

## Introduction

### Assessment Goal...

To assess the “state of affairs” of Wisconsin’s public and private forests and analyze the sustainability of our forested ecosystems. This Assessment will identify trends and issues with the resource. This assessment will be used by (1) internal staff to conduct management and to design policy, (2) external partners who require statewide forestry data, and (3) as a requirement of the United States Forest Service, State & Private Forestry Program (S&PF).

In the ten years since the last statewide forest assessment ([2000 Millennium Assessment](#)), much has changed in Wisconsin forests. Emerald Ash Borer arrived, forest industries are using biomass and producing biofuels, and climate change is an increasing focus of management planning and conservation. The Statewide Forest Assessment 2010 (Assessment) helps to explain these trends, identify other issues, and present an updated view of the status of forests in Wisconsin; thus acting as a bellwether of the state’s forest sustainability. It provides policymakers and the general public with a database of succinct, comprehensive, and scientifically sound data as well as professional experience. The Assessment does not set desired conditions; rather it provides the knowledge to set goals and strategies for sustainability.

The Assessment is based on [Wisconsin’s Forest Sustainability Framework](#) (Framework). The Framework, which was approved by the Wisconsin Council on Forestry in December 2007, established a series of seven broad criteria intended to measure the sustainability of Wisconsin’s forest resources. It represents the first attempt to organize data and trends into categories to evaluate the overall health and sustainability of our forests. It is a common set of indicators the forestry community can use to discuss the state of Wisconsin’s forests.

### Scope - statewide

The Assessment presents data and analysis of all forests—rural and urban, public and privately owned. Forest benefits and services (clean water, forest products, wildlife habitat, etc.) are produced by all forests, statewide. Risks to forests (fire, insects and disease, development, etc.) can occur anywhere and often spread across large areas affecting public and privately owned forests. Forests provide a complex set of benefits and services, and risks and threats affect forests statewide.

### Format

Measuring sustainable forestry will be an evolving, iterative task. Over time, the forestry community may find the indicators in this Assessment are no longer appropriate or that new indicators should be added. Data was collected for the criteria and indicators identified in the Framework. Some of the data sources could not be collected or analyzed in the way the Framework proposes. Please consider this when comparing the Framework and the Assessment. This is the first time an Assessment is being conducted with the Framework as a model. It is appropriate to consider this a pilot project that upon completion will be reviewed and assessed for its effectiveness. Comments on the Assessment format, process, and efficacy are encouraged.

The analysis in the Assessment is organized into three levels: criteria, indicators, and metrics. This organization is based on established regional and national models using the criteria and indicators system. **Criteria** define broad categories of sustainability and are comparable to goals. Criteria included in this report address topics such as conservation of biological diversity, socio-economic benefits, and a variety of other issues. Associated with each criterion are a number of **indicators**, which provide specific measurements to assess the issue described in the criterion. Each indicator is, in turn, associated with a number of **metrics**, which are the specific data needed to measure indicators.

#### Forest Conditions and Trends -

Each criterion presents the conditions and trends of Wisconsin forests. A description of the criterion's importance begins each section followed by major conclusions and the findings. Many topics are discussed in multiple criteria. For example, wildland fire is presented in Criterion 3 (health), 6 (socio-economics), and 7 (planning). The index can be used to locate specific topics within the document.

#### Major Conclusions -

These are located at the beginning of each criterion. They are not in a ranked order. The conclusions are statements of informed opinion based on the findings. Findings are statements of fact drawn from the body of information and data in each criterion. Findings highlight and summarize the most critical and relevant elements in a discussion of a topic. The conclusions highlight threats to forest lands in the state, but also benefits they provide. The conclusions state the issue that will be the basis for the Statewide Forest Strategy. The strategies will address these issues and are consistent with the national priorities.

#### **Data gaps**

In attempting to measure something as all-encompassing as "sustainable forestry", the Framework occasionally concluded that existing data sources were inadequate (i.e., "data gaps" were present). In such situations, three alternatives were considered to address the gap: (1) use several metrics that when combined can measure an indicator, (2) select an imperfect metric noting its limitations, or (3) note that a data gap exists, and identify appropriate data and/or methods to address it. Throughout the Assessment, authors' note where these data gaps exist and to what degree it is an issue.

#### **Scale – geographic**

The intent of this Assessment is to understand the forest condition at the statewide scale. At a minimum, data is presented at the state level. When available and when it was valuable to do so, data is presented at the county level. Typically the USDA Forest Service, Forest Inventory and Analysis (FIA) data and socio-economic data is presented by county. Some of the biological data is presented by ecological subsection because it facilitates analysis. The value of analyzing several metrics together, a challenge when dealing with varying scales, was outweighed by the value of presenting certain types of data in the most appropriate scale for that topic. At times this meant not using valuable regional studies that directly address an indicator but instead using several proxy data sets to evaluate the indicator. The smaller scale studies were not disregarded but utilized to show what the state of knowledge on a topic is and to share tested methodology.

(See Wisconsin's Sustainability Framework for a complete discussion on the choice of data scales.)

A risk of using statewide data is that at times, a critical issue or threat in one region of the state may be masked by a stable condition statewide. When this became evident in the analysis, the authors assessed the regional threat and determined if it was great enough to highlight and evaluate.

### **Scale – time**

The last statewide forest assessment was conducted in 2000. This assessment updates the data presented in the 2000 assessment and includes a whole new suite of data sets. Individual data sources may have been collected over different time periods. Some of the data such as from the FIA have reliable records back to the early 1950's. Others such as the Urban Forest Inventory only have baseline data for one year.

The authors decided to present data from different time periods in order to capture the most reliable data for the particular source. The reader should not infer that data presented with different dates is particularly relevant to the analysis. If it is, the author stated why they chose to present a particular date.

All effort was made to present the greatest range of dates—past to present—in order to identify any trends. Occasionally, the data and accepted knowledge allowed the author to forecast a future condition.

### **Perspective**

The DNR, Division of Forestry was the primary author of this assessment in consultation with natural resource professionals across Wisconsin. Within the DNR, the bureaus of Wildlife, Endangered Resources, Water, Facilities and Lands, Air Management, Science Services, Parks, and Legal staff provided data and analysis. The authors have made every effort to not solely present data from the perspective of the DNR. Data sources are from a wide variety of agencies and organizations. The DNR recognizes the agency's influence and presence in many aspects of forestry, but strove to present unbiased findings and conclusions as a valuable source of information and research for others.

Reviewers are requested to provide alternative perspectives to make sure topics are discussed thoroughly. Please remember that the Assessment is based on scientific data and practical experience, and it strives to be as objective as possible. Opinions on the most important issues and ideas on how to address issues identified in the Assessment are addressed by the next step of the planning process – the Statewide Strategy.