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One Hundred and Fifty Years of Forest Change in the Northern U.S. Lake States: A Pattern of Regional Homogenization*

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Recent and emerging conservation issues such as old growth, fuel buildup, exotic invasives, global climate change, and the expanding wildland-urban interface require forest scientists and planners to broaden the context of conditions considered to include regional scale and retrospective analyses. To meet this major informational need, we reconstructed spatiotemporal trends in forest composition and structure for the northern U.S. Lake States using subsection-level ecoregions as units of analysis. Historical data analyzed include the original U.S. Public Land Survey data, which represent forest conditions prior to Euro-American settlement (ca. mid-1800s), and Forest Inventory and Analysis data, which represent present conditions (early 1990s). This analysis shows a diverse environmental history depending on the ecoregion considered; however, the general trend of forest change is toward historically unique conditions, rather than return to a pre-Euro-American state. Today's forest is marked by a dominance of hardwoodsall 55 ecoregions across the region have lower relative dominance of conifers compared to presettlement. Aspen (both Populus grandidentata and P. tremuloides) and maple (Acer saccharum and A. rubrum) comprise the primary hardwood species that have replaced the conifers. The combination of timber harvesting and succession currently maintain the regional forest in hardwoods, either early or late successional, with few opportunities for conifers or midsuccessional communities. Documenting both local and widespread changes in forest conditions provides conservation planners with a strong foundation for amending current management plans and practices.

* The authors and abstract are the same for the oral and poster presentation. The oral presentation contains more overview information while the poster presents more specific details.

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