

used by threatened and endangered species. However, given the forest history and stand conditions in the WNF, we see the need for a more proactive landscape management strategy that will eventually incorporate natural fire regimes and various timber harvest procedures. Adaptive management experiments designed to evaluate these procedures are required to reduce the risk of catastrophic wildfire.

EXPERIMENTAL MANIPULATION OF MANAGED STANDS TO PROVIDE HABITAT FOR SPOTTED OWLS AND TO ENHANCE PLANT AND ANIMAL DIVERSITY

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This study represents an effort to examine the feasibility of accelerating the development of spotted owl habitat in managed forests by increasing structural and species diversity. We have adopted two means of approaching this issue: manipulation of the spotted owl prey base and silvicultural alterations. We are attempting to increase population densities of spotted owl prey (primarily northern flying squirrels) by providing additional nest sites for squirrels (artificial cavities and nest boxes). We are also creating wildlife thinnings, designed to maximize structural diversity (both horizontal and vertical) and growth of several strata of understory vegetation. We have gathered a year of baseline data and are currently beginning the experimental manipulations of our study plots.

BIODIVERSITY RESEARCH AT THE BLM'S PACIFIC FOREST AND BASIN RANGELAND SYSTEMS COOPERATIVE RESEARCH AND TECHNOLOGY UNIT

COLLOPY, M.W. *BLM Cooperative Research Unit, 3200 SW Jefferson Way, Corvallis, OR 97331*

The Pacific Basin and Rangeland Systems Cooperative Research and Technology Unit was recently established at Oregon State University, in Corvallis. Its location significantly enhances the opportunity for the BLM to develop stronger linkages with the scientific research and graduate education programs associated with Oregon State University and the PNW Research Station (USFS). Cooperative research programs are being implemented in both rangeland and forested ecosystems. The Vegetation Diversity Project is a research and demonstration program to improve the BLM's ability to restore and maintain native plant diversity on degraded semiarid lands in the Great Basin and the Columbia Plateau. Studies will examine the role of plant competition from exotic annual plants in the establishment of native perennials, the importance of seed source in restoration, the role of grazing animals in maintenance of diverse plant communities, and the potential effects of climate change on native plant diversity and on plant interactions. In western Oregon,

biodiversity research at the stand and landscape levels is being developed to provide guidance to the management and conservation of managed and old-growth forest ecosystems on BLM lands. This research will assist in the development of alternative silvicultural systems that can be used to create desired characteristics in forested landscapes. A series of integrated studies are being designed to detect how the floral and faunal components of the landscape change in response to various management activities. This integrated approach will enable the Cooperative Research Unit to develop much needed landscape-level information on the status, stability, and distribution of plant and animal communities, as well as high-profile species (e.g., northern spotted owls, marbled murrelets, northern goshawks, and neotropical migrants), under various management regimes.

POPULATION CENSUS AND PRODUCTIVITY OF NESTING GOLDEN EAGLES, PRAIRIE FALCONS, COOPER'S HAWKS, SWAINSON'S HAWKS, AND FERRUGINOUS HAWKS IN CIMARRON COUNTY, OKLAHOMA

DAY, R.H., D.H. WOLFE, K.V. COLBERT, AND S.K. SHERROD. *G.M. Sutton Avian Research Center, P.O. Box 2007, Bartlesville, OK 74005*

As part of an ongoing study of prairie and prairie-edge nesting birds conducted by the Sutton Avian Research Center, population censuses and nesting productivity of Golden Eagles (*Aquila chrysaetos*), Prairie Falcons (*Falco mexicanus*), Cooper's Hawks (*Accipiter cooperii*), Swainson's Hawks (*Buteo swainsoni*), and Ferruginous Hawks (*Buteo regalis*) were conducted from 15 May 1992 through 18 July 1992 in Cimarron County, Oklahoma. Eight Golden Eagle nests were found, which produced a total of seven fledged young. Three Prairie Falcon nests were found, which produced a total of five fledged young. Four Cooper's Hawk nests were found, which produced a total of 11 fledged young. Thirty-five Swainson's Hawk nests were found, which produced a total of thirty-seven fledged young. Fifteen of the thirty-five Swainson's Hawk nests were destroyed by hail and/or high winds.

SATELLITE TELEMETRY OPTIONS FOR AVIAN RESEARCH

ELLIS, D.H. AND M.R. FULLER. *U.S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, MD 20708*

Four manufacturers now produce transmitters in the size range suitable for raptors (3–5% of body mass). Dummies of these transmitters will be displayed and harnessing techniques will be demonstrated. Estimates will be given for: cost, reliability, longevity, mass, availability, program-mability, power output and other information essential in deciding on manufacturer and model.



Carey, Andrew B. and Wunder, L. 1993. "Experimental manipulation of managed stands to provide habitat for spotted owls and to enhance plant and animal diversity." *The journal of raptor research* 27(1), 87–87.

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