Forest Resource Management Planning:
Why Plan? The Planning Process

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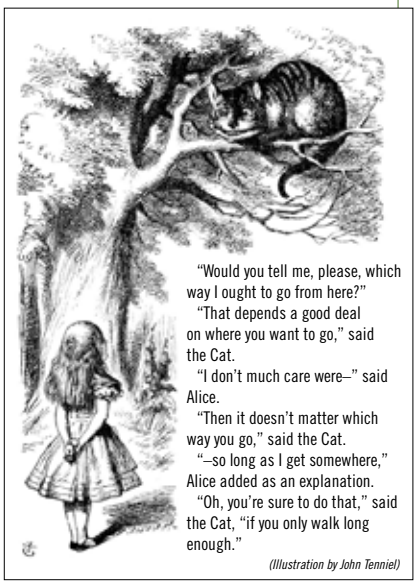
Forest resource management planning is a process that usually produces a written management plan. Forests are by nature long-term enterprises and the forest owner's expected future outcomes, like the forest condition many years from today, require actions today and over time to ensure these outcomes actually occur. The forest owner may have goals that do not involve timber directly, but many forest resource management goals are achieved by active management of the timber resource.

Without proper planning the forest owner may find future forest conditions that do not meet his or her goals. Planning ensures that timber products that are expected to be marketable are produced and, if profitability is a goal, that the timing of thinnings and harvests are optimal. It can ensure wildlife habitat develops to encourage selected wildlife species and it can ensure that the forest has recreation potential. Proper planning can even minimize the income taxes paid at harvest or provide for a forest estate that spans the generations. The silvicultural prescriptions of today will determine the forest of tomorrow and without proper planning this forest may not meet the forest owner's goals.

Reasons for Planning

Why plan? Why is forest resource management planning necessary? Plenty of forests receive no planning and end up fine. Some people are lucky and end up with good results in life without planning, but most people are not that lucky and need to plan for results. Lewis Carroll's *Alice's Adventures in Wonderland* contained a scene on the need for planning.

If you don't have a plan you will never end up with the exact results you hope to achieve, except by pure luck. By having specific outcomes, goals and resulting objectives you are more likely to end up where you hoped to be. Without this type of planning then the Cheshire cat is correct, "Then it doesn't matter."



"Would you tell me, please, which way I ought to go from here?"
"That depends a good deal on where you want to go," said the Cat.
"I don't much care were–" said Alice.
"Then it doesn't matter which way you go," said the Cat.
"–so long as I get somewhere," Alice added as an explanation.
"Oh, you're sure to do that," said the Cat, "if you only walk long enough."

(Illustration by John Tenniel)

What are the benefits of planning? Resource planning:

- requires collection of data on the forest and subsequent analysis of this data. The process requires the forest owner to view the forest in terms of the stated goals and objectives. It can result in adjustment to the goals and objectives. That is, it requires an analytical look at the forest.
- identifies the opportunities and limitations on the forest. Management planning identifies productive capacity and the incremental cost to utilize the capacity. It helps identify problems on the forest and forces the owner to consider addressing them.
- identifies the resources necessary to carry out the objectives of the forest owner. What are labor and capital needs? How are these needs likely to change over time?
- focuses on the long-term nature of forest management. Alternatives may have implications that impact the forest well beyond the lifetime of the current forest owner. The planning process forces the forest owner to think beyond his or her current problems in forest management.
- provides evidence of forest stewardship. The existence of a plan provides tangible proof that some sort of planning process has taken place. Another natural resource professional can determine this level of planning and attest to it if forest stewardship is ever questioned.
- provides the framework of forest sustainability. The plan will contain projected outputs and address the issue of sustainability of these outputs over time. For example, forest certification programs require sustainability of the forest and a management plan is the document certifiers look at to determine if sustainability exists.
- allows the forest owner and planner to understand the trade-offs between goals. The process identifies alternatives and then allows the forest owner to evaluate each alternative. Planning enhances the decision-making process. Planning can identify conflicting goals and encourage the forest owner to resolve the conflicts.
- allows for ensuring compliance with local, state, and federal regulations. Identifying all relevant regulations is part of the planning process, as is ensuring compliance with each regulation. If errors are made in conforming to regulations, the plan will provide evidence of a good faith effort for compliance.

- allows for the efficient scheduling of forest activities. A large forest can have a multitude of regeneration, harvesting, and silvicultural practices occurring simultaneously and continuously. Without a schedule these activities can hardly be performed on a cost-effective basis. Scheduling can also point out equipment or labor shortfalls before they occur.
- allows for outputs to be matched to expected markets. Planners will have some expectation of future prices and markets. These expectations can lead to having outputs timed to take best advantage of markets.
- allows for continuity. Forest owners may change foresters and the new forester needs to know what planning took place before his or her arrival. Forest owners change; former plans show where the former owner was trying to "take the forest." Forest resource management plans are continuous documents; dynamic not stable; and lead to management over the long-term that can exceed the lifetime of an individual forest owner or forester.

Elements of the Planning Process

Planning is a valuable process that helps set direction. It forces the planner to look at both short-term and long-term horizons and to perform some sort of analysis of the factors impacting the organization that is the subject of the plan. Plans involve feedback and modification to adapt to changes and new information. Adaptive management is often part of planning as it provides part of this feedback. There are many planning models; the one described below is one of the most common used in forest management planning. The steps in the planning process are:

1. **Identify the goals and objectives of the owner.** The first step is to determine the management goals of the forest owner. Future owners may be relevant and time frames need to be established.

2. **Assess resource condition and history.** Planning starts with data gathering. Existing information may be suitable for development of summary tables, charts, and maps. Prior ownership and history of the resources is important. Is there evidence of a prior planning process? Physical data on the resources must be obtained. This involves information on all relevant physical attributes of the resources. External factors need to be identified, like legal and regulatory issues. Problems will arise in this process and be identified (like improperly marked boundary lines or insect infestations). Data obtained will need to be analyzed and this process may cause the owner to reevaluate management goals based on the available resources.

3. **Develop plan alternatives.** The forest owner is the decision maker and will want to evaluate alternatives that meet his/her management objectives. The forest owner may desire to consider alternatives that were not presented by the forester.

Goals vs. Objectives

Foresters often use the words "goals" and "objectives" loosely. Most foresters will agree that the foundation to forest resource management is the forest landowner's management objectives. But sometimes the forester means landowner's goals when making that statement. What is the difference between goals and objectives (in a strategic planning sense)? Goals are broadly-focused and objectives are narrowly-focused. Goals can be abstract and objectives must be concrete. Goals can be stated as general intentions, while objectives need to be explicit. In planning, goals are general directions that can be ambiguous, while objectives must be specific and measurable.

A goal will define what the organization is trying to accomplish and an objective will be a measurable result that supports the completion of a goal.

Which of the following items represent a goal (G) or an objective (O)?

1. Manage the forest for profitability. G
2. Increase the aesthetics on the forest. G
3. Enhance white-tailed deer production on the forest. G
4. Better manage the trails system on the forest so more recreation occurs. G
5. Maximize the rate of return earned from the timber harvests. O
6. Double the number of vista sights on the forest. O
7. Increase the average weight of a harvested white-tailed deer on the forest by 20%. O
8. Increase the number of visitors to the forest from 20 per day to 35 per day. O

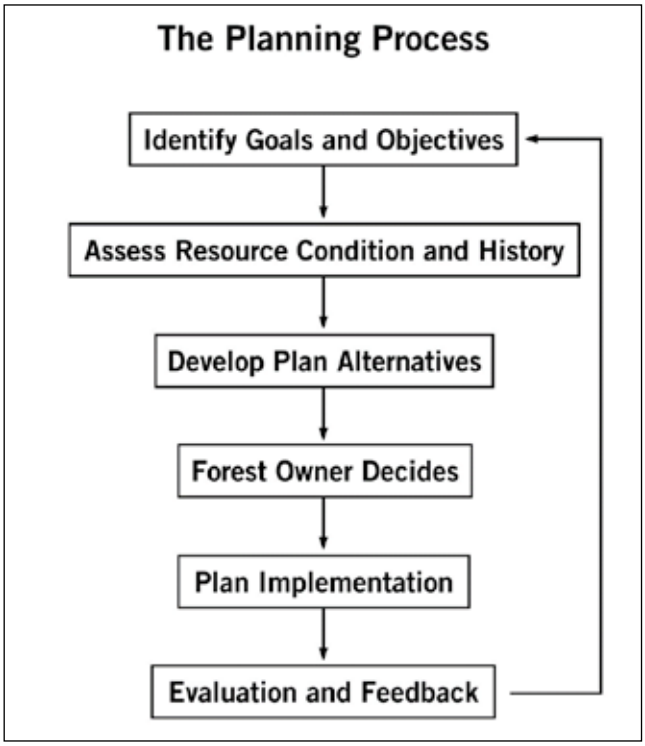
Forest resource management plans for public lands may require some sort of public assessment or hearing. Forest owners in this case are the public and proper planning requires input from the owners. Private sector plans can also involve public scrutiny. Often large private landholders involve public input in order to minimize negative public reactions to plan activities.

4. **Forest owner makes a decision.** The forest owner selects the alternative that will be implemented. He or she sets budgetary limits, revenue expectations, and management limitations. The forester is not the decision maker. He or she is an agent of the owner. All authority is derived from the owner.

5. **Preparation of plan documents and implementation of the management plan strategy.** This is where the plan comes together. The formal plan document is now prepared as the process continues. The forest owner's goals and the resource assessment now form the beginning of the plan. Stands, maps, charts, tables, and schedules are developed from the

selected alternative. Current conditions are reported and expected outcomes are projected. Cash flows are projected. A complete written operable plan is produced. It details the activities that will occur on the forest: what activities, when they occur, and what is expected to occur as a result of the activities.

6. **Evaluation and feedback.** Once the plan exists the forest owner will evaluate it. He/she may direct changes. Once implementation begins, the owner may also see a need for a change of direction.



Silvicultural Considerations

Usually a forest resource management plan results in a "management regime" or schedule of silvicultural activities that are expected to take place on the individual stands in the forest. If a forest stand is to be managed to produce outcomes consistent with the forest owner's goals, decisions must be made on how the silvicultural system and activities will be manipulated to produce desired outcomes. In terms of basic silviculture these types of decisions involve:

1. Evaluation of the forest owner's management objectives and how they specify the future stand conditions expected. What does the forest owner expect the future forest to look like? What are the outcomes specified in the forest owner's goals and objectives?

2. What silvicultural systems will best achieve meeting the forest owner's objectives?

Did the forest owner specify the use or nonuse of certain systems? Even-aged, uneven-aged, and group selection systems will certainly produce different future stand conditions.

3. Does the landowner favor certain tree species? Should the management regime encourage regeneration of these species? Thinning and regeneration methods will impact the future species composition of the forest. Shade-tolerance will determine future species mix to a degree and the silviculture applied will need to take this into account.

4. Vegetation management can be used to release desired species and control undesirable species. This is an expensive option, but under the right conditions increased forest yield can make the investment attractive.

5. Fertilization is a second expensive option that can increase future yields. Depending on the financial expectation of the forest owner this can or can not make sense.

6. Thinning is part of most management regimes. Some thinning is precommercial and is an expense to the forest owner. All thinning impacts the future stand conditions. What does the forest owner expect the future stand to look like? What forest products is he or she expecting?

7. Some forest owners specify conditions that require special actions. Wildlife objectives might require scattered food plots, snag trees, or a preference for mast-producing trees. Recreation objectives may require certain tree species or vistas.

8. Site preparation will have a huge impact on the resulting forest stand. Practices prior to timber harvest or during timber harvest can impact the future forest stand. Site preparation is one of the crucial decisions; it is expensive and it has great impact.

9. How is the forest going to be regenerated? Planting controls species and density.

Natural regeneration requires more skill to obtain desired species and density. Cost is a factor. Planting can be very expensive, while not planting can be expensive in terms of poor regeneration if nature does not cooperate.

Forest resource management planning is not free. It involves time and money. A forest owner needs only the amount of planning necessary to achieve his or her goals. As long as the management goals of the forest owner are being met, the management plan is suitable. Detail can vary from the mental plan to a precisely written bound document. Like the goals for management, the scale of the plan is derived from the forest owner's needs. The management planning process is an important part of forest land ownership because if you don't know where you are going, it doesn't matter which road you take.