

Winter surveys from 1994 have confirmed the presence of 57 wolves in the Michigan Upper Peninsula (up from 31 the previous year) with a minimum of 7 breeding pairs. Several sightings in and around Pictured Rocks National Lakeshore indicate occupation of the area by more than 1 wolf, with a possibility of a breeding pair utilizing the area for at least part of the year. The Michigan Department of Natural Resources, U.S. Forest Service, U.S. Fish and Wildlife Service, and National Park Service will be working to learn more about the status of the wolf and to complete the state wolf recovery plan.

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The Pictured Rocks resource report series has printed another volume recently. "Late Wisconsin history of Pictured Rocks National Lakeshore and vicinity," by William L. Blewett of Shippensburg University, Pennsylvania, reinterprets theories of the origin of glacial highland features in the Michigan Upper Peninsula. You can obtain copies of the report from the park.

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Researchers surveyed Pipestone National Monument, Minnesota, for western prairie fringed orchid (*Platanthera praeclara*) and found 19 flowering individuals. Although they made no systematic effort to search for juvenile plants, the researchers located 2. Tall vegetation surrounding the orchids made them especially difficult to locate. A Minnesota Department of Natural Resources researcher visited the site and indicated that the actual population (juveniles and adults) could be two to three times the number of flowering plants found in a given year. The fringed orchid was reported at

Pipestone twice in the 1980s, but was not confirmed by park staff until last year.

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Indiana Dunes National Lakeshore hosted the second annual meeting of the central states task force on declining amphibians on September 10-11. The following day, the National Park Service sponsored another gathering to discuss formulating a research design for assessing trends in amphibian populations nationwide. Altogether, approximately 50 people attended the presentations of 25 papers on subjects related to amphibian and reptile monitoring.

One presentation discussed the use of a lampricide in streams throughout the Great Lakes region in efforts to control sea lamprey (*Petromyzon marinus*) by killing their larvae. Although managers have generally regarded lampricide as being specific only to lamprey larvae, research has shown that mud puppy (*Necturus maculosus*) populations decline significantly following a lampricide treatment. In some cases where multiyear treatments have been made, mud puppies have been extirpated from the area. A review of literature indicates that the lampricide also affects some genera of mayflies, tadpoles, native lampreys, darters, suckers, and yellow walleye.

Reporting on a research effort in Cuyahoga Valley National Recreation Area, Ohio, a researcher described the use of a portable automated sound recording system to assess the population status of toads and frogs. This method matched or exceeded the performance of traditional sampling techniques used a decade ago in a multiyear study. For approximately \$2,000 in supplies, a researcher can build the animal call recording system. Gary

Sullivan has a list of the equipment and assembly instructions. If interested, give him a call at (402) 221-3994.

Task force members at the conference recommended a new book entitled, *Measuring and Monitoring Biological Diversity, Standard Methods for Amphibians*, edited by W. Ronald Heyer, et al. In the book, nearly 50 herpetologists recommend ten standard sampling procedures for measuring and monitoring amphibian populations. Included is a detailed protocol for implementing each procedure, a list of necessary equipment and personnel, and suggestions for analyzing the data. The book is published by the Smithsonian Institution Press and can be ordered from Smithsonian Institution Press, Department 900, Blue Ridge Summit, PA 17294-0900, telephone (800) 782-4612 or (717) 794-2148. \$49.00 cloth, \$17.95 paper.

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Guided by the Saint Croix Zebra Mussel Response Plan, staff at the Saint Croix National Scenic Riverway in Wisconsin contacted over 66,000 individuals between May 15 and October 10, 1994, to discuss National Park Service efforts to slow the spread of the mussel to the unit. Among those contacted were crews of seven vessels harbored on the Saint Croix River and reported to have been operating in zebra mussel-infested waters during the summer. No adult populations of zebra mussels were found on these vessels.