

WHR Data System Being Evaluated At Pinnacles NM

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The Wildlife Habitat Relationships (WHR) System is a computerized data base containing habitat, distributional, and life history information on virtually all terrestrial vertebrate species. In California WHR was initiated in 1981 by the Department of Fish and Game (CDFG), and also has been implemented in a number of other states. The WHR System is designed to complement and extend habitat evaluation tools developed previously by the U.S. Fish and Wildlife Service, the U.S. Forest Service, and other agencies. The primary goal of WHR is to develop and implement a wildlife habitat evaluation system that provides decision makers with up-to-date information on wildlife habitat capabilities and that aids in predicting the effects of resource management alternatives on wildlife resources.

Included in the California data base is a wildlife habitat classification scheme that recognizes over 40 dominant vegetation types (e.g. mixed conifer, montane riparian, desert scrub). Wildlife species are linked to the vegetation types by specifying size/age classes and canopy closure for the vegetation type of interest (e.g., Red Fir, small tree, open canopy). The habitat relationships model can be further refined by specifying particular habitat elements such as snags, rock piles, springs, etc. In the data base, relative habitat value ratings are assigned to each habitat type and habitat element for each wildlife species based on published literature and professional judgement.

The distribution of each wildlife species is keyed to counties, latitudinal and longitudinal lines, hydrologic units, U.S. National Forests, CDFG regions, and Bureau of Land Management districts. Species notes provide an overview of behavioral and life history information likely to be useful to the resource manager. These narratives and the distribution maps usually are published together in book form.

We feel that where the WHR system exists it can potentially be useful to NPS resource management personnel. For instance, the likely effects on the wildlife community of a prescribed burning program can be evaluated before the burn is implemented. The system can be queried for the appropriate vegetation types (pre-burn and post-burn), and the lists of associated wildlife species expected before and after can be compared to determine those species most likely to be affected by the burning program.

The WHR system also can be useful in inventorying the natural resources of a National Park Service area. We are currently evaluating this application as part of a resource base inventory study at Pinnacles National Monument (NM), near Hollister, Calif. The inventory includes 75 study sites in 9 vegetation types where we are inventorying birds. Other NPS Western Region scientists are working on small mammals, lichens, and vascular plants in this project. The evaluation of WHR has so far involved only comparison of the bird species recorded during our field work, with the list of species predicted to occur there by the WHR system. There was good agreement between the two lists of species, with greater than 80 percent overlap. Additional tests of the system using data from the Pinnacles study are planned. As more field work is

performed and as the "bugs" are removed from the data base, the degree of correspondence between predicted and observed species occurrence undoubtedly will increase.

We feel that WHR systems can be useful to resource managers working in NPS locations throughout North America. Any NP that has not yet conducted a Resources Base Inventory (RBI) can utilize this system to query what wildlife would be expected to occur within the park. However, WHR is not a substitute for first-hand knowledge or on-site experience.

The WHR system also can be utilized by resource managers to assess the potential impact on wildlife of various management decisions they might make. As WHR becomes available to more NPS areas, a Systemwide usage could occur. Moreover, NPS managers who choose to utilize WHR, would put themselves in contact with numerous state and federal agencies and would thus foster more cooperative work with other management agencies.

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