



Forest to Landscape

Course Outline

Module 2.3: Explain influences and outcomes of agents of change on forests and landscapes

Standard 2 - Forest To Landscape: Structure, Function and Dynamics
Demonstrable Competency: 3) Explain influences and outcomes of agents of change on forests and landscapes

Course Description

Overall objectives of Module 2.3 are to enhance students' knowledge and comprehension of influences and outcomes of agents of change on forest ecosystems at forest stand and landscape scales. Key topics include the impacts of forest insects and disease, integrated pest management concepts, natural disturbances from forest fire and weather events, impacts of climate change, and the myriad influences of human impacts on the ecology of forests and forested landscapes. Participants are encouraged to undertake related field training (Module 2.5)

Specific objectives are to enable students to: Recognize and explain the dynamics of and roles of insects and disease on forests and landscapes; Explain how integrated pest management can modify change on forests and landscapes; Explain the role of fire and weather factors on forests and landscapes; Recognize the impact of changing climate on forests and landscapes; and Discuss the influence of human activities on forests and landscapes

Course Schedule

This course involves a combination of recorded lectures, readings, assignments and participation in semi-synchronous online discussion forums and synchronous tutorials with instructors and other participants over an **8-week period**:

- **Week 1**
 - **Introductory lectures**
 - "Introduction to Standard 2"
 - **Core Lectures**

- “Ontario’s Far North – Part 1 historic forest cover, forest cover today, boreal forest, fragmentation, human footprint, forest loss to fire, peatlands, watersheds, human impacts, conservation challenges, wildlife, historical human impacts and legacies, land claims, First Nations treaties; Part 2 Boreal forest conservation, economic context, development (mineral resource potential, exploration e.g. Ring of Fire, water power potential), Climate change, recent legislation, Land use Decisions Policy Framework, community-based land-use planning”
- “Water and other abiotic factors - conifer vs. hardwood water transport, flood tolerance, wind, temperature, shade, drought tolerance, and other factors that influence the form and functional biology of trees, stands, and forests.”
- **Core readings**
 - Forward (by E.O. Wilson) and Preface, Text Part 1. Foreman, R.T. 1997. Land Mosaics: The Ecology of Landscapes and Regions. Cambridge University Press, Cambridge, UK. 656 p.
- **Week 2**
 - **Core readings**
 - Chapter 3 - Disturbance, recovery and stability 1997. Creating a Forestry for the 21st Century: The Science of Ecosystem Management. Edited by K.A. Kohm and J.F. Franklin. Island Press, Washington, D.C., 475 p.
 - Chapter 12 - Fire: A Pervasive and Powerful Environmental Factor. Kimmins, J.P. 1997. Forest Ecology: A foundation for sustainable management. 2nd ed. Prentice Hall, Upper Saddle River, N.J. 596 p.
 - **Online discussion forum**
- **Week 3**
 - **Online tutorial with instructor**
 - Discuss content to-date and assignment 1
 - **Introduction to assignment #1**
 - Describe integrated pest management as it is applied in an Ontario context. Also explain how integrated pest management of the sort can modify the impacts of agents change on forests and landscapes.
- **Week 4**
 - **Online discussion Forum**
 - **Continue to work on Assignment #1**
- **Week 5**
 - **Assignment #1 due (submit online)**
 - **Online tutorial with instructor**
 - Discuss content to date and assignment #2
 - **Introduction to assignment #2**

- Research and report on the present and predicted impacts of a changing climate on Ontario forests over the next 50-100 years. Discuss the role of forest management planning and related activities as a climate change mitigation strategy. Include in this discussion a comparison of contrasting views surrounding the effectiveness of sustainable forest management in Ontario's Boreal as a climate change mitigation strategy. Be sure to list and describe arguments in support of, and against, the view that managed forests act as carbon sinks as opposed to carbon sources.
- **Week 6**
 - **Submit proposal for final paper**
- **Week 7-8**
 - **Continue to work on Assignment #2**
 - **Assignment #2 due end of week 8 (submit online)**

Grading

- Discussion forum posts: 20%
- Participation in tutorials: 10%
- Assignment 1: 20%
- Final paper proposal: 5%
- Assignment 2 - final paper: 45%



Bridge Training Program for Foresters

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