

## FOREWORD – APPLICATION OF GUIDE

### Practice of Silviculture

Silviculture is the practice of controlling forest composition, structure, and growth to maintain and enhance the forest's utility for any purpose. Applied silviculture includes a wide array of vegetation management techniques or tools developed through generations of research, experimentation, and field practice. The forester or resource manager's job is to skillfully apply those tools based on stand conditions and landowner goals. Although forest management goals and objectives may vary, silvicultural systems can be adapted to achieve a wide variety of desired future forest conditions. Ultimately the practice of silviculture maintains healthy forests to meet societal needs and is the foundation of sustainable forestry.

The practice of silviculture is sometimes referred to as a science and an art because the practicing forester uses a combination of knowledge, field experience, and professional judgement to select treatments that will best achieve local forest management objectives. Foresters must have a strong background in the foundational sciences of silvics, ecology, and economics. Every forest is different so selecting the most effective treatments (whether they are traditional methods or novel approaches) requires not only strong technical knowledge, but a careful assessment of stand and site conditions and field experience gained through practice.

### Purpose of the Wisconsin Silviculture Guide

The Wisconsin Silviculture Guide is designed as a technical resource or toolbox for Wisconsin foresters and resource managers to assist with the development of forest management plans and stand-level silviculture prescriptions. The guide presents information on the predominant silvicultural systems and methods applicable to Wisconsin's forest cover types and is based on best available research findings and field practice. Revisions to this document may be necessary as new research findings become available. The guide emphasizes the importance of tending and regeneration of forest stands as critical elements of sustainable forest management within an integrated ecosystem management framework.

The Wisconsin Silviculture Guide is not a cookbook or manual, but rather a collection of silvicultural methods shown to be effective in achieving specific forest management outcomes. This guide in no way lessens the need for technical skill and sound silvicultural judgement when selecting practices to achieve diverse resource management goals, such as timber production, wildlife habitat, aesthetics, endangered resources, biological diversity and the protection of soil and water quality. The forester or resource manager has the flexibility to adapt these methods to accommodate specific stand conditions, specific operational issues, or to meet specific management objectives, if those modifications remain within the context of sound and sustainable management.

This guide does not contain any mandatory requirements except where requirements found in statute or administrative code are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guide will be made by applying the governing statutes and administrative rules to the relevant facts.

### **Content and Organization**

This guide is comprised of several chapters and appendices. The initial chapters cover broadly applicable silvicultural topics, such as prescription writing, ecological tools, natural regeneration methods, artificial regeneration, intermediate treatments, economic considerations and marking guidelines. The main body of the text is organized around silvicultural systems and methods of the major forest cover types found in Wisconsin. A standard format is followed throughout the cover type chapters presenting silvical characteristics, recommended silvicultural systems and methods, decision models, forest health information, and other management tools. Additional information can be obtained by referring to the list of publications at the end of each cover type chapter. The appendices provide a glossary of terms, a list of scientific and common names of native trees, and the Wisconsin forest cover type definitions and abbreviations.

### **History of the Wisconsin Silviculture Guide**

Development of the Wisconsin Silviculture Guide, formerly the Wisconsin DNR Silviculture Handbook, began in the 1980s to bring together the latest and best information on managing common Wisconsin forest types. Prior to that time Department foresters relied on a collection of Forest Service Manager's Handbooks, technical reports, journal articles, and local knowledge. Having one comprehensive resource was an efficient way to synthesize this information and gather the expertise of practicing field foresters.

In the 1990s, a formal Silviculture Team was established with the responsibility of writing and maintaining the Silviculture Handbook. The initial team included mostly Department forestry staff, but as the guide began to be used more widely, members were added representing DNR Wildlife and Natural Heritage Conservation, the Wisconsin County Forest Association, forest industry, and consulting foresters.

In 2013 the Wisconsin Silviculture Guidance Team (SGT) was created to reflect a growing desire for more forestry partner involvement. SGT members are from diverse interests within the forestry community, including state and national forests, consulting foresters, forest industry, universities, conservation groups, and landowner organizations. SGT is now responsible for establishing priorities for and reviewing updates to the Wisconsin Silviculture

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Guide. Specialized ad hoc teams are established to research and revise assigned sections of the guide as new information becomes available.