

Basic Forest Inventory Techniques for Family Forest Owners

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Introduction

An inventory is a cornerstone of forest stewardship planning that not only ensures your forest is healthy and productive, but can meet your objectives as a landowner for years to come. After all, to assess the needs of your forest and plan for the future, you have to know what forest resources you have. A forest inventory will help you quantify what you have and identify needs and opportunities for forest health, wildlife habitat, timber production, aesthetics, and carbon storage. An inventory will give you insights into species composition, tree density, basal area, and volume, and help you document change (e.g., growth and mortality) in your forest over time.

Many landowners just walk through their forest to make a rough assessment of their forest characteristics. While this is better than a “windshield cruise,” doing a more formal inventory gives you a systematic, focused feel for what is happening in your forest. Many landowners who have measured plots discover their forest is quite different than they initially thought (e.g., different species mixes). Ultimately, this hands-on, up-close contact with your forest may be one of the biggest benefits of collecting data about your forest.

This manual will teach you the basic principles of taking an inventory of your forest. You will first learn how to identify individual forest stands on your property, take a plot sample, establish an inventory plot, and measure individual trees. You will then learn how to compute basic statistics that will help you assess the condition of your forest and plan appropriate management activities.

There are many different methods of doing forest inventory, with different applications, required skill levels, and regional variations. This manual presents an approach to forest inventory that is intended to be relatively easy to implement, broadly applicable across the Northwest, and suitable for stewardship planning.

This approach will not be appropriate for all applications. For instance, this manual is not intended to teach you how to do a professional-quality timber cruise for the purposes of appraisal, preparing a timber sale, or similar applications for which much tighter sampling protocols are required. You will be able to collect useful data about your forest, but it is not a substitute for the services of your local forestry professional if you have more advanced needs. If you do need to hire a profes-

sional, this manual will help you to better understand and communicate regarding the principles that a professional forester will apply when working on your property.

Designing Your Inventory Strategy

Conducting a forest inventory takes a lot of time and effort, so doing it right the first time is important. Before you head out into the woods to begin collecting data, decide what information you need. This manual provides instructions on gathering and generating all types of information about your forest, but you may find that not all of the information is relevant to you. Your forest inventory should be tailored to your goals and objectives as a landowner. Do you expect to sell timber from your property in the future? Then having information on timber volume would be valuable. Have you had a recent timber cruise of your property? If so, you may not need to calculate volume at this time. Are you most interested in the aesthetic and recreational values of your property? In that case, you might be able to narrow your focus to just the fundamentals: species composition, tree density, and forest health indicators such as live crown ratio.

Many landowners conduct an inventory to gather information for a forest management plan. While forest management plan standards might vary from state to state, in general the following types of information are needed for a plan: a stand map for each stand that includes tree species composition, trees per acre, and average diameter or distribution of diameters. This manual will help you assemble that information, and much more. Your local Extension or state service forester can advise you on the best inventory strategy to meet your objectives for your property.