

# PLANNING FOR FOREST STEWARDSHIP: A DESK GUIDE



*By D. Ramsey Russell, Jr., and Susan Stein*





# ABOUT THE AUTHORS

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# TABLE OF CONTENTS

Introduction	2
Writing a Forest Stewardship Plan	
Overview	4
Components of a Forest Stewardship Plan	5
1. Identify the Plan	5
2. Present Management Objectives	5
3. Describe Baseline Habitat Conditions	11
4. Present Management Recommendations	22
5. Include Supplemental Information	26
Conclusion	28
Appendix	29





# INTRODUCTION

Since 1991, the U.S. Department of Agriculture (USDA) Forest Service Forest Stewardship Program has assisted over 200,000 landowners in preparing multipurpose management plans for areas encompassing more than 20 million acres of nonindustrial private forest (NIPF). These plans promote the long-term sustainability of private forests by balancing future public needs for forest products with the need for protecting and enhancing watershed productivity, air and water quality, fish and wildlife habitat, and threatened and endangered species.

After an assessment of 100 forest stewardship plans, it was recommended that a guide be developed to help field foresters better address forest stewardship values when writing plans for their States and regions. This desk guide is a response to that recommendation.

As established in the Forest Stewardship Program's *National Standards and Guidelines*, the plans must meet certain minimum standards:

*Plans must identify and describe actions to protect, manage, maintain and enhance relevant resources listed in the law (soil, range, aesthetic quality, recreation, timber, water, and fish and wildlife) in a manner compatible with landowner objectives. The plan must be approved by the State forester or a representative of the State forester.*

*(USDA Forest Service, Forest Stewardship Program, National Standards and Guidelines, p. 4.)*

This guide offers assistance to writers of the plans and includes instructions, requirements, excerpts from well-written plans, and specific recommendations for developing a plan. Plan writers vary among States and include State foresters, private consultants, and, through a coached planning process, landowners themselves.

The guidelines contained in this document should complement existing strategies for forest stewardship planning in each State. The detail included in the final plans should reflect the needs and standards of each State. Certain States have more comprehensive criteria for forest stewardship plans than is federally mandated; therefore certain recommendations in this guide may be used selectively to meet each State's unique situation. The suggestions included are drawn from current forest stewardship plans that were reviewed while preparing the guide; they are presented strictly for example.

Not all subjects discussed will apply to every property or forest stewardship plan. A major principle for organizing a plan is that each State must retain the greatest amount of discretion in identifying the needs of NIPF landowners in its region,



developing plans that reflect those needs, and putting to use those practices that best achieve their resource objectives. As the writer of a plan, you must be flexible in your thinking, allow for future changes, and incorporate, as it becomes available, new knowledge about dynamic ecosystems.

Finally, a copy of the Forest Stewardship Program's *National Standards and Guidelines* (Revised January 1994) is included in the appendix of this desk guide. Please refer to it for a complete presentation of forest stewardship philosophy, values, and requirements for written plans.

A handwritten signature in black ink that reads "Larry Payne".

**Larry Payne**  
USDA Forest Service  
Director, Cooperative Forestry Staff



# WRITING A FOREST STEWARDSHIP PLAN

*The purpose of the Forest Stewardship Program is to assist private forest landowners in more actively managing their forest and related resources; to keep these lands in a productive and healthy condition for present and future owners; and to increase the economic and environmental benefits of these lands.*

*Forest stewardship starts with landowners who care about their forest lands. They view their land as a source of family enjoyment, a chance to leave something special for future generations, as well as a potential source of income. They may need technical advice and financial assistance to make their vision for the land a reality.*

*From: Forest Stewardship Program, National Standards and Guidelines*

## OVERVIEW

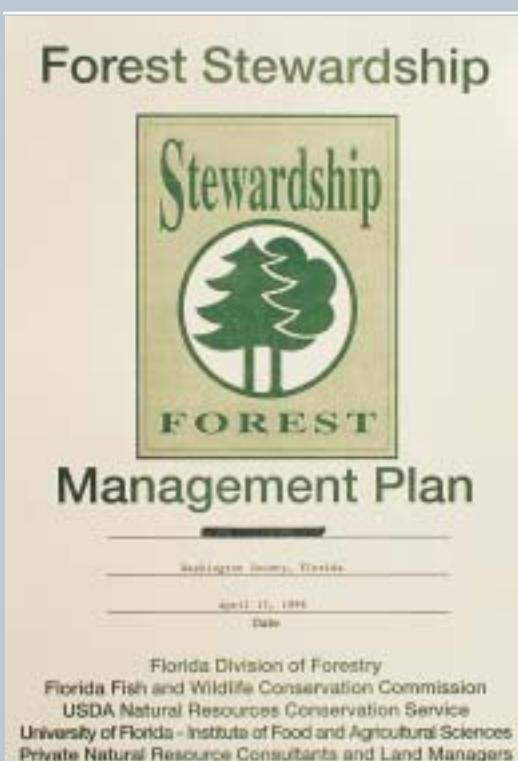
The *National Standards and Guidelines* of the Forest Stewardship Program state that a “Landowner[‘s] voluntary participation in the Forest Stewardship Program represents a good faith commitment to implement strategies suggested in the land-owner forest stewardship plan.” Participation in the program will not jeopardize private property rights. The plans,

which “...identify and describe actions to protect, manage, maintain and enhance relevant resources listed in the law (soil, water, range, aesthetic quality, recreation, timber, water, and fish and wildlife)” will be written to be compatible with the landowner’s goals and objectives for his or her property.

There is as much variation in the format of forest stewardship plans as there are writers of them. However, the Federal Government mandates certain elements of a plan and many States require additional criteria. This desk guide lists the Federal requirements; refer to your State guidelines for State criteria.

We recommend that you develop a standard format for your office (or better yet, State) that is succinct and easy to read. There is no length requirement, but the plan should describe the land and habitat conditions, identify the management objectives, and present management recommendations fully.

The basic requirements of a forest stewardship plan are to: 1) identify



the plan, 2) present management objectives, 3) describe baseline habitat conditions, 4) present management recommendations, and 5) include supplemental information relevant to the plan. A State forester or an assigned professional resource manager must verify that the plan meets minimum standards of forest stewardship.

## COMPONENTS OF A FOREST STEWARDSHIP PLAN

### 1. IDENTIFY THE PLAN

A form, cover page, or cover section is generally sufficient to identify the plan and provide the basic information about the subject land and its surrounding property. At a minimum, the cover page(s) should include:

- Landowner's name, address, and phone number (some States require the landowner's signature)
- Plan writer's name, address, phone number, and signature
- Acreage under stewardship
- Date of plan

In succinct, perhaps bulleted, style, include the following additional data in the cover section.

- Landowner's objectives (stated in measurable terms)
- General property description with supporting management, or stewardship, objectives
- List of known threatened or endangered species
- Soils information

Also include maps depicting property boundaries, cover types, water, roads, and other topographical features.

The following data is optional but recommended to include in the cover section.

- Legal description for locating the site (plat survey information, tax book information, or written directions to the property)
- Interaction of site with surrounding properties
- List of Federal, State, or private landowner assistance programs for which the plan might also qualify

### 2. PRESENT MANAGEMENT OBJECTIVES

After the cover section, which identifies the plan and presents an encapsulated version of the stewardship values, the plan must include a section on goals and objectives. This is perhaps the single most important element of a successful plan.

Identifying and articulating a few, specific goals for the landowner to achieve in his or her forest management plans will increase the plan's overall effectiveness and landowner satisfaction. Moreover, once the goals and objectives have been identified, the plan will be easier to write because clear goals suggest straightforward, actionable solutions.

FOREST STEWARDSHIP PLAN

LANDOWNER

PLANNED: 40  
TOTAL ACRES: 40

LEGAL DESCRIPTION

DATE

DATE COMPLETED

MAY 20, 2000

PLAN PREPARED BY

Department of Natural Resources  
Attn: Forest Stewardship  
P.O. Box 150  
Green Mountain, MN 55004  
218 387 3007

THE OBJECTIVES YOU IDENTIFIED FOR MANAGING THE PROPERTY

1. Improve forest quality by thinning
2. Improve fire control and reduce fuel hazard
3. Maximize recreational opportunities by keeping the view of Lake Superior

Maintaining woodpecker nests





## LANDOWNER OBJECTIVES

The first and most essential task for you, the writer of forest stewardship plans, is to help the landowner identify and articulate his or her forest management objectives. It is important to develop goals by which the plan can be evaluated. Often the landowner does not have defined objectives or his or her objectives may be vague. You can help to clarify them.

Property deeds should be inspected to determine whether the property has restrictive easements. Certain easements may list specific conservation goals or place restrictions on activities that may be lawfully performed on the property. These restrictions must be considered when identifying goals and objectives.

Planning brochures that include useful forest management facts and a brief questionnaire or application, which NIPF landowners may complete when inquiring about the Forest Stewardship Program, can serve to collect important data about the subject forest land. These fact-sheets,

### ***Solutions for Collecting Information***

*Kentucky and Minnesota forestry programs have designed pamphlets that contain a Forest Stewardship application, which is available to landowners through the offices of State Forestry and Wildlife agencies, the Natural Resources Conservation Service, and other sources. North Carolina has a stewardship request form available online at <http://www.dnr.state.nc.us/managing/stewform.htm>. North Carolina has received as many as 20 applications per month from its Web site when coupled with a media release or article.*

*To develop accurate landowner assessments, Michigan's Forest Management Division implements the Michigan Forest Stewardship Assessment Form, which the plan writer helps the landowner complete prior to preparation of the plan.*

brochures, and questionnaires can help landowners identify their own needs and interest in forest resource management.

To determine a landowner's objectives, identify his or her interests, preferences, priorities, and financial and philosophical commitment to forest stewardship. Also determine the extent of the landowner's knowledge about natural resource management. This information is key to successfully implementing forest stewardship values. Knowing the landowner's expectations and abilities will enable you to set priorities for forest management and tailor management alternatives. The information will also help set priorities for field assessments.





Plan writers should hold personal meetings with each landowner and complete a checklist of subjects pertinent to the stewardship plan. Foresters may also advise the landowner to contact a consulting resource planner or enroll in a coaching program, if available, for developing a plan on his or her own.

*Complete the following exercises and ask the NIPF landowner the following questions.*

**1. Place in rank order the following values for your property:**

- \_\_\_\_\_ aesthetics
- \_\_\_\_\_ recreation
- \_\_\_\_\_ timber production
- \_\_\_\_\_ fish and wildlife
- \_\_\_\_\_ range
- \_\_\_\_\_ water
- \_\_\_\_\_ soil

(All the above resource values must be addressed in the forest stewardship plan, but it is important to help the landowner narrow the scope of his or her objectives. The forest stewardship plans will be most effective if they are directed toward achieving one major landowner objective.)

**2. How do the above priorities translate into specific objectives, and how can those objectives be evaluated? Define specific outputs desired.**

(For example, is successful timber management best evaluated in terms of increased net present value? If so, specify the amount. Is successful wildlife management best expressed by number of songbirds on summer visits to the property or by average weight of white-tailed deer? If so, specify the number.)

**3. What is the landowner's timeframe for results?**

(When does the landowner want or need results? How might the landowner's commitment to forest stewardship change if these time preferences are not achieved?)

**4. Are the landowner's financial expectations consistent with the anticipated results of the forest stewardship plan?**

(How much time or capital can the landowner contribute to the plan? For noncommodity outputs (such as aesthetics or wildlife), how much is the landowner willing to forfeit in timber-related revenues?)

**5. Include any other considerations specific to your State.**



## DISCUSSION OF LANDOWNER OBJECTIVES

Many different factors influence a landowner's goals and objectives. You must help weigh all of the factors that will have an impact on a plan and the successful implementation of stewardship values. The following information highlights some of the matters that you must help a landowner consider before he or she settles on his or her final stewardship objectives.

Identify the realistic potential of the property from the perspectives of each type of habitat. Evaluate the property as a sum of its parts and as a part of its surroundings. Many wildlife species use different habitat types during their life cycles, and habitat attributes change as the forest matures. A covey of bobwhite quail has an average home range of 1 mile; the accepted minimum acreage required to sustain a breeding population of cerulean warblers is about 10,000 acres; and male white-tail deer range 5 or more linear miles during the breeding season. Knowing this kind of data is important for developing actionable goals. For example, a proposal to manage a 7-acre hardwood stand for black bear and grouse is not feasible. Instead consider the objective to sustain those parts of bear and grouse life cycles that can be satisfied by the present and future habitats, and then address how the species might interact with surrounding stand types for other parts of the life cycle.

Local economic forces may have an impact on a landowner's objectives. For example, timber buyers may

have minimum volume or value margins below which they cannot or will not bid. A realistic objective might be to combine several timber harvests and decrease the number of operations. Base financial stewardship objectives on present and future economic considerations.

Consider the social and ecological value of each property in relation to its surrounding landscape and create goals that will have a positive impact, not only within plan boundaries but also beyond them. Take into account the current and future economic and environmental benefits associated with the forest resources at the county, State, and watershed levels. Consider the age, amount, and distribution of forests in relation to habitat gaps within the landscape and at the local, county, State, and national levels. Consider further the impact of prescribed habitat modifications to achieving a landowner's objectives, as well as State and national goals. How do all these factors affect the subject property? In short, of what importance are NIPF lands to the economic, ecological, and social issues in your county, State, and region? In addition, how do they relate to national conservation objectives?

Keep landowners informed of the decisionmaking process by showing them how their property fits into the big picture. When formulating alternative management strategies, plan writers should ask the following questions:

- Are there any constraints on the tract (that is, size, type, location) or on surrounding or adjacent land uses that may affect the landowner's objectives?



- What is the local pattern of land use?
- Are nearby or adjacent lands afforded long-term protection (that is, conservation or floodplain easements, tree farms, State wildlife management areas, national parks, or wildlife refuges)?
- Are the landowner's interests conducive to the long-term conservation of the property? If so, what groups or agencies in the area might provide such protection?
- Are there deed restrictions or easements that may limit the landowner's goals?
- Which forest management practices complement surrounding land-use practices and State or watershed priorities and needs?
- Are the landowner's priority objectives compatible?
- What effect will local economic forces, State regulation, adjacent landowners, or special interests have on implementing the Forest Stewardship Plan? (For example, the State of Mississippi assesses a special tax on landowners in the Delta that have restored forest wetland habitat on previously farmed lands.)
- Are prescribed management activities compatible with the landowner's goals? (For example, will recommended harvests generate sufficient wood products to generate positive cash flow for the landowner?)

## WRITING LANDOWNER OBJECTIVES

Use clear, concrete language when writing landowner objectives. Goals must be achievable and should be expressed in terms that are easily

measured. Bullet formats usually work best when listing objectives, and short phrases using the landowner's own words are preferred. Proper forest terminology can be included in parentheses at the end of the objective.

*The following are examples of concise, specific, and achievable objectives drawn from written forest stewardship plans. Notice how compatible objectives are listed in rank order and include management recommendations.*

### **Sample Objectives from a Forest Stewardship Plan**

Landowner objectives are described as follows:

- 1. Improve bottomland hardwood timber resources.**
  - Increase the quality, size, and distribution of merchantable timber in hardwood stands.
  - Perpetuate red oak species in hardwood stands.
  - Restore fallow fields to hardwood forests comprised of site-specific, native species.
- 2. Improve wintering habitat for migratory waterfowl.**
  - Establish 45-acre moist soil impoundment in fallow field located in central portion of property.
  - Improve manageability of water levels in existing beaver pond located on south side of property.
  - Create 62-acre green tree reservoir in stand #2.
  - Reduce the density of shade tolerant stems from within the mid- and under-stories of hardwood stands.
  - Create a few 1/2-acre openings within the green tree reservoir.
- 3. Reduce nonpoint source pollution from agricultural fields located on the property.**

### **Objectives from a Florida Forest Stewardship Plan**

*The primary objective of the landowner is to enhance the quality of habitat for both game and nongame species. The landowner has a particular interest in management for white-tailed deer, wild turkey, quail, and songbirds. Other objectives include wise management of timber resources.*

### **Objectives from a North Carolina Forest Stewardship Plan**

*The landowner wishes to open up the area immediately surrounding an existing home for the purposes of improving aesthetics, safety, and fire prevention. Beyond this the landowner desires to establish woodland trails for recreation. Timber production is a secondary objective.*

## OTHER CONSIDERATIONS: NATIONAL PROGRAMS, STATE PROGRAMS, AND PARTNERSHIPS

A landowner's objectives can sometimes be addressed by existing national or regional programs that target water quality, wildlife, or timber resources. For example, North Carolina has developed the Early Succession Species (Quail) Initiative to encourage landowners to conduct management activities that benefit early-succession species. The bob-white quail, one such species, is suffering drastic population declines throughout the Southeastern United States. All NIPF landowners will potentially benefit from the statewide implementation, by 2002, of this program. Check to see whether there are programs like this in your area that will benefit landowner's management objectives and stewardship plans.

Landowners may state objectives that are best addressed by an agency or group other than the USDA Forest Service. Many public and private groups, both local and national, are available to form partnerships for achieving the goals established in a plan. These groups may conduct site visits and participate in addressing stewardship objectives. They offer a broad perspective of planning in the area. Partnering with certain agencies can advance soil and water conservation, wildlife, recreation, and aesthetic objectives more effectively. When cooperating partners differ as to a course of action, present several

options to the landowner to consider and select the option that fits best. Include only the landowner's preferred alternatives in the final forest stewardship plan.

Partnership programs within the Federal system that complement forest stewardship planning are:

- USDA Natural Resources Conservation Service (NRCS) Wetland Reserve Program (WRP), Wildlife Habitat Incentive Program (WHIP), Environmental Quality Incentive Program (EQIP), and Conservation Reserve Enhancement Program (CREP)
- USDA Farm Service Agency (FSA) Conservation Reserve Program (CRP)
- USDA Forest Service Forest Legacy Program
- U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program

Examples of other sources of assistance for NIPF landowners, which may be more local in scope and purpose include:

- Nature Conservancy
- Ducks Unlimited Private Lands Program
- Quail Unlimited, Pheasants Forever
- National Wild Turkey Federation
- Delta Wildlife
- Mississippi Wildlife
- Environmental Synergy, Inc.

Many States also have State-funded forest landowner assistance programs. If you are not aware of these, contact your State forester's office.



### 3. DESCRIBE BASELINE HABITAT CONDITIONS

A description of habitat conditions should begin with an overview of the subject property. The overview should include information such as how to access the property, its significant features, and its past and current uses. This general description may include data such as cover types, soils, and topographical features. It should also include any cultural or natural heritage resource that may be on or near the property.

The required elements of a forest stewardship plan are field inspection, maps, cover type/stand description, soils information, wildlife and fish, water quality, recreation and aesthetics, wetlands, and heritage resources. The sections that follow discuss the required elements in describing the subject property and its habitat conditions.

## Field Inspection

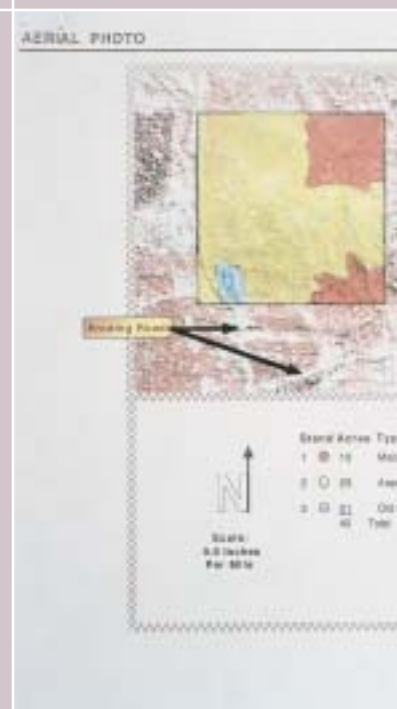
A thorough examination of forest resources is the necessary starting point for any forest stewardship plan. The plan writer should lead or be a part of the examination team along with the landowner or his or her assigned representative. A biologist from the State department of wildlife or the district conservationist from the NRCS may also be helpful in identifying the multi-resource issues of the subject property. Identifying and explaining forest management needs are best done in the field where the landowner may interact with resource specialists.

Gather supplemental material about the property such as maps, aerial photos, sample plot data, quad sheets,

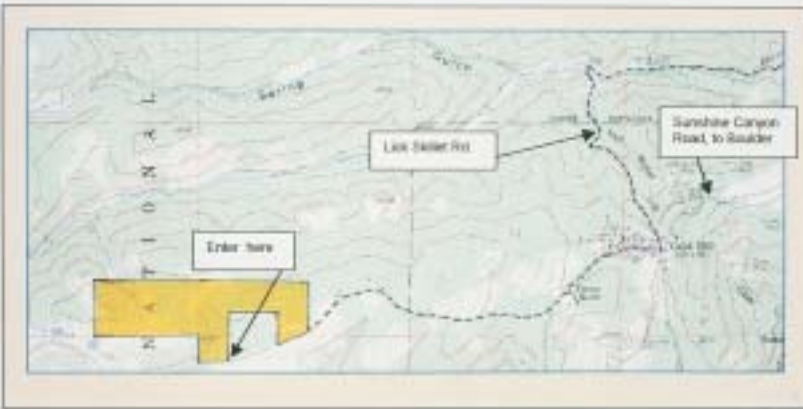
published soil surveys, cultural resource maps, natural heritage maps, and anecdotal information shared by other owners or resource specialists. Mandatory field methods vary among the States.

Once collected, this material should provide sufficient data upon which to base reliable recommendations. Consult your State guidelines for required State information.

Within the subject property, variations in forest cover type, size class, age, stocking, origin, stand condition, and site capability, which all produce diverse habitat conditions, may also require different management strategies. Divide the property into units, stands, tracts, or compartments as necessary and practical for making management recommendations. Keep it simple. Delineating management units must also reflect the landowner's objectives, multiple-use considerations, environmental protection factors, and prevailing timber markets.



## Vicinity Reference Map



## Maps

Include one or more maps that clearly depict property boundaries, management units, water, trails and roads, and other significant features. Label maps with their appropriate scale and north arrow. Include any important features of neighboring property such as lakes, roads, stands, and structures, particularly if they influence stewardship objectives. Label the management units and other special sites referenced in the forest stewardship plan.



## Cover Type/Stand Description

Describe existing forest resources in detail. Discuss the property's potential for timber, even when this commodity is not a high priority for the landowner. The economic potential of the forest land is an important characteristic to document. Descriptive detail of forest stand characteristics may facilitate timber production, but stand descriptions should be tailored to the landowner's objectives.

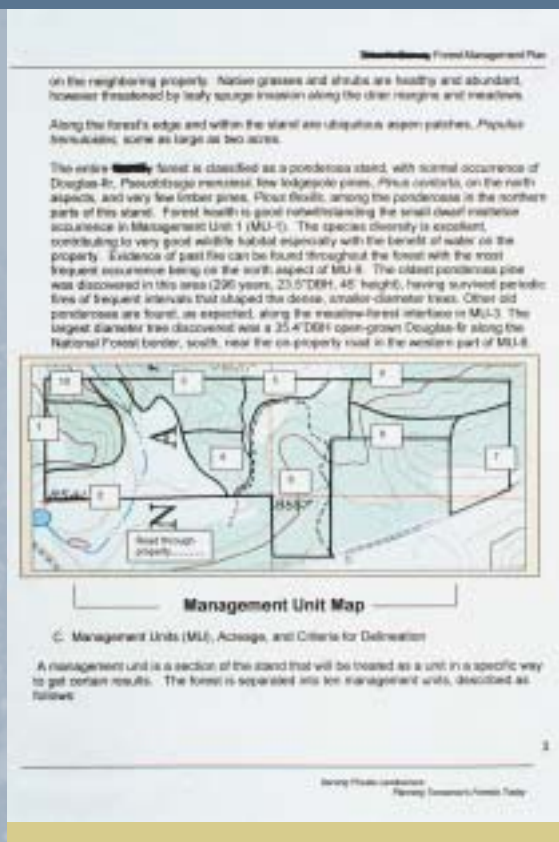
Address all stewardship values when describing the forest land. If specific resources are absent (that is, cultural or recreational), they should nevertheless be referred to as *None* or *None found*. Color photographs may be helpful to show current stand conditions. Photographs provide a visual image of the site and can be very useful in documenting seasonal changes or the effects of the passage of time.

Consider outlining objectives for the desired future vegetative community in the description. Describe the outcomes of implementing recommendations, that is, what the stand will eventually look like when the landowner's goals are achieved. Contrast the future vision to existing forest conditions.

Identify important and unique stands or cover types by name or number and size (in acres) in the narrative and correspondingly in the plan maps. Include information that is unique to the stand.

States vary as to whether State forestry personnel or private forestry consultants under contract to the landowner should complete the stand description. Similarly, whether or not timber cruising or appraisals should





be included in the forest stewardship plan or funded by the program is at the discretion of the State agencies.

A description of forested habitats will be a major emphasis in most plans. While estimates based upon observations may be sufficient to make reliable recommendations, the detail required in the final plan should always reflect your State's needs and standards.

Regardless of the level of detail, descriptions should provide an accurate assessment of forest resource conditions and opportunities, and they should indicate whether there is a need for private forestry consultants to perform a more comprehensive appraisal.

Stand volumes should be clearly emphasized to the landowner, whether or not the data is sufficient for sale purposes. Consult your State guidelines for more information on stand volumes.

The following data may be included in stand descriptions, depending upon the objectives identified in the plan.

- Timber type classification
- Volume/density
- Growth
- Age
- Species composition
- Size-classes, distribution
- Stocking
- Stand history
- Stand significance due to location/other attributes
- Forest/stand health
- Wildfire hazards and risks
- Pests and disease
- Other wildlife-specific criteria
- Snags
- Den trees
- Edge
- Mast availability
- Browse
- Ground cover
- Canopy cover
- Canopy layers
- Stand diversity
- Noxious/nonendemic species
- Other





The following stand description is a good example of a complete assessment of cover type. Notice the number of criteria included in the description and the emphasis placed on the insufficient volume data for purposes of sale.

### **Stand Description from a Minnesota Forest Stewardship Plan**

**Objective:** Timber management

**Cover Type:** Mature Aspen

**Summary Data:**

Age:	70+ years
Growth Potential:	High
Site Index:	75 (aspen)
Timber Quality:	Good
Tree Density:	Average
Basal Area:	100

**Estimated Volume/Acre  
(not accurate for sales):**

Aspen	25.4 cords
Spruce	1.7
Birch	1.4
Total	28.5 cords/ac



This stand contains mature 12-inch diameter aspen and birch and 20-inch diameter spruce. The birch and aspen are beginning to deteriorate from heart rot. This timber should be harvested now or in the near future. The understory is medium density and consists of hazel brush, alder, red stem dogwood, and thimbleberry growing over a layer of grass and other herbaceous annuals. Regeneration consists of about 2,000 aspen seedlings per acre where there are openings in the canopy. Deer, moose, wolves, bear, and small mammals utilize such habitats. The terrain is gently sloping. (A description of soil features was also included.)

Some stand descriptions are written to reflect specific management objectives, as the examples below show.

### **Sample Stand Description from a Forest Stewardship Plan**

**Objective:** Increased utilization by waterfowl, perpetuation of southern red oak in a green tree reservoir habitat.

High stem density (overstocking), coupled with a low occurrence of openings within the main canopy for use by waterfowl as entrance points, is less than optimal for use of green tree reservoir areas by wintering mallards and wood ducks (Reference 1.1, Appendix A). Dominant and codominant crowns are receding drastically. The paucity of advance red oak reproduction throughout most of the stand indicates a progression towards predominantly more shade-tolerant, non-oak species composition. Stand regeneration at this time would likely produce a future stand with an oak component far less than desired. The herbaceous component is sparse; of little or no use as source of waterfowl forage. Soils are of the Alligator Series and productivity is very good for species comprising this stand. No historical or cultural resources exist in this unit. Implemented thoughtfully, a prescribed timber thinning will enhance the use of this stand by migrating and wintering mallards and increasing advance red oak reproduction by opening the stand and creating small gaps within the canopy-both of which increase sunlight that reaches the forest floor and facilitates access by mallards and wood ducks. Long term, establishment of red oak in the understory will foster the replacement of felled stems by this species and assure the continued availability of hard mast. Refer to management recommendations for this stand.



Descriptions may also include references to other stewardship programs.

### **Stand Description from an Indiana Forest Stewardship Plan**

**Owner's Goals:** Income from commercial timber production. Hunting and personal enjoyment are secondary objectives.

**Stand Description:** These stands, 26.5 acres in aggregate, appear to have the best timber on the property. Generally pole to medium sawlog sizes and fully stocked. A few veteran sized stems and a good number of damaged, poorly formed or otherwise undesirable trees are present. Species include sugar maple, yellow poplar, hickory, black gum, eastern red cedar, chinquapin oak, black oak, white oak, sassafras, red oak, sycamore, and black walnut. Grapevines pose a moderate problem in most places. Except for the bottomland site this area is only mediocre productive potential. Note: This stand qualifies for the Indiana Classified Forest Program, for which an application and instructions are enclosed.

### **Soils Information**

All forest stewardship plans should include a discussion of soil features in a manner compatible with the landowner's objectives. Include the series as well as pertinent properties, drainage, or associated topography, particularly as they relate to restrictions or site productivity. Diverse conditions and cover type may necessitate several different descriptions for the property. Consult any published county soil surveys; they are invaluable sources of information.



*The following is a good example of soils information. Notice that the description is property-wide and addresses the limitations on the property because of the soil type.*

### **Soils Information from an Indiana Forest Stewardship Plan**

The property is characterized by hilly terrain and short, steep slopes. Maximum relief is 130 feet. Primary soil types are rider silt loams along the ridges and Berks-Weikert soils along the slopes. These soils have potential for excellent tree growth. Site limitations include limited access (for logging operations) due to steep slopes, impassable ravines; high potential for erosion. Trail or road construction should include establishment of permanent water diversion structures and perennial vegetation cover.

Forest Management Plan

For the soils of this property the classification is either VIIa-1 or VIIa-2. This translates to "severe limitations", unsuitable for cultivation; appropriate uses would be for pasture, woodland, wildlife.

Soils of this area are also placed in tree suitability groups to indicate their suitability for trees and shrubs. These soils in the same group have the capability to produce similar trees and shrubs.

Tree suitability group 1 includes the Fern Cliff soils, supporting Douglas-fir, ponderosa pine, or lodgepole pine.

Tree suitability group 2 is capable of supporting native timber, but is now generally covered with brush and scattered trees. Juguet and Peyton soils are in this group.

Tree suitability group 3 are generally deeper soils on lesser-sloped areas. These soils are fine sandy loams to silty clay loams (not found on this property), and will support any native tree species.

**Soils Map**

Peyton-Juguet, very gravelly sandy loam; pink: Fern Cliff-Hickory-Park-Hickory, silty clay loam; green: Berks-Weikert, silty clay loam.

Juguet soils are a gravelly loamy sandy type, shallow, and excessively drained. Generally, bedrock is at a depth of 20" and this soil is suitable for forestry, recreation, and homesites. Capability class is VII-1, and its tree suitability group is group 2.

Fern Cliff soils are deep, well drained sandy loam and silty sandy loam. They are suitable for pasture, recreation, forestry and homesites. The Capability class is VII-e-1, and tree suitability group 1.

13

Geology From Landowners  
Planning Information From County



### **Wildlife and Fish**

Federally protected species will affect a stewardship plan. The species of concern in your State might be noted in local databases or the State natural heritage records. Contact the ecological service office of the U.S. Fish and Wildlife Service, or the fish and wildlife staff in your State for technical assistance to identify endangered species and their implication for management plans. All forest stewardship

plans should address rare, threatened, or endangered species.

Plan writers should include a statement on whether or not endangered species were found or are likely to exist on the property. If they do, then writers should refer the landowner to the appropriate entity for information and assistance, and/or include relevant information in the plan.

### ***Examples of Statements on Threatened and Endangered (T&E) Species***

*The State's T&E databases were checked for indications that T&E species might be present on this property. No records were found. Likewise, no evidence of T&E species was seen during an inspection of the property. Nevertheless, in this part of the State, this habitat type may be inhabited by.... The management practices presented in this plan will not degrade habitat conditions favorable for this species. Or, The State's T&E databases were checked for indications that T&E species might be present on this property. No records were found. Likewise, no evidence of T&E species was seen during an inspection of the property.*

### ***T&E species from a New York Forest Management Plan***

*A search of New York State Department of Environmental Conservation records indicates no endangered, threatened, or rare flora or fauna on this property at the present time.*



Whether the landowner embraces wildlife as a primary objective or simply as a side benefit to the production of forest products, species habitat and life cycle must still be considered in the plan. Primary emphasis on timber products may limit the range of wildlife to be managed. When timber is the primary objective, describe which wildlife species will be affected when the plan is executed. Silvicultural practices do affect forest wildlife and active consideration of the effects of habitat change on the forest flora and fauna is an important part of the stewardship plan.

When the landowner places wildlife as the primary objective, focus the plan on habitat conditions that are specific to the needs of wildlife species. List the habitat attributes that are of greatest benefit to the range of target species. Describe the strengths and weaknesses of present conditions and what changes, if any, are required.



*The following is an example of a good description of wildlife habitats in a management plan. Notice the references to wildlife and fish populations and habitat and their national and regional status. Fish and wildlife habitat and T&E species were addressed in separate sections of the plan.*

### ***Wildlife and Fish Descriptions from a California Stewardship Plan***

*Although the summer flows in Indian Creek are quite low and the creek goes underground in some sections, it nevertheless supports a resident and an anadromous fishery. The riparian habitat along Indian Creek and its tributaries support a variety of wildlife, including deer, bear, ring-tail cats, and various reptiles and amphibians.*

*Sierra Pacific Industries located northern spotted owls on their lands to the east of this property. In 1989, a northern spotted owl was heard during the course of two consecutive nights of survey in the vicinity of the property. A fisher (of significant interest to California public) was observed in the same location. Bald eagles (T&E species) have occasionally been observed flying up the creek, a goshawk (special concern species) nested on the property over a period of 3 years during the mid eighties, and great egrets and great blue herons (special concern species) are often seen along Indian Creek.*

## Water Quality

All forest stewardship plans must address watershed and water quality issues in a manner compatible with the landowner's objectives. Additionally, all management activities must protect water quality. The plan can be the guide to preserving and protecting this forest resource. Each State will have guidelines and recommendations on water quality specific to its region.

*The following is an example of a brief assessment of water quality.*

### **Water Quality from a New York Forest Stewardship Plan**

*Water quality is excellent. There is no active soil erosion at this time.*

*Important considerations include:*

- *Streamside management zones (SMZ)*
- *Filter strips*
- *Stream crossings*

A Forest Service Watershed Coordinator recommends the following:

*"Identify the watershed(s) in which the property lies by name and/or Hydrologic Unit Code (HUC) available from State, U.S. Geological Survey, or Natural Resources Conservation Service maps. Locate perennial and intermittent streams on the property and estimate their length*

*in (miles or linear feet). Identify known water quality problems on or upstream of property and any opportunities for improvement on the property. Existing riparian forests adjoining agricultural fields currently serving as buffers and potential opportunities for afforestation of other buffer areas should be identified. If known, identify streams that are currently in use as drinking water sources and the location of any intakes on the property requiring special protection. Identify management objectives and proposed management or protective measures for existing riparian stands."*

## Recreation and Aesthetics

Management practices to enhance the objectives of recreation and aesthetics are comparatively easy to implement. Measures to enhance natural aesthetics include converting agricultural fields to hardwood forests, favoring large-sized hardwood stems within forest stands, and creating wooded buffer zones to protect riparian areas and enhance wildlife suitability. Other considerations include:

- Types of forest-oriented recreational activities valued by the landowner or area residents
- Diversity of habitat
- Visual impact of various forest management practices





*The following statement addresses the landowner's priority of aesthetics and recreation.*

### ***Aesthetics and Recreation from Colorado Forest Stewardship Plan***

*There are unique scenic viewsheds from the higher elevations of this property, especially of the Continental Divide from Management Units 7 and 9. The expansive, green meadow of the drainage is a pleasant green change in scenery to an otherwise arid landscape. Recreational opportunities abound in the forms of hiking and wildlife observation.*

- Plant species favored in the area because of color, flower, or other characteristics
- Key access routes and areas commonly viewed by public
- Objects of special value to landowner, that is, vistas, bluffs, old home sites, unique stands of trees, rare flowering plants
- Streams, other waterways
- Hiking trails
- Picnic areas

### **Wetlands**

Wetland values should be considered and evaluated in all forest stewardship plans. Three criteria are used to identify wetlands: hydrology, vegetation, and soils.

Wetlands are subject to Federal protection. It is important to make the landowner aware of the ecological value of wetlands and important legal issues associated with wetland areas. Management activities that require moving soil in a wetland area, for example, will likely require a Government permit. At least three governmental agencies administer regulatory authority concerning wetlands. They are the county or city planning and zoning office, the State

department of natural resources, and the U.S. Army Corps of Engineers. Before initiating a wetland project, be sure that the appropriate permits have been secured. Most wetlands conservation practices, and many other forest management practices, are eligible for cost sharing through various programs. Some States or counties may offer forest management incentives or wetland tax credits or deductions. Direct inquiries to the State forester.

Sources of technical assistance include the State forestry agencies, U.S. Fish and Wildlife Service, and the Natural Resources Conservation Service.

*The following examples address wetland areas.*

### ***Wetlands from a New York Forest Stewardship Plan***

*All streams on this property are classified "D" and do not require a permit for minor projects which would alter their bed or banks. There are no protected wetlands or streams on the property.*

### ***Water Sources from a Colorado Forest Stewardship Plan***

*Dutton Creek is a permanent water source that flows through the northwest corner of the property. A small pond located between a driveway and homesite catches runoff. An old irrigation ditch located on the lower bench collects runoff and has water intermittently. About 1 mile upstream from the property is a reservoir that seasonally stores water from Dutton Creek. Another reservoir is located across the road from the property. Both nearby reservoirs serve as water sources in the event of wildfire. With respect to existing land use practices, risk of diminished water quality is minimized.*





The following guidelines for wetland protection should be incorporated into forest management activities.

- Do not route roads through wetlands or on steep slopes subject to erosion. Fillings for roads may destroy wetland habitat, obstruct or modify the flow of water to or through wetlands, and may contribute to sedimentation.
- Restrict timber harvest activities to those times of year when rutting and soil compaction are minimized. In the South for example, late summer is usually an ideal time. The winter months, when wetlands are frozen, may be best in other parts of the country.
- Do not establish log landings in wetland areas when other sites are available. Heavy equipment usage damages wetland vegetation, compacts hydric soils, and increases contamination from pollutants (that is, oil and gas) into wetlands.
- Leave buffers of vegetation around wetlands. Trees provide nest sites and cavities for many wildlife species, provide shading to wetlands to reduce desiccation and maintain lower aquatic temperatures, and help to prevent sedimentation.
- Avoid the use of pesticides not labeled for aquatic use on or near wetlands.
- Establish vegetation on disturbed soils adjacent to or near wetlands.
- Keep slash out of wetland areas. Slash accumulation accelerates wetland filling and may deplete oxygen levels in water.

## Heritage Resources

A key element in all forest stewardship plans is a description of the historical and cultural resources of the general area and the subject property. Heritage resources are nonrenewable; they can never be replaced once destroyed. Good stewardship implies valuing the evidence of past human occupation on the land. Federal and State laws protect heritage resources from disturbances, destruction, or removal. Landowners should be made aware of laws pertaining to historical and cultural resources in their State. Planners should consult local authorities within the plan area.

Plan writers should include a statement as to whether or not these resources exist on the property. If they do, then writers should refer the landowner to the appropriate entity for information and assistance and/or include relevant information in the plan. Consider the following elements for protecting heritage resources on private forest lands.

- Determine the locations of these resources, particularly cemeteries, prior to implementing the project.
- Plan natural resource management practices to avoid disturbing the ground on or near historical sites, if possible.
- Work with existing land contours rather than reshaping the landscape to reduce the chance of disturbing these resources.
- Retain any objects or artifacts discovered during a project and record the location from which they came to preserve their value for research.
- Cease all work and immediately notify local law enforcement and the office of the State archaeologist if human remains are accidentally unearthed.



- Revegetate agricultural sites to reduce long-term degradation of heritage resources by eliminating cultivation as a source of continued disturbance.
- Establish riparian buffer zones and filter strips (which will also protect water quality).
- Use conservation easements to protect sensitive environmental and cultural qualities.

*The following is a good example of how to address the historical and cultural resources in your plan.*

### ***Heritage Resources from a California Forest Stewardship Plan***

*No prehistoric sites, features, nor artifacts were discovered. Some historical sites were found.*

*An old water ditch runs along portions of the southern boundary. The water ditch was used to transport water needed to mine the property. Three ditches and piles of river rock is evidence of placer mining, which occurred. On a small glade at the southwestern corner of the property are the remains of a cabin basement, which is a 12-foot-wide by 30-foot-long by 7-foot-deep hole in the ground partially lined with stacked, unmortared river rock.*

#### **Recommendations:**

1. Check with Northeast Information Center, California Archeological Inventory, Department of Anthropology... and have a trained archeologist conduct a site survey before executing ground disturbing projects. Protect any known, significant sites as per their instructions.
2. If a site is located during project implementation, protect the site from further disturbance until a trained archeologist can determine if the site is significant and warrants further protection.

For more information on this important subject, contact the historic preservation office, department of archives, office of archaeology, or other agency in your State responsible for distributing heritage resource information and implementing laws.

#### **Other Items of Importance**

Although they are not required, the following elements are common in forest stewardship plans around the country.

- Good records for tax purposes
- Sources of recognition for which the stand might qualify (that is, Tree Farmer Program)
- Opportunities for alternative sources of income (for example, harvest of morel mushrooms, bird watching tours, recreational activities)
- Opportunities to restore endemic plant or animal communities.
- Mineral resources
- Cleanup and rehabilitation needs



*The following examples show additional elements to include in forest stewardship plans.*

### ***Recognition Program from an Indiana Forest Stewardship Plan***

*Your woodland is eligible for inclusion in the Classified Forest Program. This program allows landowners with a minimum of 10 contiguous acres of forest that are being managed under the Woodland Stewardship Program to receive significant tax and technical assistance benefits. Once classified the forest is assessed at \$1.00 per acre per year for property tax purposes, which can result in substantial tax savings. A no-cost woodland inspection from a professional forester is provided once every 5 years.*

### ***Clean-up from a Missouri Forest Stewardship Plan***

*The remnants of an abandoned sawmill, constructed for prior harvest activities, detract from aesthetics. Scrap metal and refuse should be eventually removed.*

### ***Income Potential from a Vermont Forest Stewardship Plan***

*There is excellent potential for generating revenue through production of maple syrup and Christmas trees in some areas of the property.*

## **4. PRESENT MANAGEMENT RECOMMENDATIONS**

The next section of the plan will contain the essential strategy for achieving the landowner's objectives. This part should be operational and action-oriented. The management recommendations will be the landowner's own road map to implementing the stewardship plan successfully. In this part you will include the necessary steps for accomplishing the goals, that is, the how, what, when, where, and who of active forest management.

Recommendations should be at the stand or management unit level and may specify maintenance activities and change over time. Specify exactly what is required to achieve the objectives and avoid using ambiguous phrasing such as "may need to do this" or "might need to do that."

Consider future needs and include sources of future support in the recommendations to convey that the objective can be achieved and sustained for many years to come. Include the sources of professional

expertise that will help guide and implement a plan.

You might also include an estimate of costs and revenues over time, specifying cost-share or partnership opportunities that foster sound habitat management practices and increase the value in the landowner's investment in forest stewardship. Providing a cost comparison of assistance programs or management practices will convey the benefit of forest stewardship in concrete, measurable terms that NIPF landowners and everyone else readily understand—dollars and cents.

Alternative management strategies, and their environmental and economic consequences, should be discussed with the landowner throughout the development of the plan, but do not cite all the alternatives in the plan. Include in the final document only those strategies that satisfy the landowner's objectives and include a schedule for reviewing and updating the plan. Landowners always have the option to do nothing, or to do something other than what was advised, but this alternative need not be elaborated upon in the final document.



The following excerpts are good examples of management recommendations for a forest stewardship plan. Notice the goal-specific recommendations.

### **Stand Description from a Minnesota Forest Stewardship Plan**

**Stand Number:** 2

**Stand Objective:** Forest products, habitat

**Prescription:** Prep-cut Shelterwood

**To Be Removed:**

BA/acre: 65

Total Vol.: 20/cds/12mbf

**Timing:** Fall 2002

Treatment targets the gradual regeneration of this mature stand, over a period of 20-25 years, to the same species composition. It is intended that the white pine component will increase with the shelterwood system. Many trees that need to be removed shall be felled or girdled as a means of timber stand improvement in the absence of nearby pulp markets. Ideally, timber harvest should occur in a year that the white pine mast crop is good. Mechanical felling should be conducted when the ground is not covered with snow to facilitate scarification of the duff layer and promote the establishment of white pine.

### **Management Recommendations from a North Carolina Forest Stewardship Plan**

**Landowner objective:** Establish recreational trails.

The proposed trailhead should be located at the terminus of an existing logging road, just up the hill from your home. The old logging road system running throughout your property provides an ideal skeleton for the proposed hiking trails. Please refer to the enclosed map for estimated trail routes. The following are major considerations for recreational trail construction:

- Follow land contours and avoid establishment of trails on slopes over 20 percent if at all possible to minimize the potential for erosion and to ensure ease of traverse.
- Prune limbs 1 to 2 feet from either side of the actual trail, and extend height clearance to 12 feet to prevent injury or discomfort while on horseback.
- Perform annual maintenance that includes removal of woody regeneration from the trail to maximize the trails' recreation potential.
- Don't remove large trees from the trail—simply route the trail around them.
- To increase wildlife viewing, erect birdhouses and wildlife feeders along the trail. Plant sunlit portions of the trail with ryegrass, clover, or wildflowers.
- Install erosion control devices on steeper portions of the trail to prevent sedimentation of adjacent creeks and wash out of the trail.
- If desired, educate persons using the trail by posting informational signs. Contact the North Carolina Forest Service to help identify tree species and ecotypes.

Provide a brief summary of management recommendations that support stewardship objectives. Highlight anticipated benefits of active forest

management to landowners, forest resources, and society.



## ***Management Recommendations from a Mississippi Forest Stewardship Plan***

*Located near Crowder, MS, the Smith property is located 0.75 miles west of 4,200-acre Coldwater National Wildlife Refuge. The surrounding area is characterized predominately by row crop agriculture and traditionally winters many thousands of migratory waterfowl. Past management practices have greatly impoverished timber and habitat values on this property. Completion of the stewardship goals described herein will provide recreational and financial benefits to the Smith family and will fulfill crucial life cycle requirements for migratory waterfowl in this area of Mississippi, particularly as part of a much larger habitat complex that encompasses surrounding properties and land-use practices.*

## ***Management Recommendations from a Florida Forest Stewardship Plan***

*Wildlife management practices on this property...will provide optimal habitat conditions for deer, turkey, quail, and songbirds...and are conducive to the conservation of the threatened and endangered species known to occur locally.*

## ***Management Recommendations from a California Forest Stewardship Plan***

*Improved soil, water, and forest quality...as enhanced through the stewardship practices advocated in this plan fulfill the landowner's objective to...create and maintain a land-based homestead that provides resources and amenities to support the occupants of the homestead, their lifestyles, and their land ethic and social values. These values include sharing the abundance of their lives with family and friends and passing on a world that has been enhanced by their stewardship.*

With creativity and initiative, plan coordinators can forge partnerships with other organizations that will provide technical assistance, services, and materials at little or no cost to the landowners or the State.

### **Timeline**

The minimum duration for a plan to meet forest stewardship program requirements is 5 years, although some States require a longer period of time.

It is always helpful to provide a timeline for prescribed activities. Include in the

## ***Management Recommendations from a Minnesota Woodland Stewardship Plan***

### ***Stewardship Objective:***

*Restore these wetlands to natural conditions to recreate quality habitat for waterfowl, furbearer, amphibian and reptile habitats that were lost during conversion. Restorations will improve watershed quality conditions-reduce runoff, sedimentation, nutrient loading, and groundwater discharge.*

### ***Recommended Management Activities:***

- 1. Conduct feasibility surveys to determine desired water levels and appropriate water level control structures. (Project: U.S. Fish and Wildlife Service has currently completed surveys on Sites W1, W2, and W3. Will complete survey on Site W4 and provide details and designs. Technical assistance from U.S. Fish and Wildlife Service will be provided at no cost to the landowner.)*
- 2. Determine acceptable restorations and install water control structures. (Project: Installation of structures, dams, and dikes will be completed by U.S. Fish and Wildlife Service with funds through the Partners for Fish and Wildlife Program, and through the Rush Lake Watershed Improvement Project, at no cost to the landowner.)*



timeline information on when the plan will be reviewed and updated. Be specific, but be realistic about the time that it will take to achieve the landowner's objectives. The timeline will probably be more important to landowner than almost any other section of the plan, particularly where future revenues are expected.

Consider converting the timeline into an action list, which the landowner may use as a check-off list for prescribed activities. Some plans place the timeline at the front of the plan rather than at the end. Some States include a "check when completed" column in the stand prescriptions to serve as a record of accomplishing the objectives. These tips have been highly effective in keeping landowners on the right track.

The following examples show timelines for implementing objectives in different formats. The first example was included in the front of the plan with a reference to supplemental information at the back. The second two examples emphasize the actions to be accomplished in each season.

#### **Timeline from an Indiana Forest Stewardship Plan**

<b>YEAR</b>	<b>STAND</b>	<b>ACTIVITIES</b>
1999	1	Thin with combination of intermediate/regeneration cutting practices
1999	2	Harvest cedar component to release hardwoods
1999	3	Harvest cedar component
2000	1-3	Timber stand improvement to complete regeneration openings and remove grapevines and undesirable species

#### **Timeline from a North Carolina Forest Stewardship Plan**

<b>YEAR</b>	<b>AREA</b>	<b>ACTIVITIES</b>	<b>ASSISTANCE AVAILABLE</b>
1998	1-3	Regrade logging roads	---
		Precommercial thinning	---
		Establish food plots on logging	---
		Decks	Yes
	5	Plant trees along entrance	Yes
		Establish warm season grasses	Yes
1998-2004	4	Broadcast Japanese millet on exposed pond banks at rate of 25 lbs/acre in late June.	Yes
1999	1	Install culvert and waterbars in new road	---
1997-	4	Install wood duck nest boxes along creek and beaver pond, 1 per year, remember predator guards	Yes
2008	2,3,4	Commercial pulpwood thinning. Thin to residual spacing of about 15 feet between residual trees (Basal area 70 sqft/acre).	---
2009	All	Revisit property for update of stewardship plan. Identify future needs.	---
2030	2,3,4	Regeneration harvest for portions of these stands for financial returns.	Yes

#### **Timeline from a North Carolina Forest Stewardship Plan**

<b>June 2001 - 2005</b>	Hire a consulting forester and have Area #3 harvested at the earliest opportunity. Leave 10 nonmerchantable black cherry trees standing per acre. Fell all other residual stems for erosion control and natural regeneration
<b>July 2001 until</b>	Mow food plots in Area #2 to stimulate growth, vigor, and reproduction of clover and grasses. Be mindful of nesting birds, although they should have completed nesting by this time.
<b>September 2006</b>	One year post harvest, evaluate Area #3 for natural stocking.
<b>September 2010</b>	Perform necessary trail maintenance. Reinforce erosion control devices. Evaluate species composition in Area #

## Communicating the Plan

When the forest stewardship plan is completed, you must present it to the landowner. This is an important event and should be approached thoughtfully. Forest stewardship plan packages come in many shapes and sizes. They may be photocopied, stapled pages, or they may be carefully bound and include color photographs and inspirational quotes. Organize the material in the plan in an easy-to-follow and attractive manner. Each State has discretion for how the plan will be presented to the landowner.

Information specific to the major stewardship issues in each State may be important to include with each plan so that the landowner will gain a greater appreciation for stewardship issues as a whole. Each plan should be a living document that can be updated and will easily accommodate new information relevant to the health and stewardship of forests.

## 5. INCLUDE SUPPLEMENTAL INFORMATION

Include relevant supplemental documents and information in an appendix at the end of the plan. This additional material will support the recommended practices and offer more complete information on a number of topics touched on in the plan. Many States and resource consultants have standardized packages of supplemental material that may be added to the plan. Include or remove materials as needed to suit the landowner's needs. Federal and State agencies, cooperative extension programs, industry, and special interest organizations will also have well-prepared documents on relevant subjects that are available for

## Minnesota's Sample Format

*The Minnesota Division of Forestry provides NIPF landowners with an appealing and useful format for forest stewardship plans. Their plans are bound in attractive three-ring binders, and colored tabs separate the information in the following subjects.*

- Table of Contents
- The Forest Stewardship Plan
- Correspondence
- Cost-share Records
- Tax Records
- Other Records
- Forest Ecology
- Wildlife
- Soil
- Water
- Tree Species
- Forest Products
- Harvest
- Regeneration
- Timber Stand Improvement
- Protection
- Forest Facts
- Tax Issues
- Information Sources
- Assistance Directory
- Glossary
- Index
- Past Plans

## Using Aerial Photographs—A Layman's Guide

Aerial photographs are one of the most useful tools for mapping and management planning available to the forest and land manager. Photos are invaluable for laying out a tract, planning a timber harvest, or choosing a site for a home or building. Aerial photos provide a bird's-eye view of the total property—an accurate and inexpensive source of information that can save time spent in the field. They reveal present and past land uses, and the relationship of land to adjoining properties. Aerial photos can help you make efficient and well-informed land management decisions.

Most aerial photographs are taken with the camera pointed straight down. These "vertical" aerial photos can be used to locate property lines, ridges and trails, determine bearings and distances, identify vegetation types, and measure land areas. Figure 1 shows a typical aerial photo.

Since flight paths overlap, two overlapping photos can be pieced together to show a larger area with greater detail.

Side-topography and oblique (angled) photos. Land managers can estimate tree heights, stand volumes, slope, and other landform characteristics before conducting field measurements. Aerial photos are also used in combination with field measurements to obtain accurate estimates of tree diameter, form class, stand defect, and stand volume. It is difficult to obtain from aerial photographs alone.

### Advantages And Disadvantages Of Aerial Photographs

#### Advantages:

- are an inexpensive data source
- locate lines and roads with ease
- are useful for map development
- document historical land use and land use changes
- are easy to use post with minimal training
- reduce amount of field work
- are reliable and readily available

#### Disadvantages:

- identify major vegetation types with ease
- may not be current enough to reflect new developments
- may distort images somewhat
- may require special map-making or interpretation equipment
- can require field verification

Information is derived from a booklet by the U.S. Department of Agriculture, Forest Service, titled "Using Aerial Photographs—A Layman's Guide".



North Carolina  
Cooperative Extension Service  
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this purpose. Rather than duplicate in the plan the general information contained in these materials, simply append them to the back of the plan. Include a list of these documents in the Table of Contents so that the reader knows what is included and organize the material by topic.

### **More helpful suggestions of items to include:**

- Glossary of technical terms or forestry practices common to natural resource management
- Brochures, newsletters, publications
- Publications specific to State Best Management Practices
- Extension bulletins, fact sheets, "how to do it" handouts, Woodland Fish and Wildlife publications
- Sources of planting stock, forestry and wildlife equipment supplies
- Directories of natural resource consultants, contractors, loggers, and agencies that are available for assistance in completing various resource activities
- Descriptive materials, enrollment forms, and applications relevant to receiving additional technical, financial, or educational assistance from State, Federal, or other partners programs
- Bibliography of useful references, such as Web sites and scheduled workshops
- Explanations of applicable regulatory programs, especially as they apply to:
  - Historical and cultural resources
  - Wetlands
  - Threatened or endangered species
  - Logging regulations, required permits, licenses
  - Reforestation or wildlife food plantings
  - Nest boxes and predator guards
  - Other

## **Additional Information Section from a Minnesota Forest Stewardship Plan**

For additional information, please refer to the following sections of your stewardship plan binder:

<b>TAB</b>	<b>REFERENCE MATERIAL</b>
Wildlife	Managing for ruffed grouse and deer; Woodlands and nongame wildlife
Trees	White spruce, white pine
Regeneration	Tree planting BMP Booklet Protecting water quality and wetlands in forest management
Protection	Bud capping

## **Additional Information Section in a North Carolina Forest Stewardship Plan**

### **APPENDIX LIST**

1. North Carolina Trees for North Carolinians (Seedling Catalog) 1997.
2. Working with Wildlife
  - a) White-tailed Deer
  - b) Wood Duck
  - c) Bobwhite Quail
  - d) Woodland Wildlife Nest Boxes
  - e) Low-Cost Habitat Improvements
  - f) Managing Beaver Ponds
  - g) Herbaceous Plants for Wildlife
3. Woodland Owner Notes
  - a) Thinning Pine Stands
  - b) Understanding Forestry Terms
4. The Layman's Guide to Private Access Road Construction
5. Stewardship Incentives Program Practices Planning Outlines
  - a) SIP 8-Wildlife Planting-Clover
  - b) SIP 8-Wildlife Planting-Orchard Grass and White Clover
  - c) SIP 8-Wildlife Planting-Va-70 Lespedeza





ship, and clear goals will assist landowners in managing their property into the future. Management recommendations that are easy to implement will contribute further to the overall success of the plan. A well-crafted, well-written forest stewardship plan will be an encyclopedia of facts and an indispensable guide that will have a long and lasting impact on the environment.

## CONCLUSION

Developing and writing a forest stewardship plan with each landowner may be the most important service you can provide for the long-term sustainability of private forests in your region. Establishing a relationship of trust and respect with landowners will contribute not only to your professional success but also to your personal fulfillment in your job. Identifying and articulating clear stewardship objectives will help landowners understand the array of environmental concerns and their interrelation-

Refer to this desk guide before you meet with landowners and before sitting down to write the plan. Collect for ready reference any other State and local resources that will help you write the plan. Have on hand information about State and Federal programs that will also have an interest in the plan, and get to know those people who can help you at various stages of plan development. Finally, be sure to establish contact with the key people in the USDA Forest Service programs who are available to help and guide you through the planning process. Good luck!





# FOREST STEWARDSHIP PROGRAM NATIONAL STANDARDS AND GUIDELINES

## FOREST STEWARDSHIP PHILOSOPHY:

The purpose of the Forest Stewardship Program is to assist private forest landowners to more actively manage their forest and related resources; to keep these lands in a productive and healthy condition for present and future owners; and to increase the economic and environmental benefits of these lands.

Forest stewardship starts with landowners who care about their forest lands. They view their land as a source of family enjoyment, a chance to leave something special for future generations, as well as a potential source of income. They may need technical advice and financial assistance to make their vision for the land a reality.

For purposes of this program, nonindustrial private forest (NIPF) acreage includes lands owned by any private individual, group association, corporation, Indian tribe, or other private legal entity, such as Alaska Native corporations. Further, it includes rural lands with existing tree cover, or suitable for growing trees.

The Forest Stewardship Program focuses on providing services to landowners not currently managing their forest land according to a resource management plan that embodies multi resource stewardship principles. Private nonindustrial forest lands that are managed under existing Federal, State, or private sector financial and technical assistance programs are eligible for assistance under the program if forest resource management activities on such forest lands meet or are expanded or enhanced to meet the requirements of the Forest Stewardship Program.

## STATE FOREST STEWARDSHIP COORDINATING COMMITTEE:

Each State forester must establish a State forest Stewardship Coordination Committee, administered by the State forester or equivalent State official. The committee must include individuals representing the following:

- The Forest Service; Natural Resources Conservation Service; and the Cooperative State Research, Education, and Extension Service.
- Local Government.
- Soil and water conservation districts.
- Consulting foresters.
- Environmental organizations.
- Forest products industry.
- Forest landowners.
- Land-trust organizations.
- Conservation organizations.
- State fish and wildlife agency.
- Any other appropriate interests.

Existing State committees may serve as the State Forest Stewardship Coordinating Committee if their membership includes the interests specified above. A State forester may seek an exemption to full representation on the above. To do so, the State forester must submit a request for exemption in writing, with a supporting recommendation by the regional forester or Area Director to the Director of Cooperative Forestry for approval. The request for exemption must include a justification of why a representative of a particular interest is unable to participate.

The committee must be ongoing to address stewardship planning and implementation concerns and overall program coordination, and not convened on a temporary basis. Normally, committee members serve 3-year terms and may be reappointed for consecutive terms.



Terms for persons who by virtue of their positions are committee members (e.g., State conservationists, State chairperson of forest landowners association.) would be ongoing during their tenure in the position. Membership may be staggered to ensure committee continuity. The duties of the committee include the following:

- Provide advice and recommendations to the State Forester concerning implementation of Forest Stewardship Program, Stewardship Incentive Program, and Forest Legacy Program.
- Provide assistance and recommendations concerning development, implementation, monitoring and updating of the State Forest Stewardship Plan.

#### STATE FOREST STEWARDSHIP PLAN:

A Statewide Forest Stewardship Plan is required. The purpose of the plan is to serve as a dynamic framework for the implementation of the State Forest Stewardship Program and the Stewardship Incentive Program. The plan should be updated as needed to reflect significant modifications in emphasis areas, delivery systems partnership, priorities, and other factors affecting program implementation over time.

- The plan must be action oriented, multidisciplinary in scope, and concurred in by a majority of the State Stewardship Coordinating Committee members. Such concurrence should be in writing.
- The plan must spell out partnerships with other agencies and organizations, particularly those that will become part of the delivery system involved in providing technical assistance.
- The plan as a minimum must address the following:
  - Baseline data on forest resources of the State.
  - Conditions that threaten the forest resources of the State.

- Economics and environmental opportunities associated with forest resources of the State.
- Management programs, opportunities, and objectives for intermingled Federal, State, and private land ownership patterns within the State.
- The need for NIPF lands to be managed for all forest resources, including soil and water, wildlife and fish habitat, recreation and aesthetics, and timber and other forest products.

The plan may incorporate by reference other documents that include information on the above subjects.

- The plan must cover a 5-year period and identify a goal for NIPF acreage to be placed under forest stewardship management during the period.
- The plan must set priorities for achieving the goal and objectives identified for the State for each of the fiscal years.
- The plan must identify its intended delivery system to reach qualified landowners, develop a landowner forest stewardship plan, and assist the landowner in meeting his/her plan objectives. State foresters should cooperate with other agencies and the private sector in the delivery of this program and should share funding with other agencies, organizations, and/or consultants, to provide technical assistance to landowners.

#### LANDOWNER REQUIREMENTS:

There must be a recommendation and approval process for a landowner to qualify for full forest stewardship status. States should develop standards for landowners to qualify for forest stewardship recognition. Following are the national standards that must be incorporated into State standards.

- The landowner must demonstrate that he/she is a good steward. This may or may not require a probationary period. Withdrawing recognition from the landowner fails to follow the plan or chooses to withdraw from the program.



- At appropriate intervals, the landowner's plan should be reviewed and the landowner recognition status reviewed.
- Standards for stewardship recognition must be established by States.
- If ownership changes, the new owner is required to sign up for a forest stewardship Plan consistent with the new owner's objectives or the farm/property is withdrawn from recognition status.

### LANDOWNER FOREST STEWARDSHIP PLAN:

Landowner voluntary participation in the Forest Stewardship Program represents a good faith commitment to implement strategies suggested in the landowner forest stewardship plan. Private property rights cannot, by law, be jeopardized through participation in this program.

Landowner forest stewardship plans must be prepared or verified, as meeting the minimum standards of a forest stewardship plan, by a professional resource manager. Plans must identify and describe actions to protect, manage, maintain, and enhance relevant resources listed in the law (soil, water, range, aesthetic quality, recreation, timber, water, and fish and wildlife) in a manner compatible with landowner objectives. The plan must be approved by the State forester or a representative of the State forester.

Landowners must be involved in plan development by setting clear objectives and should understand clearly the completed plan. A well prepared plan will:

- Clearly state landowner objectives.
- Have a cover page.
- Provide for authorship and/or signature lines within the document.

The plan preparer should consider and evaluate resource elements present and include a brief description of those that are applicable and their importance to the

ownership. Resource elements to be considered are:

1. Soil interpretations.
2. Water.
3. Range.
4. Aesthetic quality.
5. Recreation.
6. Timber.
7. Fish.
8. Wildlife.
9. Forest health.
10. Archeological, cultural, and historical sites.
11. Wetlands.
12. Threatened and endangered species.

Management recommendations, or where appropriate, alternative strategies should be provided for those resource elements described. Prescriptions or treatments should be integrated and stand or site specific. An ownership map drawn to scale, or photo, to include vegetation cover types, stream and pond location, with a legend, will enable the landowner to implement the plan. Landowners' understanding may be improved by including activity summaries and appendices. Appendices might include:

- Description of assistance available and incentive programs.
- Educational materials.
- A glossary of terms.
- An explanation of applicable Federal, State, and/or county regulatory programs, especially as they apply to:
  - Archeological, cultural, and historical sites.
  - Wetlands.
  - Threatened and endangered species.

These last three items are covered by legislation other than the Cooperative Forestry Assistance Act of 1978, as amended by Title XII of the Food, Agriculture, Conservation and Trade Act of 1990 (16 U.S.C. 2101, et seq.), but must be considered for federally funded programs.

The professional resource manager should discuss the forest stewardship plan with the landowner, following completion, to assure understanding.

#### FUNDING CONSIDERATIONS:

The State forester in cooperation with the State Forest Stewardship Coordinating Committee should periodically set a maximum dollar limit, per acre and/or plan, for Federal funding to prepare the basic landowner forest stewardship plans. Intensive and complex computations such as allowable cut calculations, intensive wildlife habitat assessments, boundary surveys, growth, yield and financial analysis, timber sales preparation or marking, and intensive timber cruises are examples of activities that State Forest Stewardship Coordinating Committees shall exclude from Federal funding in a basic landowner forest stewardship plan. Care should be taken that federally funded services provided to the landowner do not adversely impact services provided by natural resource professionals in the private sector.

#### CONTINUING EDUCATION FOR STEWARDSHIP:

The State Forest Stewardship Coordinating Committee will develop a continuing education program to provide landowners with multiresource information. The State forester and committee should work closely with the Extension Service and others in pursuing this effort. The continuing education program could include:

- Landowner tours and demonstrations.
- Informational “landowner” brochures and pamphlets.
- Extension bulletins/newsletters.
- Access to membership in woodland owner associations.
- Subscriptions to natural resource publications.
- Invitation to technical workshops, seminars, etc.

#### FOREST STEWARDSHIP RECOGNITION:

Recognition is appropriate for landowners, and perhaps agency and organization cooperation, for special efforts made to accomplish program goals. The national standards for recognition of qualified forest landowners are a forest stewardship sign and a formal forest stewardship certificate.

- **Forest Stewardship Signs:** The signs are viewed as an honor award, and provided to landowners only as long as they are maintaining their qualifications standards. Landowners who are withdrawn from recognition status should be required to remove their signs from their property and return them to the State forester. State foresters should develop a policy on replacement of signs. Foresters should work with landowners to see that signs are properly placed and posted to get maximum visibility. This needs to be balanced with posting the sign in as safe and secure an area as possible.
- **Forest Stewardship Certificates:** A National Forest Stewardship Certificate, suitable for framing, will be developed for stewardship qualified NIPF landowner presentation. It is recommended that certificates be signed at the State forester/Director of Natural Resources or Governor’s level and presented, if possible, at a special occasion, possibly at a local Woodland Owners Association meeting.
- **Other Recognition Symbols:** Decals and other types of recognition will be left up to individual State forestry agencies and Forest Service Area and Regions. Any expertise for other recognitions symbols will be the sole responsibility of the States.

#### STATE/NATIONAL RECOGNITION:

While the focus of the recognition activities is on the individual landowners, State foresters in consultation with their State Forest Stewardship Coordinating



Committee, may choose to develop additional recognition activities within State. Further, recognition activities may be developed at the regional and national level. These options could include the following approaches:

- **State:** States are encouraged to develop a forest stewardship award of recognition program for individual forest landowners, groups, organizations, etc. Several top stewardship landowners could compete for the honor of being selected for “Stewardship Forest” of the year, or Forest Stewardship Landowner/Manager of the year.
- **Regional:** Regional recognition by the Northeastern Area Association of State Foresters, Southern Group of State Foresters, and Council of Western State Foresters should also be considered.
- **National:** NASF, possibly in conjunction with other national groups, might recognize groups and organizations and select/recognize a National Forest Stewardship Landowner.

#### FOREST STEWARDSHIP ACCOMPLISHMENT REPORTING:

As a minimum, statistics must be maintained by the State and reported annually for:

- The number of forest stewardship plans completed. This should translate to landowners assisted; plans should only be reported once.
- Acres included in forest stewardship plans. This translates to acres under forest stewardship management; acres should only be reported once.

The collection of such information will be coordinated with the Cooperative Forestry Annual Accomplishment Report.

#### FUNDING GUIDELINES AND MANAGEMENT:

The Forest Stewardship Program should strive to fund the delivery of a maximum

amount of “on the ground” information and technical assistance to individual forest landowners. Program administrative cost must be kept to a minimum. Administrative costs are defined as indirect costs per the Grants Management Handbook.

#### **Additional Guidelines:**

- Federal funds must be matched by non-Federal cash, services, or in-kind contributions.
- The Washington Office will make the initial funding allocation on a North, South, and West geographic area basis (i.e., Northeastern Area, Region 8, and Regions 1-6 and Region 10 comprising the West).

#### **Forest Stewardship Program Funding Procedure:**

- Remove Washington Office assessments, earmarks, and a base amount of \$50,000 per State and \$25,000 per Territory.
- The remaining funds are distributed to the three geographic areas (North, South, and West) in proportion to the number of NIP landowners and the number of NIPF forest acres. The two factors are weighted equally.
- No geographic area may receive less than 20 percent of the remaining funds.
- If a geographic area is raised to the minimum 20 percent of remaining funds, the procedures are adjusted for the other two geographic areas in proportion to the number of NIPF landowners, and number of total NIPF forest acres.
- The base amounts and earmarks are then added back in and the amount of funds distributed within the western geographic area is recommended by the Western Stewardship Committee to the Council of Western State Foresters and the Western Regional Foresters for approval.



United States  
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Forest Service

Forest  
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