

What Is in a Natural Resource Management Plan?¹

Chris Demers and Robert Clausen²

Your forest property will serve your needs and interests best if it is managed according to a clear plan. A forest or natural resource management plan is a specific statement of the objectives you have for your land, followed by a series of activities that will take place in order to meet those objectives. Without a plan, decisions may be made based on short-term conditions but with long-term, undesirable consequences. In essence, your plan is a “road map” to guide you from where you are to where you want to be.

A management plan does not have to be a complicated document and there is no standard format for writing one. It may vary from a simple description for timber management of one or more plantations to a very detailed multiple resource plan for participation in programs such as Forest Stewardship, Tree Farm, and even county tax assessment. No matter what the purpose or program, it is important that your plan include the following information:

1. Your objectives
2. Property location and history
3. Resource assessment
4. Management recommendations
5. Activity schedule
6. Supplemental information



Your Objectives

This is the most important part of the management plan because it is where you state exactly what you want out of your land. An objective is a desired outcome or future condition for your property. Your objectives should reflect your true desires and must be compatible with the resources available to you. It is therefore necessary to have some basic knowledge of the resources on your property before establishing your objectives.

1. This document is SS-FOR-14, one of a series of the School of Forest, Fisheries, and Geomatics Sciences, UF/IFAS Extension. Original publication date August 2001. Revised May 2019 and June 2022. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.
2. Chris Demers, Extension program manager; and Robert Clausen, Extension assistant, School of Forest, Fisheries, and Geomatics Sciences; UF/IFAS Extension, Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office. U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Andra Johnson, dean for UF/IFAS Extension.

An example statement of objectives for a property might be: *to obtain periodic revenue from timber production, while providing habitat for deer, turkey and some songbirds.* Based on this broad statement of desired outcomes and an assessment of your resources, discussed on the next page, more specific objectives can be outlined for each resource. Ideas to help you formulate your objectives are listed in the appendix at the end of this paper.

Property Location and History

Your management plan should include a description of your land as recorded in the legal deed for the property (in county records) as well as maps showing its location relative to land features and roads. For this it may be useful to outline your property on a US Geological Survey (USGS) topographical map. Your local surveyor's office (or even some bookstores) should have copies of local USGS maps. For more detail you can include a survey map showing the precise location of property corners and boundary lines. If a survey map is registered with the deed as a legal description of the property, a licensed surveyor must have completed the survey. A second set of maps that are useful for planning management activities should focus just on your property, and should identify roads, land or structural features, different forest or vegetation types, fence lines, and any other features that may influence or be part of your goal. Aerial photos of your property will significantly enhance any of these maps.

On the computer, Google Earth Pro can be used to find aerial imagery of your area to delineate boundaries and other features. Foresters and natural resource professionals will often access aerial photos via geographic information system software that they use in preparing management plans for clients.

It is also helpful to document, as best you can, the management history of your property. Has it been cleared for agriculture? Have there been previous rotations of timber? Is there evidence of any other uses in the past? This information will give you some idea of your land's potential and may give you clues about what can be done with it.

Resource Assessment

This section contains descriptive information about the natural resources on your property. It may include information such as stand types (e.g., dominant species, ages, understory), other vegetation communities, soils, water bodies, historical features, wildlife uses, and recreational opportunities. The assessment is also used to help

determine what the land is capable of producing in terms of timber and/or wildlife, and will help you to further clarify your objectives.

This information comes from an inventory that you or a natural resource professional conducts on your land. Generally, an inventory includes a portion, or sample, of a resource because it would usually take too much time and money to measure every plant or other feature on a property. The number of measurements needed to describe a forest depends on the variability within that forest. More data are needed on sites with a greater variety of plant and animal species than on those with only a few species.

One type of inventory is the timber cruise. A timber cruise is usually organized by stands in the form of stand and stock tables. A *stand table* lists the number of trees per acre according to species and tree diameter. *Stock tables* give volume information in board feet, cubic feet or cords per acre. See <https://edis.ifas.ufl.edu/fr131> for more about what to expect in a forest inventory. A consulting forester can conduct a timber cruise and interpret the data for you. See <https://edis.ifas.ufl.edu/fr125> for tips on selecting a consulting forester.

The resource assessment should also be used to determine if any regulatory constraints will apply to forest practices on the property. Consider potential erosion problems, wetlands or water bodies, and threatened or endangered species habitat. Addressing these up front through following Best Management Practices (BMPs) and, if necessary, cooperation with appropriate agencies will help you avoid problems or litigation in the future. Florida's silvicultural BMPs can be obtained from your county forester, or viewed on the web at <https://www.fdacs.gov/Forest-Wildfire/Silviculture-Best-Management-Practices>. Also see the Florida Forestry Wildlife Best Management Practices for State Imperiled Species at <https://www.fdacs.gov/Forest-Wildfire/Silviculture-Best-Management-Practices/Florida-Forestry-Wildlife-Best-Management-Practices-for-State-Imperiled-Species>.

Management Recommendations

Based on the resource assessment and your specific objectives, recommendations can be made for the entire tract or individual areas. Recommendations should outline a general set of treatments or operations over a long term, with a discussion of the expected results of each management sequence. Those general recommendations should be supplemented with specific recommendations, which are usually designated for five to ten year blocks of time.

Specific recommendations may include the forest regeneration method(s) to use, where to plant wildlife food plots, when and where to burn, which areas to harvest, and the BMPs that apply to each practice.

Harvesting is a common management tool used to alter the species composition, density, and age of forest stands. Both plants and animals will respond to the changes that take place in a stand following a cut. A forester or other resource professional can help you to decide which cutting practices are appropriate for achieving your desired outcomes, and will recommend a silvicultural prescription for each stand.

Activity Schedule

An activity schedule lists when each recommended treatment will take place. It may also include projected costs and revenues for each operation. As management activities take place on your property, a continuous record should be kept of the dates, times, places, expenses, and income associated with each activity. This record will be helpful for reporting the costs and revenues associated with your management activities for tax purposes. Records should also include details about the specific activities, such as types of seedlings or herbicides, weather conditions, contractors and results of follow-up monitoring. These records will be a great help in the future as you evaluate your successes, plan additional activities and update the management plan.

Supplemental Information

Appendices provide other types of information and can be included at the end of the plan. You may wish to include an overall financial summary that describes the costs and revenues mentioned in the Activity Schedule section. Extension or research publications containing information relating to specific practices in your plan can also be included as an appendix. Another useful appendix would be a list of contacts in case you need further assistance.

Contacts to include would be your county or consulting forester, wildlife biologist or consultant, county extension agent, regulatory agencies, financial advisors, attorneys, or anyone else that might be of assistance to you.

The New Landscape Management Plan

In Florida a Landscape Management Plan (LMP) has been developed in order to streamline the plan preparation process as well as certification in programs like the Forest Stewardship and Tree Farm Programs. The LMP is a suite

of silvicultural practices available across different forest types, guided by the landscape and landowner objectives in a region. The LMP content is designed to be a resource for both foresters and landowners. This approach emphasizes the forester or natural resource professional as a more important resource than the plan itself. For the forester, the landowner's individual objectives and plan is viewed within the context of the landscape. Each recommendation connects back to the identified goals and objectives of the LMP. This oftentimes already happens at the property level, but the LMP clearly defines opportunities at a landscape level and provides foresters guidance and reference for recommendations. For landowners in Florida, your Florida Forest Service county forester can help you get a plan connected to the regional LMP. Find your county forester at <https://www.fdacs.gov/Forest-Wildfire/Our-Forests/Field-Operations/County-Foresters>.

Conclusion

The information in your management plan should be simple, but with enough detail to be useful. Since a management plan is flexible your objectives and resource conditions can be periodically reconsidered. Most management plans are designed to be reviewed every five to ten years, with adjustments made to accommodate the continually changing environment (from fire and bugs to landowner objectives) that is part of natural resource management.

Consider getting a forestry or natural resource professional to inventory your forest and develop your plan. Most consultants base their fees on the size of the property involved, either as a per-acre fee or a fixed fee per minimum acreage (usually 50–100 acres). Others charge hourly rates. Florida Forest Service county foresters can write your management plan at no cost for properties 160 acres or less in size, but they do not conduct inventories. Most county foresters keep a list of consultants in their area. Find your county forester at <https://www.fdacs.gov/Forest-Wildfire/Our-Forests/Field-Operations/County-Foresters>. You can also find consulting foresters and other businesses and services using the Florida Forest Service's Vendor Database at <https://ffs.fdacs.gov/fsvd/>. See <https://edis.ifas.ufl.edu/fr125> for tips on selecting a consulting forester.

Appendix—Establishing Your Objectives

If you do not yet have specific objectives for your land, here are some questions to help you get started. Your answers to these questions will help you determine the things on

which you may want to focus as you develop your management plan.

- What is your property used for? (primary residence, weekend retreat, agriculture, recreation, timber investment, future development, other)
- How many acres in forest? In crops or pasture? Other uses? Total?
- What are your priorities? (timber management, wildlife management, recreation/aesthetics, water protection, soil conservation, other)
- What types of recreational activities do you enjoy on your land? (bird watching, biking, hiking, firewood, fishing, hunting, camping, horseback riding, boating, nature walks, wildlife observation, other)
- What are your timber management goals? (generate immediate income, generate periodic income, maintain forest health, improve future income potential, maintain mature forest, other)
- What are your wildlife management goals? (recreational hunting opportunities, non-game species, protection, observation, other)
- What wildlife species would you like to feature on your land? (white-tailed deer, fox, squirrel, bear, raccoon, rabbit, beaver, quail, waterfowl, songbirds, birds of prey, wild turkey, mourning dove, other game or non-game species)
- What is your soil and water management focus? (stabilize existing erosion, improve water quality, increase soil productivity, other)
- What are your management constraints? (limited capital, lack of equipment, distance from property, need financial assistance, need technical assistance, other)
- What is the management history of your property?
- Are there outstanding or unique features requiring special protection or management?
- What is your overall management philosophy?
- What is your ownership/family situation?

References

Anon. 1997. Management by objectives: successful forest planning. *Woodland Owner Notes*, No. 32, North Carolina Cooperative Extension Service, North Carolina State University College of Agriculture & Life Sciences.

Demers, C. and L. Bosworth, 2018. The Northwest Florida Landscape Management Plan: Enhancing landowner engagement and forest certification. *The Florida Land Steward*, vol. 7, no. 4, Forest Stewardship Publication. Gainesville: University of Florida Institute of Food and Agricultural Sciences.

Fajvan, M. A. 1993. Developing a woodland management plan. *Pennsylvania Woodlands*, no. 9, Penn State College of Agriculture, Cooperative Extension. University Park.

Gothard, T. L. 1997. The advantages of a written forest management plan. *Alabama's Treasured Forests* 16(1):26-27.

Hubbard, W. (ed.) 1992. What's in a management plan? *The Florida Forest Steward*, vol. 1, no. 2, Forest Stewardship Publication. Gainesville: University of Florida Institute of Food and Agricultural Sciences.