

Publications by Elaine Kennedy Sutherland, Ph.D.

Refereed Publications

- Smith, K.T. and E.K. Sutherland. 2001. Terminology and biology of fire scars in selected central hardwoods. Tree-Ring Research 57(2):141-147.
- Artman, V.L., E.K. Sutherland, and J.F. Downhower. 2001. Prescribed burning to restore mixed-oak communities in southern Ohio: Effects on breeding-bird populations. Conservation Biology 15(5) 1423-1434.
- Boerner, R.E.J., E.K. Sutherland, S.J. Morris, and T.F. Hutchinson. 2000. Spatial variations in the impact of prescribed fire on soil nitrogen dynamics in a forested landscape. Landscape Ecology 15(5):425-439.
- Boerner, R.E.J., K.L.M. Decker, and E.K. Sutherland. 2000. Prescribed burning effects on soil enzyme activity in a southern Ohio hardwood forest: a landscape-scale analysis. Soil Biology and Biochemistry 32(7):899-908.
- Sutherland, E.K., B.J. Hale, and D.M. Hix. 2000. Tree regeneration guilds in the central hardwood forest, USA. Plant Ecology 147(1):1-20.
- Hutchinson, T.F., Boerner, R.E.J., Iverson, L.R., Sutherland, S., Sutherland, E.K. 1999. Landscape patterns of understory composition and richness across a moisture and nitrogen mineralization gradient in Ohio (U.S.A.) *Quercus* forests. Plant Ecology 144(2):179-189.
- Smith, K. and E.K. Sutherland. 1999. Fire scar formation and compartmentalization in oak. Canadian Journal of Forest Research 29:166-171.
- Sutherland, E.K. 1997. The history of fire in a southern Ohio second-growth mixed-oak forest. In: Pallardy, S.G; Cecich, R.A., Garrett, H.E., and Johnson, P.S., Eds. Proceedings of the 11th Central Hardwoods Forest Conference, March 1997. GTR NC-188. USDA Forest Service North Central Experiment Station, St. Paul, Minn. P. 172-183.
- Boerner, R.E.J. and E.K. Sutherland. 1997. The chemical characteristics of soil in control and experimentally thinned plots in mesic oak forests along a historical deposition gradient. Applied Soil Ecology 7:59-71.
- Boerner, R.E.J., and E.K. Sutherland. 1995. Nitrogen dynamics in oak forest soils along a historical deposition gradient. Pages 523-533 in: Gottschalk and Fosbroke, Editors. Proceedings of the 10th Central Hardwoods Conference, March 1995, Morgantown, West Virginia. USDA Forest Service, Northeastern Forest Experiment Station General Technical Report NE-197.

- Sutherland, E.K., W.W. Covington, and S. Andariese. 1991. A model of ponderosa pine growth response to prescribed burning. Forest Ecology and Management 44:161-174.
- Sutherland, E.K. and B. Martin. 1990. Growth response of Pseudotsuga menziesii to air pollution from copper smelting. Canadian Journal of Forest Research 20:1020-1030.
- Martin, B. and E.K. Sutherland. 1990. Air pollution in the past recorded in width and composition of stable carbon isotopes of annual growth rings of Douglas-fir. Plant, Cell, and Environment 13:839-844.
- Sutherland, E.K. 1989. The natural and unnatural fire history of southwestern ponderosa pine. Women in Natural Resources 11:12-16.
- Swetnam, T.W., E.K. Sutherland, and M.A. Thompson. 1983. Comment on dating forest disturbances. Quaternary Research 19:400-401.
- Kennedy, E.A. 1978. Some palaeoenvironmental indicators from the foraminiferal assemblage in the Slindon Sands. Geographical Society, Brighton Polytechnical Institution, Sussex, England, 4:14-18.

Manuscripts In Press:

Sutherland, E. K., and T. F. Hutchinson, Editors. Characteristics of mixed-oak forest ecosystems in southern Ohio. Gen. Tech. Rep. NE-. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station.

In the volume :

- Chapter 1. Introduction and experimental design. E.K. Sutherland, T.F. Hutchinson, and D.A. Yaussy
- Chapter 2. History of forests and land-use
T.F. Hutchinson, D.A. Rubino, B. McCarthy, and E.K. Sutherland
- Chapter 4. Physiography, geology, and soil classification
R.E.J. Boerner and E.K. Sutherland
- Chapter 8. Composition and abundance of tree regeneration
T.F. Hutchinson, E.K. Sutherland, and C.T. Scott
- Chapter 9. Structure, composition, and condition of overstory trees
D.A. Yaussy, E.K. Sutherland, and T.F. Hutchinson

Manuscripts In Review:

Decker, K.M., E.K. Sutherland, and R.E.J. Boerner. In review (*Castanea*). Structure and composition of Nothofagus-dominated forest stands in the Andes of northern Chile.

D.L. Rubino, E.K. Sutherland, B.C. McCarthy. In review (*Forest Science*).
Dendrochronological analysis of white oak growth patterns across a topographic moisture gradient in southern Ohio.

Other Publications:

Book chapters, etc.:

Sutherland, E.K. 1999. Dendrochronology. Pp. 119-120. Encyclopedia of Environmental Science, Kluwer Academic Publishers, Dordrecht, The Netherlands.

Technical handbooks and notes:

Iverson, L.R., Prasad, A.M., Hale, B.J., and Sutherland, E.K. 1999. An atlas of current and potential future distributions of common trees of the eastern United States. General Technical Report NE-265. Northeastern Research Station, USDA Forest Service. 245 pp. <http://www.fs.fed.us/ne/delaware/atlas/index.html>

Sutherland, E.K., L.R. Iverson, D.A. Yaussy, C.T. Scott, B.J. Hale, A. Prasad, M. Schwartz, and H.R. Barrett. 1997. Models of regeneration, tree growth, and current and potential ranges of tree and mammal species in the Eastern U.S. Pages 115-118 in: Birdsey, R., R. Mickler, D. Sandberg, R. Tinus, J. Zerbe, K. O'Brian, Editors. USDA Forest Service Global Change Research Program Highlights: 1991-1995. GTR NE-237. USDA Forest Service Northeastern Forest Experiment Station, Radnor, Pa. 122 pages.

Swetnam, T.W., M.A. Thompson and E.K. Sutherland. 1985. Using dendrochronology to measure radial growth of defoliated trees. U.S.D.A. Handbook 639. U.S. Government Printing Office, Washington, D.C., U.S.A. 39 pages.

Kennedy, E.A. and G.A. Gordon. 1980. Characteristics of nineteenth century climatic data used in the verification of dendroclimatic reconstructions. Technical Note Number 16, Northern Hemisphere Climatic Reconstruction Group, Laboratory of Tree-Ring Research, University of Arizona, Tucson, Arizona.

Proceedings (not refereed):

- Sutherland, E.K. and K.T. Smith. 2000. Resistance is not futile: The response of hardwoods to fire-caused wounding. Pp. 111-115 In: Yaussy, D., Editor. Proceedings: Workshop on Fire, People, and the Central Hardwoods Landscape. March 13-14, 2000, Richmond, Ky. General Technical Report NE-274. USDA Forest Service Northeastern Forest Experiment Station, Newtown, Pa. 129 pp.
- Hines, E.B., J. Salick, E.K. Sutherland, and T.F. Hutchinson. Ethnoecology of fire: An experimental approach in the Ohio Valley. (Abstract). p. 126 In: Yaussy, D., Editor. Proceedings: Workshop on Fire, People, and the Central Hardwoods Landscape. March 13-14, 2000, Richmond, Ky. General Technical Report NE-274. USDA Forest Service Northeastern Forest Experiment Station, Newtown, Pa. 129 pp.
- Sutherland, E.K., L.R. Iverson, D.A. Yaussy, C.T. Scott, B.J. Hale, A. Prasad, M. Schwartz, and H.R. Barrett. 1997. Models of regeneration, tree growth, and current and potential ranges of tree and mammal species in the Eastern U.S. In: Birdsey, R., et al., eds. 1997. USDA Forest Service Global Change Research Program Highlights: 1991-1995. NE-GTR-237. USDA Forest Service Northeastern Forest Experiment Station, Radnor, Pa. p. 115-118.
- Boerner, R.E.J., and E.K. Sutherland. 1996. Relative nitrogen mineralization and nitrification potentials in relation to soil chemistry in oak forest soils along a historical deposition gradient. Hom, J., Birdsey, R., O'Brian, K., eds. Proceedings, 1995 meeting of the Northern Global Change Program; 1995 March 14-16; Pittsburgh, PA. Gen. Tech. Rep. NE-214. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Exp. Sta. p. 167.
- Yaussy, D.A., E.K. Sutherland, B.J. Hale. 1996. Rule-based individual-tree regeneration model for forest simulators. In Skovsgaard, J.P. and V.K. Johannsen (eds.): Modelling regeneration success and early growth of forest stands. Proceedings from the IUFRO Conference, held in Copenhagen, 10-13 June 1996. Danish Landscape Research Institute, Horsholm. p. 176-182.
- Sutherland, E.K., B.J. Hale, and D.M. Hix. 1996. Regeneration attributes of tree species in the central Hardwoods type. Hom, J., Birdsey, R., O'Brian, K., eds. Proceedings, 1995 meeting of the Northern Global Change Program; 1995 March 14-16; Pittsburgh, PA. Gen. Tech. Rep. NE-214. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Exp. Sta. p. 215.
- Sutherland, E.K., D. A. Yaussy, and R.E.J. Boerner. 1996. Mortality patterns in oak forests along a climatic and acidic deposition gradient. Hom, J., Birdsey, R., O'Brian, K., eds. Proceedings, 1995 meeting of the Northern Global Change Program; 1995 March 14-16; Pittsburgh, PA. Gen. Tech. Rep. NE-214. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Exp. Sta. p. 168.

- Sutherland, E.K., H. Grissino-Mayer, C.A. Woodhouse, W.W. Covington, S. Horn, L. Huckaby, R. Kerr, J. Kush, M. Moore, and T. Plumb. 1995. Two centuries of fire in a southwestern Virginia *Pinus pungens* community. In: Inventory and management techniques in the context of catastrophic events: Altered states of the forest (computer disk); 1993 June 21-24; University Park, PA. Penn State University, Center for Statistical Ecology & Environmental Statistics. 1 computer disk; 3-1/2 in.
- Yaussy, D.A., and E.K. Sutherland. 1995. Relationships of the southern oscillation of the Pacific Ocean and droughts and wildfires in the Ohio River Valley. In Inventory and management techniques in the context of catastrophic events: Altered states of the forest (computer disk); 1993 June 21-24; University Park, PA. Penn State University, Center for Statistical Ecology & Environmental Statistics. 1 computer disk; 3-1/2 in.
- Yaussy, D.A., and E.K. Sutherland. 1994. Fire history in the Ohio River Valley and it's relation to climate. Proceedings of the 12th Conference on Fire and Forest Meteorology: Fire, Meteorology, and the Landscape, Jekyll Island, GA, October 26-28, 1993. Society of American Foresters, Bethesda, Maryland.
- Sutherland, E.K. and B. Martin. 1992. Stable carbon isotopes can reveal the cause of tree growth variation during periods of high air pollutant concentration. In: Proceedings of the International Symposium on Tree Rings and Environment, 3-9 September 1990. T. Bartholin and B.E. Berglund, Editors. University of Lund Press, Lund, Sweden.
- Sutherland, E.K. and W.W. Covington. 1987. Factors affecting the growth response of *Pinus ponderosa* L. to prescribed burning. In: Proceedings of the International Symposium on Ecological Aspects of Tree-Ring Analysis. G.C. Jacoby and J.W. Hornbeck, Compilers. National Technical Information Service CONF-8608144. U.S. Department of Commerce, Springfield, Virginia, U.S.A. Pages 430-442.
- Treshow, M., E.K. Sutherland and J.P. Bennett. 1987. Tolerance and susceptibility to air pollution: A new direction in sampling strategy. In: Proceedings of the International Symposium on Ecological Aspects of Tree-Ring Analysis. G.C. Jacoby and J.W. Hornbeck, Compilers. National Technical Information Service CONF-8608144. U.S. Department of Commerce, Springfield, Virginia, U.S.A. Pages 392-400.
- Sutherland, E.K. 1983. Application of dendrochronology to resource inventory. In: Renewable resource inventories for monitoring changes and trends: Proceedings of an international conference, August 15-19, 1983, Corvallis, Oregon, U.S.A. College of Forestry, Oregon State University, Corvallis, Oregon. Pages 464-467.

Other publications:

- Sutherland, E.K. 1989. The effect of prescribed burning on southwestern pine growth. Ph.D. dissertation, Department of Watershed Management, University of Arizona, Tucson, Arizona. 116 pages.

Manuscripts in Preparation:

Sutherland, E.K., H.D. Grissino-Mayer, and C.A. Woodhouse. The role of fire and climate in a Pinus pungens community in southwestern Virginia. For submission to American Midland Naturalist.