Lowland Conifer Old Growth Evaluation Approach

3/14/2023

The purpose of this document is for Minnesota Department of Natural Resources (DNR) to keep the public informed about the status of our lowland conifer old growth (LCOG) designation project; this is not a solicitation for input. We will solicit comments when the LCOG designation proposal is ready.

DNR's goal is to identify and protect high quality old growth forests on state lands. In July 2022, we began a process to evaluate 41,000 acres of candidate LCOG forests for potential designation. The purpose of the evaluation process is to verify 1) the accuracy of the inventory data used to identify the candidate LCOG stands and 2) that these are high quality old growth sites. As we proceed, we expect to make both removals and additions to the candidate LCOG pool. For more information about the candidate pool, see the recorded informational presentation from September 2021.

LCOG Criteria

The following LCOG criteria were developed by an interdisciplinary DNR team and reviewed by external researchers from the University of Minnesota and U.S. Forest Service with expertise in lowland conifer forest ecology in Minnesota and evaluation methods.

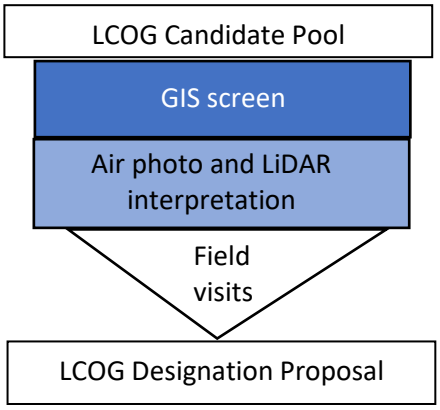
- **Forest composition** is lowland and productive[1] northern white cedar, black spruce, or mixed tamarack forest types.
- Average **tree age** is at least 150 years old[2], with older stands scoring higher.
- Low amounts of **disturbance**:
    - Low tree mortality present in the canopy.
    - No visible or known evidence of past harvest.
    - Low amount of disturbance from and/or proximity to ditches, roads, trails, and utility corridors.
- Within a resilient **landscape context**:
    - Presence of an outstanding or high ranked biodiversity significance site, which is based on the presence of rare species, size and condition of native plant communities, and the level of fragmentation or connectedness of the landscape.
    - Site size and compactness.
    - Condition of the surrounding forest.

[1] Productive lowland conifer forests (site index ≥23) have higher risk of timber harvest compared to stagnant forests.

[2] Based on when onset of old growth characteristics occurs in lowland conifer forests; exceeds DNR's normal timber harvest rotation ages for these forest types.

Evaluation Method

Given the remoteness and challenging access to these forests, our LCOG evaluation approach prioritizes using existing data and desktop analyses to evaluate and apply the LCOG criteria described above. We are using a variety of geographic information system (GIS) layers along with 50-cm resolution aerial photos and LiDAR data to evaluate the composition, age, disturbance level, and landscape context associated with each candidate LCOG stand. Prioritizing the use of multiple existing data sources will allow us to limit (or remove) the need to conduct field visits to candidate LCOG sites.



An interdisciplinary DNR team is leading the evaluation process in partnership with remote sensing analysts. We expect 80% of the candidate LCOG stands to be evaluated in fiscal year 2023 (where we have existing new LiDAR data), with the rest of the stands evaluated in fiscal year 2024 (when the remaining LiDAR is expected to be collected). We will solicit comments when the LCOG designation proposal is ready, once the evaluation process is complete. Please direct any questions to LCOG.DNR@state.mn.us.