

## White Oak Dispersal in The Land Between

The Land Between is an ecotone; an edge of a homogeneous system. As such, species associated with the larger system, will have ranges that terminate in the area. The Land Between is actually at the edge of two systems: the Canadian Shield and the St. Lawrence Lowlands. Therefore, northern species reach their southernmost limit here, such as moose, wolf, and jack pine, and southern species reach their northernmost limits here, such as common crow, and white oak.

It is assumed that not only does the range of white oak terminate in The Land Between, but that the population is actually unique and disjunct from that further south, and so white oak found in the Land Between may have unique characteristics or have distinct vectors and evolution.

White oak populations have been found along a consistent ridge or latitude in The Land Between, and then not for many miles to the south, leading to the theory that there may be a pattern to its occurrence.

Furthermore, many white oak populations have been found on shallow soils with species associated with savannahs. True White Oak savannahs have been found at two sites in The Land Between.

The project involves querying First Nations, Ontario Parks and Ministry of Natural Resource staff and related data sources (Forest Resource Inventory data) as well as researching historical or local accounts to uncover forest stand composition that includes white oak patches. The project will involve delineating the occurrence and any pattern of white oak distribution in The Land Between.

Field assessments and driving tours will also be useful to confirm findings and to find additional populations. A map of site locations will be produced and/or extracted from findings and data sources. Furthermore, the project involves preliminary assessments of savannah populations and species associations at appropriate sites, and a summary or literature review of possible vectors.

Key research question(s):

1. Where is white oak found in The Land Between.
2. Is there a pattern to the distribution of the population?
3. Is the population distinct or disjunct from populations further south?
4. What are the majority or dominant species associations at found sites?
5. What are possible vectors to the evolution and occurrence of white oak populations in The Land Between?

Benefits to the community:

- The results of this project will help to characterize the lands within the “Land Between”; it will support the assessment of threats and vulnerability of these lands to development, climate change and other pressures.
- The project will support the scientific community and key partners (MNR, Ontario Parks etc.) by providing new information and research in an area where broader research and assessments were lacking.
- The project will provide base data for monitoring and to support further research, modeling and interfacing.
- The project will allow the assignment appropriate messages and measures for conservation of the lands.
- The project will highlight/target areas of greater sensitivity for protection and stewardship.
- The project will provide a benchmark and framework from which to measure changes and monitor actions.
- The project will help local communities through highlighting areas of sensitivity for protection, stewardship and/or incorporation into planning documents, and may help to promote appropriate designated land uses and deter inappropriate resource extraction/use.

Benefits to the student/researcher:

- Students will gain experience in terrestrial ecology (and conservation of communities at risk), with a focus on forestry and botany.
- The project will hone skills related to field inventories and assessment techniques.

- Students will utilize and enhance skills in resource management including research methods, report writing, GIS mapping and modeling and public relations.
- The project will support the student in qualifying for work in wildlife and ecological conservation: an area requiring broad ranging skill sets from field assessments to critical analysis.
- Landowner and agency contact, communication and coordination are public relation skills that will be enhanced and are utilized providing beneficial experience to the student in any sector and level of environmental management today.
- Lastly, results and research will be marketed and communicated to groups across the Land Between, as well as resource agencies such as OMNR, NHIC, Ontario Stewardship, Municipalities and Watershed Councils and educational institutes.

Resources/supplies:

Office space and computer access. ArcMap 9 GIS software.  
Networks and contacts in OMNR and NHIC as well as educational sectors.  
Standardized natural resource data through OMNR data sharing agreement.  
Limited travel budget for necessary field investigations (mileage @ \$0.42)  
Small stipend as required.  
Printing costs.  
Larger publishing costs.