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Publications:

Manuscripts in Preparation:


Presentations:


Wallin, D.O., F.J. Swanson, B. Marks, J. Kertis and J. Cissel. Landscape dynamics in Pacific Northwest forests: a comparison of 400 years of pre-settlement conditions to current and
alternative future conditions. (Invited paper) American Association for the
Advancement of Science, Pacific Division, June 20, 1995, Vancouver, British Columbia.
Fiorella. 1994. Use of satellite data to map potential forest bird habitat in the central
Annual meeting of the U.S. chapter on the International Association for Landscape
Ecology, Minneapolis, Minn. April, 1995.
Wallin, D.O., F.J. Swanson, B. Marks, J. Kertis and J. Cissel. Natural variability as a
management paradigm: implications for conserving biological diversity. (Invited paper)
International Forest Biodiversity Conference: Conserving biological diversity in
temperate forest ecosystems - Towards sustainable management; Canberra, Australia,
Fiorella. 1994. Land use effects on bird communities in forests of the U.S. Pacific
Northwest: Mapping potential habitat using satellite data. International Forest
Biodiversity Conference: Conserving biological diversity in temperate forest ecosystems
- Towards sustainable management; Canberra, Australia, December, 1994.
in the Oregon Cascades using Landsat TM data. (poster), p. 332, Fifth Biennial USDA
Forest Service Remote Sensing Applications Conference. Portland, Oregon. April 12-15,
1994.
management—the NASA perspective. (Invited poster), Symposium on Ecosystem
Management, Congressional Research Service, Library of Congress, March 24, 1994,
Washington, D.C..
Wallin, D.O., J. Cissel, J. Kertis and B. Marks. Comparison of landscape patterns generated by
timber harvesting and a natural fire regime in Pacific Northwest Forests. (Creating a
Forestry for the 21st Century; Portland, OR, August 1993).
Wallin, D.O., J. Kertis, B. Marks and J. Cissel. Comparison of landscape pattern dynamics
generated by a natural fire regime and timber harvesting in Pacific Northwest Forests.
(Invited paper) GIS and Spatial Analysis Workshop, USDA Forest Service; Ft. Collins,
CO, June 1993.
Wallin, D.O., B. Marks, J. Kertis and J. Cissel. Comparison of landscape pattern dynamics
generated by a natural fire regime and timber harvesting in Pacific Northwest Forests.
(International Association of Landscape Ecologists, Annual Meeting; Oak Ridge, TN
March 1993).
While there is widespread recognition of the importance of preserving biological diversity there is considerable uncertainty about how to map current patterns of diversity and monitor changes through time. Ground-based approaches are impractical for examining regional patterns of biological diversity, for monitoring change, and they may actually overlook important higher-order phenomena. Thus, there is a critical need for innovative techniques to examine land-use effects on biological diversity at the landscape and regional scales. In this project, we have used satellite-based remote sensing to examine land-use effects on forest ecosystems in the Pacific Northwest region (PNW) of the U.S.A. Rates and patterns of forest change throughout the region were quantified for the period from 1972 to 1993. This information was then used to map changes in the abundance and distribution of potential habitat for selected vertebrate species. The results of this project will be useful for identifying "keystone" stands that are important in maintaining habitat connectivity at the regional scale and for evaluating the impact of future land-use on vertebrate diversity throughout the region. The approaches developed here will also be useful in other forested regions throughout the world.