities when prescribing silvicultural treatments. However, it has become fashionable to over-emphasize interconnectedness. If you take this point to an extreme, managers would never do anything for fear of harming something unintentionally.

THE CONFLICT OF LANDSCAPE LEVEL MANAGEMENT AND PRIVATE PROPERTY RIGHTS

Since I don't think it is practical or even all that desirable to restore the ecosystem at the landscape level, I am not willing to subordinate my goals to a government or quasi-government authority. I am not willing to give up my private property rights to an entity who thinks their broader goal is more important than me accomplishing my property goals. Some will argue that this is ridiculous, nobody would suggest that I should. However, I think some do suggest just that, or are on the verge of suggesting it. A recent article titled *Professional Forester Credibility and NIPF's: Towards a Better Dialogue* in the Summer 1997 Allegheny News, a publication of the Allegheny Society of American Foresters, provides an indication of this perspective on ecosystem management.

Forest Health and NIPFs

Given current forestland ownership and stewardship strategies, there are far too many small parcels to implement any singular forestry management plan. Further, extant property rights issues make ecosystem management difficult, since regional forest health concerns, by necessity, cross multiple landholdings. Political and property boundaries rarely correspond with ecological boundaries. In our opinion, there is too much at risk to wait for voluntary ecosystem management to occur. Better collaboration and coordination among adjacent landowners in planning and management is needed. This preliminary research explores the possibility of implementing an alternative property management scheme in Pennsylvania. This is accomplished, in part, by addressing the question, "How can landowners integrate forest health management into larger units while meeting diverse private and public land use goals?"

While the previous paragraph may not be calling for involuntary ecosystem management, it probably comes closer than many of us are comfortable with. I certainly acknowledge that many of the management problems I described on my little 77.5-acre property come from beyond the bounds of the property. The size of the deer herd is probably the most notable example. I also acknowledge the magnitude and seriousness of this widespread forest health problem. However, I am not convinced that subordinating my property goals to broader landscape goals is any solution. The excessive deer population problem has economic/social/political implications that need to be dealt with through widespread public debate and subsequent comprehension of the basic issue. I doubt that landscape level goals established by any entity is going to be any more effective at reducing the deer herd than the Pennsylvania Game Commission has been. In the meantime, this menace to healthy forest ecosystems continues unabated.

THE BENEFITS OF BETTER APPLICATION OF ECOLOGICAL PRINCIPLES

Does this mean I think the whole ecosystem management movement has been without benefit to non-industrial private landowners? Not at all. To the extent we have increased our understanding of ecological principles and how we can use them to further the effective and efficient accomplishment of landowner goals, I think it has made a contribution. I just don't think restoration of pre-Columbian ecosystems or landscape level management on non-industrial private forests in the eastern United States is practical. I certainly don't think it should be attempted on an involuntary basis.

So as a tree farmer and forest steward, how do ecological principles fit into my mission statement?

Perkey Tree Farm will be managed as a Stewardship Forest to sustain the accomplishment of timber, wildlife, and aesthetic goals over a long period while protecting soil and water resources. Goals will be achieved by applying silvicultural practices founded on science-based ecological principles.



Active management to accomplish specific goals that benefit modern-day people is not bad. Native Americans burned to produce favorable conditions for bison. I cut trees to provide favorable conditions for other trees. I plant trees that will benefit the next generation. We have manipulated vegetation for centuries, and must continue, if we are to enjoy a high standard of living.

That isn't ecosystem management, as previously defined. The condition of the forest landscape is not the dominant focus—the accomplishment of my property goals is. The above statement doesn't subordinate property goals to landscape level goals.

The above mission statement does not call for me to maintain the complex processes, pathways, and interdependencies of forest ecosystems. I don't know how to do that on my 77.5 acres. What does that mean out on-the-ground? I don't know what management actions I would need to take to maintain complex processes, pathways, and

interdependencies. I can't think of anything I have any intention of doing that would destroy processes, pathways, or interdependencies. If all that really means do nothing for the fear of messing things up, that is not acceptable to me. I refuse to be paralyzed into no action by fear of doing something wrong.

The statement does recognize the important role of ecology in making management decisions. It is critical to evaluate management unit history and the stage of succession of the vegetative community. Understanding where it is at and where it will naturally tend to go in the absence of disturbance enables natural resource managers to work with those tendencies and prescribe management activities that effectively and efficiently accomplish landowner goals. On the non-industrial private forest, that is still what it is all about.

As natural resource managers on the private non-industrial forest, we need to maintain a balanced perspective of who we are, and who we are working to serve. We are natural resource professionals who recognize our advisory role in providing goods and services for this generation while protecting the productivity of resources for future generations. While we acknowledge that public service and commitment, we are also aware that in this country (at this time), within the confines of the law, private property rights of landowners supersede landscape level desires of non-landowners. Our role is to respect those rights while providing sound science-based advice on how landowners can responsibly manage their land to accomplish their goals. Benefits are thus provided to society, and hopefully, the public will be confident that these landowners are good stewards of the forest.

As landowners we have limitations on our available time, interest, money, and energy. It is important for us to efficiently and effectively use those limited resources if we are to maximize the production of benefits for ourselves and society. To appropriately focus and direct the use of those resources, we must have an accurate perception of reality. On the non-industrial private forest, focusing on accomplishing landowner property goals is a more realistic strategy than focusing on landscape level goals or nebulous ecosystem restoration goals. On many non-industrial forest acres, restoring a productive forest that will accomplish landowner goals is a formidable challenge, but it can be well defined and understood by many landowners.



Finding incentives to motivate landowners to restore abandoned agricultural land to healthy, productive forests has been challenging. Finding non-regulatory incentives to motivate them to accomplish broader landscape levels established by another entity appears beyond reach.

ANNOUNCEMENTS

New Publication Available for Northwestern West Virginia, Southwestern Pennsylvania, and East-Central Ohio

Using Diagnostic Plants to Evaluate Site Class by Dr. Kenneth L. Carvell and Arlyn W. Perkey is now available for distribution. The guide was developed from plots taken in a four-county area in southwestern Pennsylvania and northern West Virginia in the summer of 1996. During the summer of 1997, a broader area was examined to validate the range of applicability. More information on that range will be available in the next issue of the Forest Management Update. For now, natural resource managers in northwestern West Virginia, southwestern Pennsylvania, and east-central Ohio may add this tool to their site evaluation and management unit prescription tool box.

A copy can be obtained by calling Helen Wassick at 304-285-1592 or written requests may be sent to:

USDA Forest Service
Forest Resources Management
180 Canfield Street
Morgantown, WV 26505

* * * * *

Update to Announcements in Issue 15, Page 29

A new video has been added to the nationally recognized series of video tutorials on responsible woodlot management titled *Managing Your Woodlot*. The new video is called *The Changing Forest — Ecology and Silviculture*, and is the ninth in the series produced by the West Virginia University Extension Service.

Copies are available in West Virginia by contacting:

Tim Pahl, Extension Specialist
Appalachian Hardwood Center
College of Agriculture and Forestry
Cooperative Extension Service
PO Box 6125
Morgantown, WV 26506-6125

Telephone: 304/293-7550, extension 2458

Sales outside of West Virginia are handled by the:

National Woodland Owners Association
374 Maple Avenue, East
Suite 210
Vienna, VA 22180

Telephone: 703/255-2700

Stewardship Planning—When the Minimum Isn't Enough

•AWP•

Introduction

The Forest Stewardship Program provides financial resources to support foresters and landowners working on forest stewardship plans. Since the inception of the Program, there has been polite debate regarding how much detail is needed in a landowner forest stewardship plan. In 1992, the Northeastern Area, State and Private Forestry, established minimum standards for plans developed in the 20-state area referred to as the Northeast and Midwest. These standards are indeed minimal, leaving wide latitude for states to establish their own more stringent minimum standards. Some states have done that; others have not. Almost all parties in the debate agree that states need great flexibility to decide how best to apply the Program in their area. However, there is some slight irritation when plan writers and program managers from states with higher standards look at work from states with lower standards.

In addition to the cross-state variation, there is significant variation between natural resource planners regarding the amount of detail to include in stewardship plans. The intent of this article is not to advocate more stringent standards to make plans more equivalent. Instead, it is meant to increase awareness among natural resource planners and landowners about what to do when the minimum isn't enough. It suggests what additional work may have great payoff in the expenditure of both public investment funds and landowner sweat equity. Whether the additional planning effort is done

at the time the initial stewardship plan is developed, or later as a more detailed addendum, is a matter that is left for those who choose to debate it.



This forest steward is investing time, money, and energy in a fencing project to protect recently planted seedlings from deer. Thorough planning is needed to make sure his efforts will be successful and resources will be used efficiently and effectively.

Some will argue that we can't afford to do this additional planning work. I will argue that for the serious steward investing in multiple projects of significant size, we cannot afford not to do it. The cost of inadequate planning is too great.

Forest Stewardship Plans describe the characteristics of the forest and help the landowner articulate goals for the property and objectives for management units on it. They should also be a tool to help landowners focus their time, interest,

money, and energy into work activities that will most efficiently accomplish management unit objectives and property goals. A thorough plan for a serious forest steward must address the same elements found in every good news article: who, what, when, where, why, and how. The why and how will not be significantly addressed in this article. Not that they aren't important; they are absolutely critical to serious stewards. It's just that the how and why are both beyond the scope of this article.

In the Northeastern Area, the *Minimum Standards for Landowner Stewardship Plans* (distributed December 1992) provides an indication of the minimum resource information needed.

MINIMUM STANDARDS FOR LANDOWNER STEWARDSHIP PLANS

TITLE PAGE

SIGNATURES

These include the landowner, preparer, and State Forester (or representative).

MAP OR AERIAL PHOTOGRAPH (Management Units)

Show the property with stands delineated and uniquely labeled.

PROPERTY OVERVIEW

- General location
- Major forest types
- General landforms
- Relevant description of the landscape
- Known threatened and endangered species

LANDOWNER PROPERTY GOALS AND STAND OBJECTIVES

A general discussion of landowner goals needs to include the expected effects of achieving those goals on the following resources:

- Soil and water
- Wildlife
- Recreation/aesthetics
- Timber

For each stand or management unit there needs to be one or more objectives that relate to the accomplishment of specific landowner goals.

RESOURCE DESCRIPTIONS AND MAP DELINEATIONS

Each stand or management unit needs to be uniquely identified on a map and described in regard to the following characteristics:

- Size (acres)
- Vegetative cover type (northern hardwoods, white pine, etc.)
- Size class (sapling, poletimber, sawtimber, etc.)

Soil characteristics and erodibility need to be identified, usually using the soil survey for the county where the property is located.

Stand objective and its relationship to the landowner goals for the property.

Recommendations and a short discussion of the effects of such actions on the soil and water, wildlife, recreation/aesthetic, and timber resources.

ACTIVITY SCHEDULE

Show all stands and approximate year of recommended actions for 5-year period. Include all stands, even if no action is recommended.

SIP PRACTICE PLANS

Include SIP Practice Plans as they are developed.

At first glance, these minimum standards might appear comprehensive, but there are some key areas where there is great flexibility. For example:

- no minimum number of stands or management units per planning area; in other words, no maximum stand size.
- no requirement to take any plot data.
- no requirement for site productivity beyond that found in the soil survey, which is often very general.
- no requirement for ecological classification or assessment of stage of succession by stand, site class, or management unit.
- no access plan required.

The what, when, and where are summarized in an activity schedule. It lists planned work (what) by location on the property (where) and an approximate time period (when) for the accomplishment of each activity. Thorough plans need better activity schedules than I have frequently observed, and they need to be displayed in conjunction with better maps. These improvements facilitate analysis of stewardship investment opportunities by natural resource planners and landowners (who), and better comprehension of proposed and planned work.

Developing the Forest Stewardship Plan

I will use a real-life non-industrial private forest for a prototype to show how some structured thinking can help identify the management activities that have the greatest potential to accomplish landowner goals most efficiently. There are two key information elements needed:

- 1) an inventory of the natural resources on the property.
- 2) a landowner profile.

The inventory of natural resources is all the things we typically collect to develop a forest stewardship plan.

Property goals should be identified during early conversations with the landowner. They answer the why question mentioned earlier. These goals are the motivating force that will encourage the landowner to expend time, interest, money, and energy to accomplish tasks. They should be reviewed again before analyzing management units and establishing unit objectives. This insures that property goals are in the forefront when establishing unit objectives and ultimately deciding which units have the greatest potential to accomplish the property goals. This landowner's goals are:

- Manage timber to produce income.
- Family recreation, primarily hiking and hunting.

Obtaining income from the sale of timber is the primary goal for the property. Accomplishing that goal will be the focus of work activities. Family recreational activities of hiking and hunting will be improved primarily by developing better access and by avoiding the creation of aesthetically unattractive conditions.

The timing of the income from the property is important. The landowner has four children whom he expects will go to college. The greatest demand for income for that purpose is during a period thirteen to twenty years from now, from 2010 to 2017. The second need for income will occur after retirement, about the year 2030. Any management activity adjustments that can be made to provide income during those periods will be beneficial.

The Northeastern Area's minimum guidelines for stewardship plans described in the sidebar on page 12 call for management units or stands to be delineated on a map. On the property used for this article, the management units were delineated with the publication, *Using Diagnostic Plants to Evaluate Site Class*, and the 1958 aerial photos of the property. The old aerial photos reflected management unit boundaries significantly affected by past land use. They helped define areas where existing forest stands had the greatest potential to accomplish landowner goals. Classifying the area by site class defined the areas with the greatest potential to accomplish goals based on site productivity. It also helped forecast plant community succession and identify management activities that could realistically be accomplished by the current landowner considering the natural resources; the landowner's goals; and his available time, interest, money, and energy.

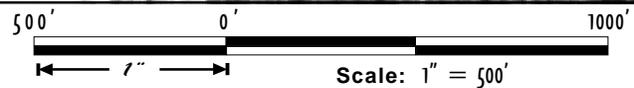
Landowners: Model
Acres: 99
Location: Anywhere, Northeastern Area



Management Unit Map



Source: August 27, 1958, Aerial Photo

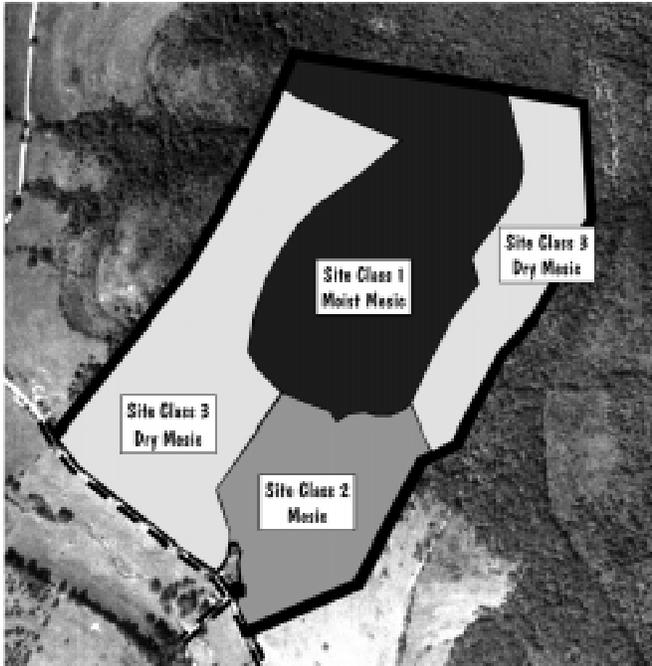


On abandoned agricultural land, management units are often easily identified on old aerial photographs. Enlargements made with commercial quality color copiers can make excellent, inexpensive base maps.

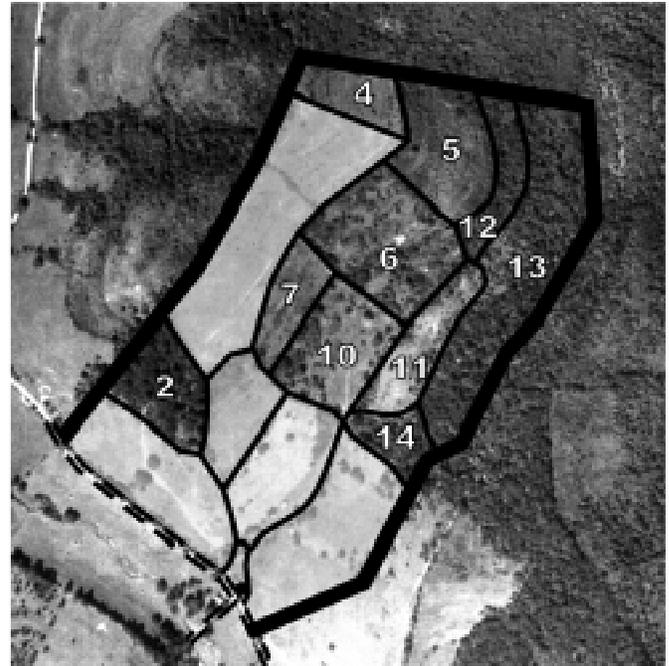
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Location: Anywhere, Northeastern Area



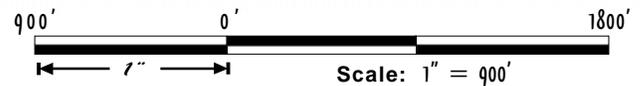
Site Class Map



Pole/Sawtimber Units with Prescriptions



Source: August 27, 1958, Aerial Photo



Site class and prescription maps can be developed from the base map to display decision-making considerations like site productivity and existing vegetative conditions. Often, top priority vegetative manipulation projects will be on good sites where existing vegetation can be easily managed to accomplish a landowner goal. In this instance, good crop tree management opportunities occur where existing pole and sawtimber units are on the best site (Units 4, 5, 6, 7, 10, 11, and 12).

The following tables show what this model landowner has in inventory and available to order as to work priority. Displaying management units in summary tables within the plan helps the reader visualize the natural resources available to accomplish the landowner's goals. It is also a good practice to place a copy of the map that shows the location of these units in close proximity to the tables. The relevance of this information is much clearer when the reader can picture in his mind where it is at on-the-ground in relation to other units.

MANAGEMENT UNIT ANALYSIS TABLE

LANDOWNER: Mr. Example

DATE: September 1997

MGMT UNIT	ACRES	SITE CLASS	COVER TYPE	DESCRIPTION	MANAGEMENT OBJECTIVE	MANAGEMENT ACTIVITY
1	8.0	3-dry mesic	mixed hardwoods	reverting old field, WA, SAS, BC, & BW	convert low-value hardwood unit to WP & RO	prepare site, plant WP&RO, fence to protect seedlings from deer
2	4.4	3-dry mesic	oak-hickory	WO,BO,CO, HI small sawtimber	regenerate to higher value hardwoods	treat grapevines, treat culls, establish desirable regeneration, harvest timber
3	16.0	3-dry mesic	mixed hardwoods	reverting old field, RM & YP	convert low-value hardwood unit to WP&RO	prepare site, plant WP&RO, fence to protect seedlings from deer
4	3.7	1-moist mesic	yellow-poplar	YP & SM poles	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of YP & SM poles
5	6.3	1-moist mesic	yellow-poplar	YP poles & small sawtimber	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of YP poles & small sawtimber
6	8.3	1-moist mesic	northern hardwoods	WA, SM poles, & YP small sawtimber	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of WA & SM poles
7	3.6	1-moist mesic	northern hardwoods	SM & WA poles	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of SM & WA poles
8	4.0	3-dry mesic	northern hdwd/WP	WA poles with planted WP understory	convert low-value hardwood unit to WP&RO	prepare site, plant WP&RO, fence to protect seedlings from deer
9	5.3	2-mesic	WP/RO	WP/RO seedlings fenced from deer	grow high-quality WP	maintain fence to protect seedlings until WP terminals are over 5 ft. tall

MGMT UNIT	ACRES	SITE CLASS	COVER TYPE	DESCRIPTION	MANAGEMENT OBJECTIVE	MANAGEMENT ACTIVITY
10	5.7	1-moist mesic	northern hardwoods	SM & WA poles	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of SM & WA poles & YP small sawtimber
11	4.5	1-moist mesic	yellow-poplar	YP & HI poles	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of YP poles
12	3.6	1-moist mesic	yellow-poplar	YP, RO, & SM small sawtimber	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of YP, RO, & SM small sawtimber
13	13.5	3-dry mesic	northern hardwoods	BE, RO, SM sawtimber	accelerate the growth of timber crop trees	treat grapevines, crown-touching release of RO sawtimber
14	2.7	2-mesic	oak-hickory	WO & BO poles & small sawtimber	regenerate to higher value hardwoods	treat grapevines, treat culls, establish desirable regeneration, harvest timber
15	8.8	2-mesic	old field	herbaceous vegetation & non-commercial woody species	grow potentially valuable WP&RO	prepare site, plant WP&RO, fence to protect seedlings from deer
House and yard	.6	NA	NA	NA	NA	NA
TOTAL	99.0					

BC - black cherry
RM - red maple

BE - beech
SAS - sassafras

BO - black oak
SM - sugar maple

BW - black walnut
YP - yellow-poplar

CO - chestnut oak
WA - white ash

HI - hickory
WO - white oak

RO - red oak
WP - white pine

If there were only three management units, the summary tables would be less critical. As the number of units on the property increases, the need for the tables increases dramatically. These tables are not intended to replace the individual written management unit descriptions and prescriptions. They supplement them, bringing a synopsis of each unit together in one place to avoid the loss of reader attention and the frustration of flipping through page after page of descriptions, trying to visualize what all this means. The abbreviated descriptions, objectives, and work activities are sufficient ticklers to remind us of the content of the more detailed management unit write-ups. These summaries can serve as quick references that help remind us of what we have during the life of the plan. Next to the activity schedule, these tables, and the accompanying map, are likely to be the most frequently used parts of the plan.

The following are clues to help readers recognize a Forest Stewardship Plan that will just meet the Northeastern Area's minimum standards, but may not really meet the landowner's needs:

- the average stand or management unit size is 33 acres or more.
- most stand prescriptions are for no work.
- if there is a prescription for planting trees, it does not describe where in a relatively large stand to start planting, what to plant, or what other site preparation and release work is needed.
- the only activity scheduled is a timber sale.
- there are wildlife objectives, but no wildlife prescriptions.

LANDOWNER TIME PROFILE

An equally important inventory need is the landowner **TIME** profile. This, too, can help answer the who question. That is, what can be done, and who will do the work on the activity schedule? Can the landowner do the work or is it advisable to have it done by a vendor or commercial operator? If the landowner is going to do the work, the **TIME** profile can also help set realistic expectations of when it may be accomplished. The profile also provides an indication regarding how much “how-to” information is going to be needed for the landowner.

The **TIME** landowner profile is an organization and memory tool to help the interviewer listen for pertinent information and retain it until it can be recorded for additional reflection. Often landowner communication is in the form of casual conversation when it is not feasible to immediately record pertinent information. The interviewer's listening skills must be sharp to gather data in bits and pieces as it becomes available from the landowner.

Because **TIME** profile information is personal, it may be more difficult and awkward to collect than natural resource information. However, without it, plan writers are likely to make erroneous assumptions regarding the probability of landowners accomplishing work activities and when they will do them. Obtaining an accurate perception of the landowner is critical to the development of a stewardship plan that will result in the implementation of stewardship practices on-the-ground as opposed to a stewardship plan on-the-shelf.

This inventory of landowner characteristics is more complicated if there is more than one landowner, or if the landowner is significantly influenced by another individual the planner may never meet. These circumstances may cause you to receive mixed signals.

A landowner's familiarity with personally doing stewardship work on a non-industrial private forest may range from intimate (very experienced) to naïve (no experience, not even related work experience). Experienced landowners are relatively well positioned to make a determination regarding what tasks they will undertake, with little advice from plan writers. The inexperienced are most in need of carefully worded counsel. Giving advice regarding how to accomplish work activities is one of the best opportunities we have to help these landowners use their time, interests, money, and energy efficiently and effectively.



Friends and relatives that the Forest Stewardship Planner may never meet can have an influence on decisions the landowner makes.

Accurately assessing the landowner's situation permits stewardship planners to make good decisions regarding the use of their own limited time with a landowner. For example, the content of discussions with a landowner likely to implement a work activity themselves may be very different from a discussion with a landowner who will need to have a third party do the work.

Time

Most landowners have other commitments in their lives besides working on their land. Learning what some of the key commitments are will help plan writers advise landowners regarding their own involvement in potential work activities. Again, inexperienced landowners are most in need of help. They are often unfamiliar with the amount of time required to perform various tasks recommended in stewardship plans, and they usually don't know when some of the tasks might have to be performed. Failure to recognize the timeliness of when some activities must be done can result in failed projects. Key elements in the time factor are employment commitment, residency location, and family and community commitments.

Interests

Landowners spend their time on things they are interested in doing. Assessing and potentially developing those interests are critical to determining the probability that work activities will be initiated. Outdoor interests and mechanical interests and aptitude are the key elements that can be observed to assess the interest factor.

Money

A landowner’s available financial resources and willingness to invest in stewardship activities is often difficult to assess without asking personal questions. Natural resource planners are often reluctant to do that. However, failure to understand financial reality can result in recommendations that are unlikely to be implemented. Listening for clues that indicate the availability of financial resources and the willingness to invest financial resources can avoid pitfalls for the natural resource planner.

Energy

While it is inappropriate to be telling landowners what they can and can’t do themselves, it is appropriate to provide information regarding the technical knowledge, mechanical skills, physical stamina, and physical risks associated with performing various tasks. It is important to maintain a non-judgmental demeanor when assessing these personal capabilities and giving advice. Sometimes this assessment can be based on information from oral communication, in other instances it will be strictly from observation. We need to consider a landowner’s ability to invest their own energy into physical participation and managerial participation in the operation of their stewardship forest.

The information gained in conversation with the landowner can most easily be obtained by remembering the elements associated with each of the TIME factors:

Time	Interest	Money	Energy
Employment	Outdoors	Availability	Physical
Residency	Mechanical	Willingness	Managerial
Family & Community			

Later, when you transfer the information from your head to the form (reproducible version enclosed), you can evaluate which descriptive component best fits that landowner’s situation.

- For landowners — how to recognize when the minimum plan probably isn’t enough.
- You are 50 years old, doing crop tree release, and you exhaust half of the energy you have available for a day’s work lugging the chainsaw, gas, and oil to the work area.
 - You plant trees and have 20% survival.
 - You have a goal of receiving income from timber in 20 years, you have a nice small sawtimber stand, and your first management activity is to plant trees on an abandoned field.
 - The first management activity is adjacent to where you park the truck.
 - Your only management activity is to have a timber sale.
 - You have started doing a treatment practice and don’t know why.

On the next page is an example of the **TIME** profile used with a model landowner already in the Forest Stewardship Program who has accomplished some stewardship activities and is planning several more. The intensity of his initial stewardship plan inventory was light, and it gave only limited direction regarding what should be done and what was the highest priority. He is now a serious steward with 99 acres of land and the desire to accomplish several projects. A landowner **TIME** profile was developed to help the forester assess the quantity and type of technical, managerial, and labor assistance needed to implement these projects.

TIME LANDOWNER PROFILE

LANDOWNER: Mr. Example

DATE: September 1997

1 - low

2 - moderate

3 - high

FACTOR	ELEMENT	COMPONENT	COMPONENT RANK VALUES	INDIVIDUAL RATING	
Time	Employment Commitment	Employed, long work hours, scheduling time off difficult	1	1	
		Employed, 8 to 5 job, scheduling time off relatively easy	2		
		Retired	3		
	Residency	Residency long distance from the property	1		
		Residency within 1 hour commute of property	2		
		Residency on the property	3	3	
	Family and community commitments	Married with young children	1	1	
		Single, little community involvement	2		
		Married, grown or no children, spouse also interested in property	3		
		Average Element Rating for Time			1.7
	Interest	Outdoor interests	Seldom engage in outdoor work or hobbies	1	
			Moderate interest in outdoor activities	2	
			Outdoor enthusiast as indicated by activities	3	3
Mechanical interests and aptitude		Little experience fixing or building anything	1		
		Commonly operates equipment, but seldom does own repairs	2	2	
		Commonly operates and fixes equipment	3		
Average Element Rating for Interest			2.5		

FACTOR	ELEMENT	COMPONENT	COMPONENT RANK VALUES	INDIVIDUAL RATING	
Money	Availability	No out-of-pocket investments, only break-even or income-producing projects acceptable	1		
		Limited investment funds to do cost-share projects	2	2	
		Adequate funds to do projects without financial assistance	3		
	Willingness to invest	Short-term income-producing projects only	1		
		Short- and long-term income-producing projects	2	2	
		Non-income as well as short- and long-term income projects	3		
		Average Element for Money			2.0
	Energy	Physical participation	Elderly, but physically fit	1	
			Middle-age, but physically fit	2	
			Young and physically fit	3	3
Managerial participation		Wants/needs on-going detailed direction from someone	1		
		Willing to learn about stewardship, but not a top priority	2		
		Anxious to learn about stewardship	3	3	
		Average Element for Energy			3.0
Overall Rating			9.2		

Summary:

This landowner has limited time, high interest, an average amount of money to work with, and high energy. In talking with him, I believe he will work diligently on the activity schedule we'll be setting up. The biggest concern and most limiting factor is his available time. Although he has the desire to do the work himself and is committed to seeing things through, he may have to get most of the work done by others because of his lack of time to do so himself. If that turns out to be the case, I think he will be closely involved with the work to see that it is done right and on time. Considering the overall rating scale of 4 to 12, this landowner is 9.2, which tells me that it is very probable that he will conscientiously work at applying good stewardship practices on his property.

With the landowner goals and objectives, Management Unit Analysis Table, and maps showing the location of each management unit, the stewardship planner is ready to develop an activity schedule and set work priorities. Following are examples of questions that need to be answered to establish good work priorities:

- Which management units have objectives that accomplish property goals?
- Which units could accomplish those goals in the shortest period of time? Often the answer will be influenced by site productivity or the condition of vegetation that is already established in the unit.
- Which units could accomplish the goals with the least cost? Again, this may be affected by site productivity and the condition of the vegetation currently on the site. Access to the management unit may also be a very important factor.
- Which units have prescriptions that are the easiest for this particular landowner to implement? Ease of implementation is often influenced by factors like the owner's technical knowledge, mechanical interest, available time, and other items identified in the landowner **T I M E** profile.
- Has the landowner indicated or have you detected a burning desire to accomplish any particular activity? It is easier to get something accomplished if the person is already sold on doing it.
- Are there any problem factors identified in the **T I M E** profile that can be easily overcome? For example, a landowner with limited personal funds to invest, but cost-share funds are available to do the work.
- Can the priority and benefits of one activity be significantly influenced by the sequence of when projects are accomplished? For example, will developing vehicle access to a unit make the vegetative prescription for that unit much more feasible?
- Have significant investments already been made in a management unit that need to be maintained with follow-up treatments? For example, trees may have been planted, but they now need release from competition or the plantation will suffer extensive mortality.
- Does one project have to be accomplished prior to doing another? For example, site preparation needs to be done before trees are planted.



Site productivity, a key to accomplishing goals, can often be assessed using vegetation on the site. In this area, Virginia knotweed and Christmas fern give clues to site productivity.



If a landowner has already made investments, it may be prudent to have protection of those investments as a top priority. This landowner invested in site preparation and planting. Follow-up protection from deer browsing and release from competition may be needed.

- Are any prescriptions influenced by outside factors? For example, planting trees is influenced by the availability of seedlings that are well adapted to growing on that site and capable of meeting the objectives for that unit.
- Are any of the prescriptions seasonally sensitive, and does this change the sequence of when they can be done? For example, planting trees is generally done in the spring. If it is already too late to properly prepare the site for planting, the project may need to be delayed.



This landowner has realized that releasing these sugar maple crop trees will produce income sooner than planting trees on an abandoned agricultural field.

Apply these questions to our model woodlot. We see that opportunities exist on the best sites where there are existing pole and small sawtimber crop trees that can produce timber income in a relatively short period of time. From an income production perspective, releasing those crop trees is a higher priority than planting seedlings. Since this landowner's **T I M E** profile indicates he is able to do both activities, he may want to change his current work emphasis from planting abandoned fields to releasing crop trees in established hardwood stands. This doesn't mean that planting those old brush-

covered fields isn't a good prescription. It just means the timber crop tree management work is higher priority if receiving income in the desired time frame is important.

After evaluating the vegetative treatment options, it is important to consider how opportunities for developing access may interact with opportunities to do vegetative treatments. Consider the following questions regarding access:

- Will developing access to any unit prior to a precommercial treatment result in a net increase in revenue or a net decrease in cost? For example, will developing 4-wheel drive access to a unit with a crop tree management prescription reduce the cost of doing the work enough to pay for the access.



Developing an extensive 4-wheel drive and walking trail network can greatly facilitate the accomplishment of management activities.

- If there is going to be a commercial timber sale, will developing access first result in an increase in net revenue? Is that increase sufficient to warrant having the access developed prior to and independent of the sale?
- Will having access developed as independent projects result in better transportation facilities and less impact on soil and water resources?
- If the property has multiple goals, will developing access help or hinder the accomplishment of those goals? For example, developing access may be beneficial from a timber and wildlife perspective, but detrimental from an aesthetic perspective. In these instances, it may be necessary to decide which goal is most important.

Asking these questions about our model woodlot shows considerable benefit to developing primitive access to facilitate the accomplishment of precommercial treatments. Even if the access isn't suitable for vehicles, transporting equipment on a trail is faster and easier than dragging it through the brush. The up-front investment in access may save time, money, and energy, which may in turn act to maintain the landowner's interest in doing this project as well as additional projects. For this model woodlot, improved access also contributes to the accomplishment of the family recreation goal of hunting and hiking.

Weighing the pros and cons of all the above questions for vegetative treatments and access facilities results in the subsequent activity schedule.

A thorough stewardship plan for a serious forest steward needs to answer the questions:

WHO will do the work?

WHAT will the work be?

WHEN will it be done?

WHERE will it be done?

WHY is it being done?

HOW will it be done?

The landowner **T I M E** profile is designed to be an organizational and memory aid to help stewardship planners capture information they need to do stewardship planning for clients who are serious about accomplishing stewardship projects. It helps the planner and the landowner focus on realistic expectations of what can be done, and who can do it in a reasonable time frame. Management unit descriptions, objectives, and activity tables are designed to present information in a form that it can be analyzed and later referenced by the stewardship planner, other natural resource professionals, and the landowner. The bottom line needs to be an activity schedule that outlines a series of management activities that will accomplish landowner objectives using time, interest, money, and energy efficiently.

Blank versions of all forms in this article are included and may be reproduced for your use. These forms are also available on computer disk and will in the future be available via the internet.

Weighing the pros and cons of all the preceding questions for vegetative treatments and access facilities results in the subsequent activity schedule.

ACTIVITY SCHEDULE

LANDOWNER: Mr. Example

PLANNING HORIZON: 10 yrs.

DATE: September 1997

ACTIVITY LOCATION Unit Numbers	PRIORITY	TIME PERIOD	ACTIVITY
9	1	now through 2001	Maintain fence to protect seedlings until WP terminals are over 5 ft. tall.
9, 10, 6, 5, and 4	1	fall 1997	Develop trail access.
1 and 8	2	spring 1998	Prepare site, plant WP and RO seedlings, fence to protect from deer.
4 and 5	1	winter 1998	Treat grapevines, and do crown-touching release of timber crop trees.
11, 12, 13, and 14	1	summer 1999	Develop trail access, forming a loop around drainage.
7 and 10	1	winter 1999	Treat grapevines, and do crown-touching release of timber crop trees.
2, 13, and 14	1	winter 1999	Treat grapevines and culls, establish desirable regeneration in preparation for a timber sale in 2004-2007 time period.
11 and 12	1	winter 2000	Treat grapevines, and do crown-touching release of timber crop trees.
15	2	fall 2000	Prepare site for planting WP and RO, and fence to protect from deer.
15	2	spring 2001	Plant WP and RO, and move fence from unit 9 to unit 15.
13	1	winter 2001	Treat grapevines, and do crown-touching release of RO crop trees. This treatment was delayed to accommodate recovery from gypsy moth defoliation in 1995.
2, 13, and 14	2	2004 - 2007	Harvest timber when markets are favorable.

Sharing in the Future Forest

by
Marcus Phelps
Northeastern Area, S&PF

In the Northeast and Midwest, 94 percent of the forestland is in private ownership. Many of these owners care about their land, viewing forests as a source of enjoyment, a valued asset to be taken care of, and as a potential source of income. There is no doubt that in this portion of the United States the future forest will be shaped by the decisions made by these people and by their ability to apply effective land stewardship.

Federal programs are available to assist forest landowners in meeting some of their objectives and providing benefits to society that justify the investment of these public funds. Cost-share programs can provide some of the funds required to carry out forestry practices that establish and sustain the forests of the future.

Specifically, the U.S. Department of Agriculture's Forestry Incentives Program (FIP) and the Stewardship Incentive Program (SIP) provide cost-share funds to qualified landowners.

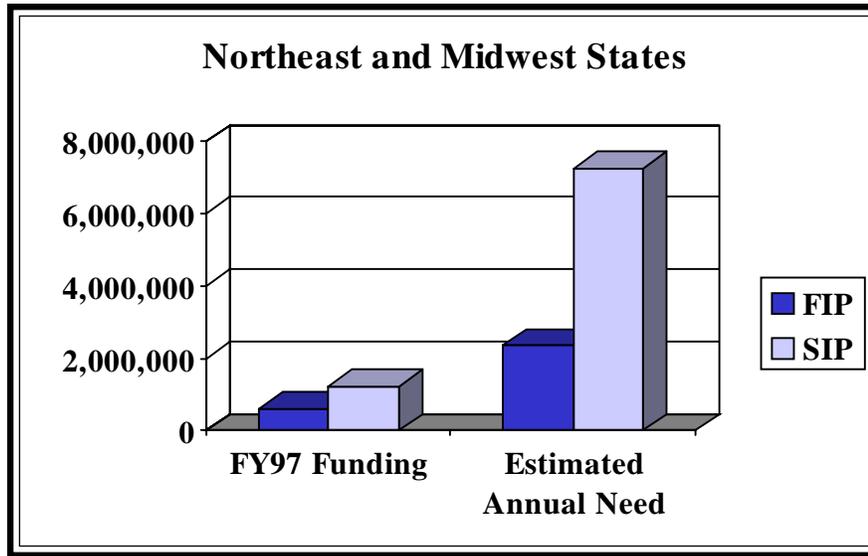
FIP — The Forestry Incentives Program shares costs with those landowners who are interested in timber production. Up to 65 percent of the cost is reimbursable for planting, timber stand improvement, and site preparation for natural regeneration. Sites must be capable of producing 50 cubic feet or more of wood fiber per acre per year. This cost-sharing is provided for treating 10 acres or more each year.



Dave Schatz and Pete Suerken examine this white pine plantation in Ohio that was established and cultured using FIP cost-sharing. There is a long-term societal benefit of having these trees on this abandoned agricultural field instead of a multiflora rose thicket.

SIP — Through the Stewardship Incentive Program, a landowner may receive up to 75 percent of the cost of installing a variety of conservation practices to protect environmental quality and to provide goods and services. To be eligible for program funds, a Forest Stewardship Plan must be completed for the ownership. The program targets funds to ownerships containing less than 1000 acres of forestland, although parcels up to 5,000 acres may qualify.

Through these cost-share programs, landowners can receive professional advice on managing their forestland and gain access to funding to carry out forest resource management and improvement practices that meet their needs. These needs are significant as shown in the chart that follows. It compares the actual federal fiscal year 1997 funding available to landowners in the Northeast and Midwest states with an estimated annual need for the FIP and SIP federal cost-share programs obtained from State Stewardship Program Coordinators.



FIP Funding

FY 1997 Funding	Estimated Annual Need
\$579,000	\$2,346,850

SIP Funding

FY 1997 Funding	Estimated Annual Need
\$1,217,400	\$7,260,200

At the current levels of federal funding, about 25% of the financial needs for cost-sharing of Forestry Incentives Program practices are being met. Only 17% of the financial needs for cost-sharing of Stewardship Incentive Program practices are provided. Obviously, there is a significant gap between the needs and the funds available. Some of this shortfall may be made up by state cost-share funding, but at current funding levels many opportunities for forest stewardship are foregone.

The impacts of this situation are seen through two measures. Using an estimated average federal cost-share payment of \$1,300 per landowner based on prior year’s funding and program participation, **annually some 6,000 landowners are not able to participate in the programs.** This means that the potential benefits of implementing effective forest management and improvement practices on their lands are deferred and placed at risk. Also, based on an average federal cost-share payment of \$20 per acre, **the opportunity to manage an additional 390,500 acres per year is being lost.**

This information highlights the continuing need for cost-share funds and the importance of taking appropriate action to narrow the gap. The capacity to assist landowners will determine the condition of forests in the Northeast and Midwest and the multiple benefits these forestlands can provide.

The establishment and management of forestlands are long-term commitments that require a shared vision to sustain productivity and invest in the future. Through the kind of public and private partnerships embodied in the cost-share programs, these commitments can be made. This enables landowners to accomplish their management objectives and to provide a wealth of forest resources for future generations.

People with Passion

•AWP•

I recently provided input to a colleague about the general condition of the non-industrial private forest. I was listing off all the problems we encounter in managing this sector of private land, and finally realized that surely I must give some indication of how things are going to get better. It made me think about a few of the people with passion that I have met who are out there making a difference on-the-ground. These individuals are leaders who are setting examples for others to follow. Please read on:

New Markets Can Result in Good Silviculture

The Mark Bozic/Eugene Cogar Story

How many times have you heard foresters say, “If we only had markets for small, low-value products we could really practice some good silviculture and improve these woods.” Then the long-awaited day finally arrives and the markets for low-value products are available. Sometimes when the dream comes true, the result is not what we expect. We thought everyone would want to remove the poor-quality trees with little potential for increase in value, and release the desirable timber crop trees that have the characteristics to really produce some financial benefit. Instead, often the result is to lower the diameter limit of trees to be removed, and keep on cutting regardless of the future potential value of trees. There are many reasons why this happens, and the practice certainly is within the rights of the landowner. However, it frequently is not in the best long-term interest of the landowner, and it doesn’t always have to be that way.

Mark Bozic is a procurement forester working for Weyerhaeuser in the Buckhannon, WV, area. Eugene Cogar is a contract logger working for Coastal Lumber Company in the same general vicinity. Both share a sincere interest in the future condition of our forest resources. They recognize that their future and the next generation’s future is dependent on how they do their jobs today.

Mark read *Crop Tree Management in Eastern Hardwoods* and visited the Crop Tree Demonstration Areas at West Virginia University Forest and Coopers Rock State Forest with Bob Driscole (West Virginia University resident manager). After touring these areas, he decided to try making a commercial harvest similar to the heavy crop tree release treatment at the Coopers Rock Crop Tree Demonstration Area. Having his own personal, non-industrial private forest, he had the perfect place to try his hand at managing to produce timber income. The key would be finding the right logger to do the harvesting with the care required to avoid damaging the residual crop trees.



The TIMBCO feller buncher gives new meaning to the term directional felling. It grasps the tree, cuts it off, and places it in a bunch for skidding.

Eugene Cogar was the logger there to meet the need. He recently acquired a TIMBCO feller buncher from Wisconsin and needed a place to see what it could do. Mark's challenging harvest was the opportunity to show this equipment could fell and bunch on West Virginia's steep terrain with minimal damage to residual trees. Mark designated the crop trees with a band of marking paint so Eugene could see the crop trees from any direction. In this operation, all trees that weren't crop trees were harvested, so only marked crop trees were left. The high visibility of the painted crop trees permitted Eugene to plan his travel route for the feller buncher so he could avoid damage to residual trees and place the bunches of cut trees so they could be efficiently removed by a skidder with a grapple.

Mark's stand of trees consisted of 47-year-old yellow-poplar and red maple that had seeded in on an abandoned agricultural field. He marked 32 trees per acre to leave as crop trees, finding it difficult to identify the 50 trees per acre he wanted. Many trees did not have the crown and bole characteristics needed to make good quality timber crop trees. That is not unusual for a stand of trees of that age on abandoned agricultural land in the area.

Fortunately, Mark's trees were tall enough to have the harvest volume of wood per acre that he needed to make it feasible for Eugene to bring in his equipment and do the treatment. They removed about 50 tons of wood per acre, with some of it used as sawlogs, some used as peelers (to make laminated beams), and some as pulpwood (to make oriented-strand board). What was removed is important because it provided some current income for Mark and was enough to make the commercial operation feasible so he did not have to invest funds to accomplish the release of his high-quality timber crop trees.



Mark Bozic views his recently released yellow-poplar crop trees. He received income from the harvest of the competitor trees and looks forward to harvesting the crop trees in about 20 years.

However, even more important than what was removed, is what is left. Mark has a residual stand of 32 crop trees per acre that average 13.3 inches dbh. If they grow at a rate of 3.5 inches in diameter per decade, in twenty years he will have 20-inch diameter high-quality trees that will be a valuable income source for him and his family. Mark will have more than 50 tons/acre to remove in twenty years, and it is going to be worth much more than the 50 tons/acre he removed this year.

Mark and Eugene are two people with a passion for managing the forest resources to benefit this generation while providing the opportunity for the next generation to also prosper. They set the example for how it can be done. We hope their conservation (wise use) prototype for harvesting in immature stands will be adopted by many like-minded landowners.

Pete's Passion for Pine

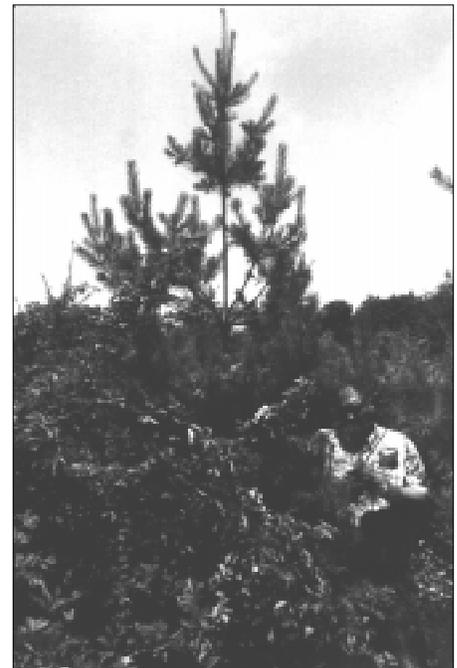
The Pete Seurken Story

In the mid-1980's, I had the pleasure of meeting Pete Seurken and visiting some of his famous pine plantings. I say his, because even though they are owned by his non-industrial landowner clients, you can tell by the way he talks that he feels a deep sense of ownership in each project. If the landowner has bought in to managing pine, Pete will be there to provide the technical guidance and encouragement needed to have the project bear fruit.

I recently had the opportunity to visit Pete's service forestry area again. I was even more impressed with his accomplishments after another 10 years of preaching the gospel of white pine management. Part of what makes his story unique is the time and location. Southeastern Ohio is mostly hardwood country. Twenty-five years ago when Pete started advocating planting white pine, many people thought he was nuts. "Plant pine, what for? There's no market for that here." They were right, there wasn't then, but there is now. Thanks to Pete's foresight and persuasiveness, the acres of pine available in his four-county project area makes a significant contribution to the threshold volume needed to support any viable softwood industry in this otherwise hardwood market area. It is estimated that Pete has been involved with planting six to nine million trees on about 10,000 acres during the past 25 years.

Southeastern Ohio is a land with many abandoned agricultural fields and pastures that do not immediately revert to quality hardwoods. Left alone, they generally transition through a stage of occupation by a mixture of non-commercial species like hawthorn and multiflora rose. Pete holds a branch of white pine in one hand, and a branch of multiflora rose in the other and says, "I tell the landowners they have a choice—this, an impenetrable thicket of rose, or this, a beautiful stand of white pine." Some take his advice, and some don't. Those who listened years ago are glad they did. Bill Hazen, a Morgan County Tree Farmer and long-time Seurken client, currently owns about 300 acres of plantations, and he will plant more when he finds suitable sites. I had the pleasure of visiting one of his plantings in the mid-1980's, after it was precommercially thinned in 1982. It was commercially thinned in 1992, and I saw it again in 1997. Wow, what a testimony to the benefits of practicing forestry, and to the effect one forester and some committed clients can have in a service area. We should all be so fortunate to see such results from our endeavors.

One of Pete's secrets to success has been his follow-up with clients he has convinced to plant pine. After about 10 to 15 years, he is knocking on their doors or calling them on the phone and telling them it is time to thin and prune. Often, that is more of a challenge than convincing them to plant.

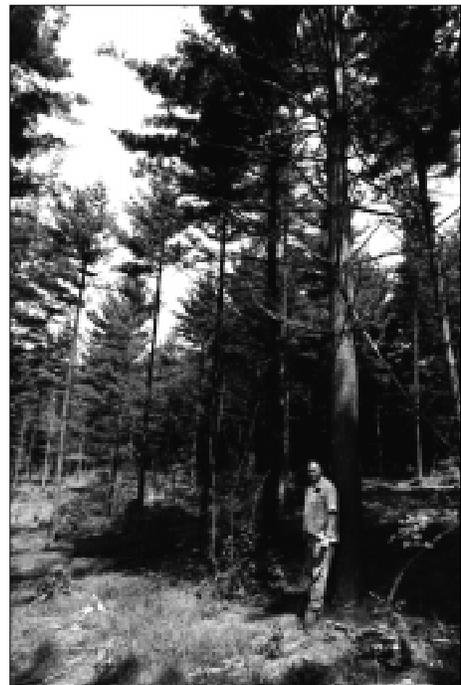


Pete Suerken contrasts the choice many landowners face with the abandoned agricultural fields they own. They can grow beautiful stands of white pine, or multiflora rose. Fortunately, with Pete's encouragement and advice, many have chosen to plant pine.

After they have invested some of themselves in planting those trees it is hard to sell them on the idea that there isn't room for all of them to continue to grow there. To have a healthy forest, some trees need to be cut. Who says you don't need to use a little psychology with your forestry?

So what are some of the problems facing this service area now?

- The era of cheap land is gone. Land that used to cost \$50/acre now sells for \$500 to \$1,000/acre. There has to be a good non-financial reason why someone is willing to plant, prune, and thin trees.
- Having a market for pine can be either an asset or a liability to long-term management of white pine. If the market is used as a tool to accomplish needed thinning, it is an asset. If it is a stimulus to premature liquidation of a valuable resource, it may be a liability.
- The recent decline in the availability of cost-share funds for planting, pruning, and precommercial thinning has made it more difficult to provide the incentive many landowners need to make these public/private investments. As a yardstick of this effect, during the height of planting activity, Pete saw 500,000 trees planted in a year. In reasonable times, he averaged about 300,000 trees/year. Since the recent decline in both FIP and SIP funding, he has been involved with planting about 110,000 trees/year.
- Maintaining available vendors to do this physically demanding work is a challenge that requires the frequent attention of a sensitive forester. Most landowners do not have the capability of doing their own cultural work. To get a sizable project completed in a reasonable time period requires a trained and experienced workforce capable of providing the needed service at a reasonable price.
- There is no longer enough time to do the needed follow-up with landowners to encourage them to take the next step in managing their plantation. That visit or phone call that says, "I'm here, I know what to do, and how to do it," can make the difference between action and no action. As the list of clients gets longer, the amount of time available for each shrinks.



Numerous landowners and society have benefited from Pete learning and sharing the art and science of growing white pine in southeastern Ohio.

So, in this era when we hear so often that people need to be generalists and know a little bit about everything, Pete reminds us of the case for knowing a lot about something. He's not a computer wiz, he's not a paper shuffler, but he sure has the knowledge and passion for managing white pine, and he has the acres to show it.

Freeman Farm Outreach *The George and Joan Freeman Story*



More than 400 people attended George and Joan Freeman's 50th anniversary celebration of tree farming in Pennsylvania.

The enthusiasm for forestry is infectious as George and Joan Freeman have shown again at their beautiful 641-acre managed woodland in Clarion County, Pennsylvania. George and Joan have been previous hosts at many forestry events at their Tree Farm and Stewardship Forest adjacent to Interstate 80 in northwest Pennsylvania near the small town of Knox.

On Saturday, September 13, 1997, the Tree Farm and Forest Stewardship signs visible from I-80 were more than making people aware of forestry. They were letting guests at the 50th anniversary celebration of tree farming in Pennsylvania know they had arrived at their destination. The 407-registered guests were joined by some walk-ins to make this a record attendance for George and Joan. "When we started doing these tours in about 1974 or 1975, we thought we were doing good if we got 50 people attending. When we broke 100, it was a big deal. Now that we have over 400, it is a really big deal," George said.

Educational events included visitations to treatment areas on Freeman Farm where timber stand improvement, crop tree management, stewardship, wildlife enhancement, reforestation, tree identification, pond and water management, best management practices, and grafting of fruit trees could be observed. There were numerous exhibits present to provide additional information during breaks from the touring. In addition to all of that for the adults, there were events tailored for children ages 4-12. Everyone had an opportunity to learn.

A little conversation will reveal part of the reason for the successful turnout. When complimented and thanked for his work, George immediately shares the credit with all who have helped with the event. People help because they are drawn to contribute to a cause they see George putting so much effort into. George's passion for managing his forest rubs off on those around him. His desire to share his experiences and to help them find the information they need, evokes a desire in other landowners to move forward and manage their own woodland. Their thoughts are, "*If George does it, enjoys it so much, and thinks it is such a good idea, maybe I should try it too.*"



George Freeman's passion for managing his forest rubs off on those around him.

George is no newcomer to leadership. When he retired from Quaker State Oil Corporation, he was the Director of Distribution. The forestry community can be thankful he has chosen to use his people motivation skills to provide the opportunity for education and encouragement for non-industrial private landowners. He is not only influencing what will happen on his land, he is influencing many other acres by reaching out to the owners with opportunities to learn from others. Previous awards indicating his contributions to forestry include the Pennsylvania Outstanding Tree Farm Award in 1990 and the Three Rivers Environmental Award for Adult Education in 1993.

During the lunch break at the celebration, it was announced that George and Joan have won the Pennsylvania Outstanding Tree Farmer Award in Pennsylvania for 1997. They

will now advance to the next level of competition, which is the northeast region. We wish them well. The work they have completed on their farm is impressive, but what is most astounding is the job they have done in helping others to learn about tree farming and forest stewardship.



Pictured here is the youngest participant at the Freeman celebration. This youngster has heard about tree farming and forest stewardship before learning to walk.

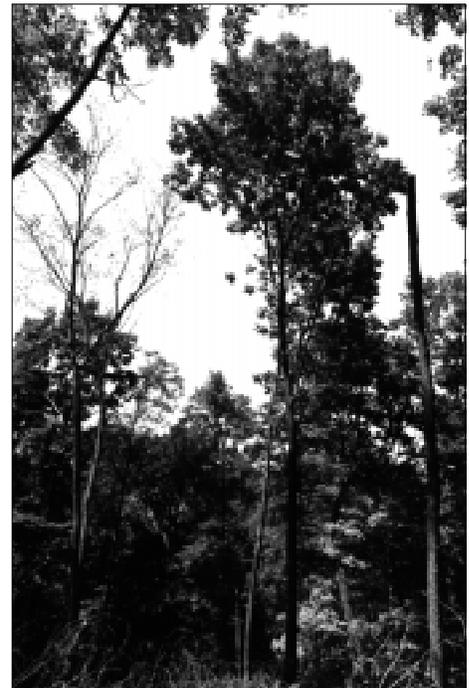
Site-Sensitive White Ash

•AWP•

The following is based on a manuscript by Hilary Woodcock, et al., that appeared in the March 1997 issue of the Northern Journal of Applied Forestry.

A study regarding white ash decline related to site class was recently conducted using data from continuous forest inventory plots in western Massachusetts. The results as shown below may have wider application.

Site Class	Description	Plots with Decline
1	Mesic, cove site with deep soil and high site index.	6 %
2	Xeric site with shallow soil and low site index.	11 %
3	Often adequate moisture, but shallow soil; medium site index; ephemeral streams and seeps are sometimes present; moisture supply can fluctuate markedly.	42 %



Releasing this white ash on a Site 1 is a much lower-risk investment than releasing a similar tree on a Site 3.

In the absence of drought, Site Class 3 land has adequate conditions for the establishment and growth of white ash. Trees will have root systems adapted to relatively moist conditions, and in a dry period could suffer drought stress that contributes to decline. This could explain why ash decline is greater on sites with a highly variable moisture supply than on sites that are consistently dry.

I suggest the following when making crop tree selections on these site classes.

Site Class	Potential to Produce Timber Products
1	Good probability for finding potentially high-value timber crop trees that can be expected to have a normal life span.
2	Low probability for finding potentially high-value timber crop trees, and selected trees will probably have slow growth, but for normal life span.
3	Potential crop trees may look good, but they are vulnerable to decline following periods of drought.

It is important to remember this work was done in a small portion of the range of white ash, and it is not known if the species has the same degree of sensitivity to site in other geographic areas. However, it may.

* * * * *

Tanglefoot® Trial

•AWP•

As gypsy moth populations continue to collapse in the northeast and the infestation front moves into the Midwest and south, we need to share our experiences to help our neighbors cope with problems we have already faced. There are massive amounts of information and advice available on how to conduct large-scale spraying operations. This article provides information on a small-scale attempt to provide some foliage protection to individual trees.

Tanglefoot® is a dark, gooey, sticky substance that gypsy moth caterpillars will stick to and die if they try to cross it. One means of providing limited protection to individual trees is to apply a ring of this sticky material around the circumference of each tree to be protected. This prevents gypsy moth caterpillars from ascending the trunk of the trees to feed on the leaves. It is essential that treatment be done before the caterpillars disperse from the egg masses, or while they are still very small (less than 3/8 inches in length). For this trial in southwestern Pennsylvania, the work was done on May 12, 1997.

Prior to treatment, trees to be protected were flagged so they could be easily identified by the work crews. This marking required one person day. The actual treatment was done in one day using two 2-person crews. Since Tanglefoot® can be caustic to trees, one crew member applied a strip of duct tape around the circumference of the tree. The second crew member, wearing rubber gloves, used a one-and-one-half-inch putty knife to apply the material to the protective surface of the duct tape.

There is a one hour each-way commute distance from the duty station to the work site, and a one-half hour total walking distance from the parked-vehicle site to each of the two treatment locations. These travel times were included in the workdays. Treatment Area #1 was completed in the morning, and Treatment Area #2 was done in the afternoon.

Following are relevant statistics for the two treatment areas:

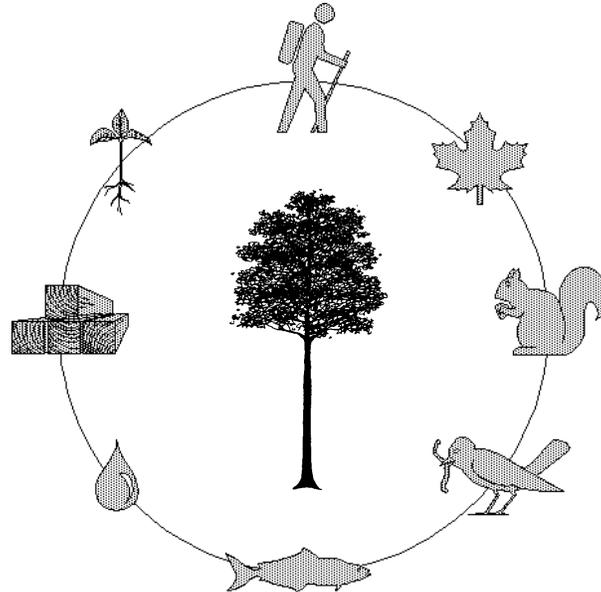


Crew member #1 (Amy Onken), with duct tape on arm, lends crew member #2 (Brad Onken) a helping hand.

Treatment Area	Size (Acres)	Number of Trees Protected	Range in Size of Trees
1	10	60	8.5 to 26.7" dbh
2	3	65	11.0 to 25.3" dbh

Chances for success are best if protected trees do not have branches intermingled with adjacent untreated trees. The objective is to prevent caterpillars from having access to the foliage of protected trees.

This treatment is very labor intensive, so it is not practical to apply it on a widespread basis. However, the information may be useful for individual tree protection decisions on very small rural woodlots or in high-value urban areas where aerial spraying is not feasible.



Managing the forest for:

- *recreation*
- *aesthetics*
- *wildlife & fisheries*
- *water quality*
- *forest products*
- *soil productivity*

Primary contacts for forest management assistance in the Northeastern Area are:

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