2025-2026 North Dakota Envirothon Forestry Resources

Key Topic #1: Forest Landscapes in North Dakota

1. Explain the forest resources found in North Dakota, including the different forest types (upland, riparian, western coniferous, conservation tree plantings, community forests, etc.) and how North Dakota's climate and topography affect forest succession and locality
2. Understand the challenges and threats to North Dakota's forest resources, and strategies to mitigate these threats
3. Explain how fire has an impact on managing forests and grasslands, historically and in today's management strategies

Resources:

North Dakota Forest Action Plan, *North Dakota Forest Service,* 2020

Forestry Fridays

       Forest Resources of North Dakota
       Challenges of Growing Trees in North Dakota
       Right Tree, Right Place

Key Topic #2: Field Skills and Identifications

4. Identify common trees of North Dakota forests (common and scientific name) by leaves, bark, branching patterns, buds, fruit, and other characteristics with and without the use of a key.
5. Apply common forestry tools and procedures to field scenarios.
6. Utilize and make common forestry measurements in field scenarios.

Resources:

North Dakota Tree Handbook

Key (Leaf) to Identifying Trees and Shrubs

Deciduous Tree Identification, *ND Envirothon Wednesday Webinar*, April 19, 2023 (start at 3:50)

Conifer Identification, *ND Envirothon Wednesday Webinar*, March 22, 2023

Forestry Tools, ND Envirothon Youtube

Forest Inventory Tools Playlist, *University of California Agriculture and Natural Resources*

       Tree Measurement Tools
       Using a Clinometer to Measure Tree Height
       Plot Establishment Tools
       Plot Layout and Inventory System

How Big is That Tree Activity, *Project Learning Tree*

Key Topic #3: Forest Management

7. Apply Forest Management planning and the incorporation of treatment methods to meet landowner objectives.
8. Describe management strategies for non-timber Forest Products including wild foods, maple products, wildlife, and recreation.

Resources:

Forest Ecology, *ND Envirothon Wednesday Webinars*, March 27, 2024

Forest Management, *National Association of State Foresters*

Forest Literacy Framework, *Project Learning Tree*

If You Were the Boss Activity, *Project Learning Tree*

400 Acre Wood Diagram

What's the Score

Key Topic #4: Economic Benefits and Ecosystem Services of Forests and Urban Trees

9. Describe the ecosystem services provided by forests and urban trees, including benefits to water quality and wildlife.
10. Describe the social and communal benefits of trees and forests to humans.
11. Understand how forests impact watersheds and non-point source pollution, including in community forests, windbreaks, and riparian areas

Resources:

Working Trees for Water Quality, *USDA Forest Service, 2012*

The Role of Trees and Forests in Healthy Watersheds, *PennState Extension, 2025*

Forests to Faucets 2.0 Toolbox, *USDA Forest Service & Project Learning Tree*

Backgrounder for Forests to Faucets 2.0 Toolbox

Where's Your Watershed Activity

Working Trees for Communities, *USDA Forest Service, 2012*

Benefits of Trees, *International Society of Arboriculture, 2021*

North Dakota Tree Inventory and Planning Tool (ND TIP Tool)

Key Topic #5: Forest Pests, Diseases, and Invasive Species

12. Identify common North Dakota forest pests and diseases, and describe their impact to forest health and local ecosystems (including the Emerald Ash Borer, Oak Wilt and Dutch elm disease).
13. Explain prevention and treatment options for controlling North Dakota pests and diseases.
14. Identify the impacts of climate change on forests and describe the ways in which forests help mitigate the effects of climate change.

Resources:

Emerald Ash Borer: Biology and Integrated Pest Management in North Dakota, *NDSU Extension,* 2023

Where to Look for Emerald Ash Borer, *Forestry Fridays,* 2023

Monitoring Forest Health Activity, *Project Learning Tree*

Trees in Trouble Activity, *Project Learning Tree*

Changing Climate, Changing Forests, *USDA Forest Service,* 2014

Forests and Climate Change Curriculum Activities, *Project Learning Tree*

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