

Conservation Biology Group Exhibits 'Elastic' Response

A loosely knit, "amoebic" body of research personnel is functioning out of the NPS Cooperative Park Studies Unit at U/Cal/Davis under the designation of "the conservation biology group." Led by Christine Schonewald-Cox, CPSU research scientist, and Jonathan Bayless, NPS resource management specialist, the group draws its members from various agencies and universities according to the job at hand.

"The subject matter is strongly multidisciplinary," Schonewald-Cox explains, "and requires diverse technological talents ranging from remote sensing capabilities to statistical modeling to programming and biological information synthesis."

For boundary work, the team consists mostly of U/Cal/Davis, U/Cal/Berkeley, and U/Ariz (including the NPS/CPSU there) individuals. For small population work, the team draws mainly on its connections to U/Cal/Davis, Stanford, U/Mont, the NPS Denver Service Center and the U.S. Forest Service, with occasional linkages to similar teams at U/Cal/San Diego, U/Mich. and U/Fla at Gainesville.

The group is presently applying for funds from the U.S. Environmental Protection Agency to enhance its ability to measure the effects of park boundary interactions. The money would be used to maximize interagency cooperation in the areas surrounding the subject park and among the vastly different sciences and technologies involved. "We would also seek," Schonewald-Cox said, "to resolve the differences in approaching environments and habitats – subjective differences that stem from sources such as different agency missions and different discipline orientations."

The small population project has received funding support from two NPS Regions – Pacific Northwest and Western – so far in 1987, Schonewald-Cox said. The money is underwriting completion of a carnivore density analysis. "In this project," she said, "we have developed means of predicting or assessing numbers for a given species in relationship to park size. The results have been extremely positive so far, and group members are in the process of writing their scientific papers and management guidelines. The ungulate analysis will take place this summer.

"The technique is to be used in much the same way a pediatrician maps and assesses infant growth – as an indicator of general health, and (in the park's case) of potential carrying capacity. It should lead to more precise definitions of research needs and thus to more efficient use of research," Schonewald-Cox said, "but it will not be used as a substitute for detailed analysis.

At Organ Pipe Cactus National Monument, the group has been digitizing maps showing vegetation, land ownership, zoning, animal species distribution, geology, etc. in and around the parks, including significant adjacent areas. This effort amounts to the first mapping of "the edge" that is generated as a result of park protection and other interacting factors described in the "boundary" paper by Schonewald-Cox and Bayless, (see p. 8).

"Our objective at Organ Pipe Cactus," she said "is first to develop the technique, and then to look for boundary habitat vulnerabilities. We've been slowed by the difficulty of obtaining some of the maps we need, but we expect to have them and to complete the digitizing so that analysis can be launched this year."