

Western Region

From the CPSU at U/AZ comes news of an article by P.S. Bennett and M.R. Kunzmann, "The Applicability of Generalized Fire Prescriptions to Burning of Madrean Evergreen Forest and Woodland" in the ***Arizona-Nevada Academy of Science Journal*** (24-25:79-84); and two technical reports:

Ruffner, G.A. and R.A. Johnson. 1991. Plant ecology and vegetation mapping at Coronado National Memorial, Cochise County, AZ. 75 p. Tech. Report #41. and

Bellantoni, E.S. and P.R. Krausman. 1991. Habitat use by desert mule deer and collared peccary in an urban environment, 39 p. Tech. Report #42.

Copies of these and a complete listing of the CPSU publications are available by calling (602) 670-6886.

* * *

Mary Ann Madej, Redwood NP geologist, has completed a 160-page report, "Analysis of Bank Erosion on the Merced River, Yosemite Valley, Yosemite NP." The work was in response to the perceived threat of severe bank erosion in the Valley. She and coauthors William Weaver and Danny Hagans measured channel widths, compared them to those surveyed by USGS in 1919, and found that not only bank erosion but net channel widening had occurred in the most severely impacted stream reaches. Channel width increases, up to double the 1919 values, were most extreme in areas with intensive levels of visitor use.

They evaluated possible causes of channel widening, including hydrologic, climatologic, and physical factors, and concluded that human trampling, destruction of riparian vegetation, and flow constriction at bridge sites were primary causes of bank erosion. Riparian restoration techniques, including aggressive revegetation efforts, biotechnical controls, and removal or modification of harmful structures, were recommended to park management.

* * *

Redwood NP women on the Research and Resource Management staff were featured in an article by Vicki Ozaki in ***Women in natural resources***. The special issue (Vol. 13, #1), dealt with women involved with natural and cultural work for NPS.

* * *

Nathan L. Stephenson (Ph.D. Cornell, 1988) has been hired as a Research Ecologist at Sequoia and Kings Canyon NPs, on funds provided by the Global Change Program. He will serve as a PI on studies of forest demography and the environmental controls on species distributions and ecosystem processes. His 1990 paper, "Climatic control of vegetation distribution: the role of the water balance" published in the ***American Naturalist*** (135:649-670), already has become something of a classic.

* * *

Recent publications from NPS Western Region scientists are:

- Stephenson, Nathan L., David J. Parsons and Thomas W. Swetnam. 1991. Restoring natural fire to the sequoia-mixed conifer forest: should intense fire play a role? This paper for the first time surfaces the idea that locally intense fires may have been important in the creation of conditions necessary for establishment of the characteristic groupings of apparently even aged giant sequoia that visitors find of such interest. The possibility has significant implications for future prescribed fire management.

- Parsons, David J. 1991. Planning for climate change in national parks and other natural areas. ***The Northwest Environmental Journal*** 7:255-269. Presents an overview of issues related to climate change of special interest to national parks. It highlights early progress made by the NPS Global Change Program.

- Parsons, David J. 1991. Preparing the Sierran parks for global issues of the 21st Century. pp. 150-155 in ***Yosemite Centennial Symposium Proceedings***. Yosemite Assn., El Portal, CA. This paper reflects the multitude of threats facing the Sierra Nevada parks in

the coming years and is particularly relevant to the new approach to bioregional planning reflected in the Sierra global change research program.

* * *

The NPS was highlighted in a special 2-day symposium Feb. 7-8, 1991 at the AAAS annual meetings in Chicago. The symposium, Efficacy of Long-Term Research in U.S. National Parks, was organized by Gary Davis and Bill Halvorson of Channel Islands NP as a product of an I&M initiative to present a series of case studies on the subject. When AAAS heard about the project, they asked to feature it at their national meeting and are planning to publish the 12 papers in book format.