

REGIONAL HIGHLIGHTS

Western Region

A review was held in Tucson, AZ Sept. 1-4, 1992 to evaluate the Saguaro NM air quality biological effects research program. The review's evaluation and recommendations will assist in establishing the direction for air quality research at the monument. Copies of the report may be had from the NPS CPSU, U of AZ, (602)670-6885.

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The following reports have been published by the CPSU at U/AZ:

Tech Rpt #46, "Status of non-native plant species, Tonto NM, AZ, by B.G. Phillips.

Tech Rpt #47, "Mammals of the woodland and forest habitats in the Rincon Mountains of Saguaro NM, AZ," by Russell Davis and Ronnie Sidner.

Tech Rpt #48, "Case study of research, monitoring, and management programs associated with the saguaro cactus (*Carnegie gigantea*) at Saguaro NM, AZ," by Joseph R. McAuliffe.

These reports or a complete publication listing may be had by contacting the CPSU at U/AZ, (602)670-6885.

Water Resources Division

The Water Resources Division has moved to a new location: 1201 Oakridge Drive, Suite 250, Fort Collins, CO 80525; (303) 495-6200.

Southwest Region

Other agencies are continuing to "get the word" about Integrated Pest Management. Jerry McCrea, REgional Biologist, recently sent a "start up" package about IPM to the Lower Colorado River Authority in Austin, TX. Earlier in the year, he sent a similar package to the Texas Parks and Wildlife Dept.

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The Africanized honey bee (AHB) continues to be in the news. Padre Island National Seashore was the third park in the region to have a confirmed identification. The park staff successfully removed the colony from a park structure after removing some of the siding from the building.

The staff has recently participated in the regional workshop on the AHB, which included hands-on training in an apiary. The course was conducted in August, 1992 in San Antonio; 17 SWR personnel attended. Dave Vekasy of San Antonio Missions NHP was course co-coordinator.

Education is a key tool in AHB management. An article on the subject, written by the Regional Biologist, was published in *Contact*, the Southwest Region's interpretive newsletter. An information package, which contained the article, was prepared and distributed at the regional IPM coordinators' meeting in September 1992 in WASO.

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Museum IPM was the subject covered in a workshop co-sponsored by the Midwest and the Southwest Regional Offices. This course, the inspiration of Steve Cinnamon of MWRO, was held at Haskell Indian Junior College in Lawrence, KS Aug. 31-Sept. 4, 1992. Our course was the first NPS class to be conducted at this DOI training center...a nice facility that others may want to consider as a training site. Twenty-four NPS personnel attended, representing 24 parks and 4 regions (MWR, SWR, PNR, and RNR).

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The Regional Biologist recently attended a multi-agency noxious weed meeting convened by the State of New Mexico and held in response to the 1990 Farm Bill's noxious weed provisions as well as to a memorial passed by the NM legislature. The thrust of the meeting was to encourage private landowners to manage noxious weeds, thus helping to reduce weed pressure on public lands. Four working groups were established with these objectives: (1) review of a draft noxious weed list, (2) investigation of educational opportunities, (3) weed mapping, and (4) identification of funding options. The Southwest Region is on the education working group.

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The CPSU at Albuquerque is installing a Community GPU Base Station for use by nearby parks. The post-processing of GPU data increases accuracy of field observations and will complement field activities in numerous NM parks.

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El Malpais National Monument (ELMA) is the center of some wildlife management activity. The BLM recently declared its desire to introduce bison adjacent to the monument, where the animal is not native. The animals are currently on Fort Wingate, in western NM; the base is scheduled for closure. The SWR's Division of Environmental Coordination and Division of Natural Resources Management and Science worked together closely to present the case for why NPS policy would not support such an action. BLM's response is pending.

El Malpais is one of 2 SWR parks being studied by the NM Dept. of Game and Fish as possible reintroduction sites for bighorn sheep. Bandelier National Monument is the second site. In the case of ELMA, a particularly interesting aspect of the study is that bighorn tissue is preserved in one of the park's caves, which will allow DNA testing to determine whether the desert or Rocky Mountain subspecies was native to the park. ELMA is one of only 4 areas where bighorn were known to inhabit lava flows. Native Americans report hunting bighorn in the area as recently as the 1950s.

North Atlantic Region

Paul A. Buckley, NPS Senior Scientist at the Coastal Research Center, University of Rhode Island, is the author of an invited chapter in the

recently published book, *Wildlife 2001: Populations* (1992 Elsevier). The paper, "Modeling Metapopulation Dynamics for Single Species of Seabirds," is the first application of this new approach to population dynamics in seabirds using stochastic models known as RAMAS/space and RAMAS/stage. Generic albatrosses, cormorants, and terns were modeled, with unexpected and provocative results. Metapopulation modeling will be of increasing importance in grappling with the problem of fragmented populations in national parks and their environs.

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Two new regional resource management specialists have joined the North Atlantic Region. Leslie Pointer moved from Chief of Resource Management at Yosemite to become Branch Chief of Resource Management; Susan Alberts is the new IPM Coordinator.

Bruce Connery also has joined the Acadia NP resource management staff as the I&M Coordinator.

Jim Allen, Coastal Geomorphologist, and scientists from Rutgers University and the University of Southern California conducted a highly instrumented study of bayside beach erosion and sediment transport at Fire Island National Seashore with funding from NSF and NPS. He also helped SWRO develop a plan for recreational use of the eroding Laguna Madre beach at Bird Island Basin, Padre Island National Seashore.

Southeast Region

In the days immediately following Hurricane Andrew, the NPS assembled a professional resource assessment team to measure the ecological "vital signs" of south Florida national parks. Twenty-three scientists from a variety of disciplines examined resource conditions in order to prescribe immediate actions to stabilize threatened resources and identify long-term activities to assure continued health of park ecosystems. They examined the geographic limits and impacts of storm influence on coral reefs, seagrass beds, hardwood hammocks, mangrove forests, sawgrass marshes, pine forests, historic shipwrecks, and archeological sites. They also determined the status of endangered species such as panthers, crocodiles, and bald eagles. Air and water quality and organic debris and sediments that shape biological communities were studied.

A final executive summary of the report is available; the full report will be published after peer review is complete.

Team members included the following:

Resource Assessment Coordination: Gary E. Davis (Assessment leader), Laurie Parker, and Cameron Shaw.

Marine Resources: James Tilmant (Teach leader), Richard W. Curry, Jay Zieman, Ronald Jones, Thomas Smith, and Alina Szmant.

Freshwater Resources: Charles T. Roman

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(Team leader), Joel Trexler, Mark Flora, Nicholas Aumen, James Schortemeyer, Robert Fennema, and Ben McPherson.

Upland Resources: Lloyd L. Loope (Team leader), James Snyder, Mike Duever, and Alan K. Herndon.

Archeology: George Smith (Team leader), Larry Murphy, Guy Prentice, and John Cornelison.

GIS: Donald Myrick and Michael Rose.

Peer Review Group: Michael Soukup, William B. Robertson, Jr., Ariel E. Lugo, Stuart L. Pimm, Robert Ulanowitz, John Ogden, and Peter Glynn.

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The South Florida Water Management District, the Florida Dept. of Environmental Regulation, U.S. Justice Dept., and agricultural parties have agreed to the use of an outside mediator in the ongoing lawsuit regarding the Everglades restoration program. The mediator would work with the groups involved to try to reach consensus on the restoration program.

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The GIS Specialist in the Southeast Region has been relocated from the regional office to Clemson University in South Carolina. Neil Guse, Clemson CPSU Director, will be serving as program coordinator for GIS and will supervise the GIS Specialist position.

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Through a project funded jointly by NPS, the U.S. Army Corps of Engineers, and the South Florida Water Management District, a native Australian insect is being studied as a biological control agent for the Melaleuca tree. The weevil *Oxyops vitiosa* has been quarantined at the USDA Agricultural Research Center in Gainesville, FL, where it will be tested to insure that no native plant species would be adversely affected by its dispersion.

Melaleuca, recently designated as a noxious weed by the USDA, displaces wetland vegetation and wildlife habitat and has had adverse effects in the Big Cypress National Preserve and Everglades NP.

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Personnel changes in the Office of Science and Natural Resources:

Through a cooperative agreement with The Nature Conservancy, a database manager has been hired for the Region's Biological Conservation Database. The comprehensive computerized database tracks information on plants and animals, focusing on rare and threatened species. Clifton Eakes began in this position in November. His most recent previous position was Natural Areas Specialist for the Mississippi Natural Heritage Program.

Bob Hickman has joined the Regional office staff as resource management plan coordinator, publications coordinator, and project management coordinator. He has 20 years of experience in the North Atlantic, Midwest, and National Capital Region parks.

Brendhan Zuhricki was hired to fill the vacant air/water quality coordinator position for the Region. Brendhan worked for the CPSU at U/RI on water quality issues.

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Recently published technical reports include: Claxon, P.G. and H.L. Renwick. 1990. Bibliography of Scientific Research for Gulf Islands National Seashore. CPSU, Rutgers-The State University of NJ. NPS/SER/93-01.

Claxon, P.G. and H.L. Renwick. 1990. History of Scientific Research for Gulf Islands National Seashore, CPSU, Rutgers-The State University of NJ. NPS/SER/93-02.

McCracken, G.F., C. Parker, and S. Guffey. 1992. Genetic Differentiation and Hybridization between Hatchery Stock and Native Brook Trout in Great Smoky Mountains NP. NPS/SER/93-05.

Rikard, M. 1991. A Water Quality Study at the Congaree Swamp National Monument of Myers Creek, Reeves Creek and Toms Creek. NPS/SER/93-06.

Midwest Region

New faces and/or positions in the Region:

Sue Jennings transferred from Blue Ridge National Parkway to a Resource Management Specialist position at Saint Croix National Scenic Riverways; Sam Lamie has entered government service as a Cartographic Technician at Voyageurs NP; Ed Childres transferred to Indiana Dunes NL as a Cartographic Technician from the Soil Conservation Service; Joe Myer has transferred from the SER to serve as Regional GIS coordinator at the newly established GIS Regional Technical Support Center at the Great Lakes CPSU, U/WI, Madison; Bob Manasek has become Resource Management Specialist at Scotts Bluff National Monument; Bob Brander, formerly Apostle Islands NL ecologist, has accepted a term appointment as Great Lakes Coordinator.

New to the Research staff at Indiana Dunes NL are Dr. Paul M. Stewart, aquatic ecologist, and Dr. Ralph Grundel, animal ecologist. Stewart was on the staff at Indiana U/Purdue U at Fort Wayne; Grundel was on the staff at U/C.A. Berkeley.

Stewart has been appointed scientific liaison in cooperation with the USFWS to examine sites along the St. Croix for zebra mussel infestation and to recommend measures to retard its spread in the river basin.

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Dr. Richard Whitman, Chief Scientist at Indiana Dunes NL, has been appointed to the U.S. Great Lakes Policy Committee, which will address the 5-Year Strategic Plans for the Great Lakes. As a result of last year's Environmental Roundtable meeting, a resolution was signed by 13 Midwest states and federal agencies on interagency cooperation. Whitman is team leader for a working group on Interagency Research Needs Assessment for Environmental Management.

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The Region has finished a draft publications plan outlining a strategy for establishing 3 series and for designing review procedures and standards. The plan is available for review by other Regions; please contact the Regional Chief Scientist if interested.

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A 2-day training session, held at Sleeping Bear Dunes Sept. 15-16, 1992, addressed dune systems management issues in the Great Lakes. Staff from Sleeping Bear Dunes, Indiana Dunes, and Pictured Rocks attended together with nearby staff from both State and Federal agencies.

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Dr. Richard Whitman, Indiana Dunes NL Chief Scientist, presented a paper, "Composition, spatial-temporal distribution and environmental factors influencing the interstitial beach meiofauna of Lake Michigan" at the XXV SIL International Congress in August 1992 in Barcelona, Spain. The paper, authored by Whitman, Kevin Kennedy, and Mary Andrzejewski, has been submitted for publication to *Vereinigung Fur Theoretische und Angewandte Limnologie*. Whitman gave a related paper at the 8th International Meiofauna Conference in Washington, DC, also in August.

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The following papers by Indiana Dunes staff have been accepted for publication:

Bowles, M.L., R. Flakne, A.K. McEachern, and N.B. Pavlovic. In Revision. Status and restoration planning for the federally threatened Pitcher's thistle (*Cirsium pitcheri*) in Illinois. **Natural Areas Journal**.

Brown, J.S. and N.B. Pavlovic. 1992. Evolution in heterogeneous environments: Effects of migration on habitat specialization. **Evolutionary Ecology** 6:320-382.

Cole, K.L., K.F. Klick, and N.B. Pavlovic. 1992. Fire temperature monitoring during experimental burns at the Indiana Dunes. **Natural Areas Journal** 12: 177-183.

McEachern, A.K., M.L. Bowles, and N.B. Pavlovic. In Press. Recovery planning for the threatened Great Lakes thistle *Cirsium pitcheri* according to a metapopulation model. In Bowles, M.L. and C. Whelan (eds.) **Recovery and Restoration of Endangered Species**. Cambridge U Press, Cambridge, MA.

Pavlovic, N.B. In Press. Disturbance-mediated persistence of rare plants: restoration implications. In: Bowles, M.L. and C. Whelan (eds.) **Recovery and Restoration of Endangered Species**. Cambridge Press.

Pavlovic, N.B., M. DeMauro, and M.L. Bowles. 1992. Perspectives on Plant Competition--Plant collection rate should be positively correlated with plant population size: Reply to the 1-in-20 rule for plant collection. **Plant Society Bulletin** 38(1):8.

Whitman, R.L., D. Fagre, N. Pavlovic and K. Cole. 1992. Applications of Landscape Ecology to Urban Park Management. U/MA Press.

Rocky Mountain Region

The Region has joined the Colorado River Endangered Fishes Recovery Implementation Program. Four endangered and 2 candidate species are the subject of considerable effort to stave off extinction: razorback sucker, bonytail chub, humpback chub, and Colorado squawfish are endangered; roundtail chub and flannelmouth sucker are candidates. Ed Wick of our Fort Collins office has the lead in this effort.

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Anthropological field research projects have begun in Glacier NP and in the Bighorn Canyon NRA. These are the first systematic efforts to collect baseline data on ethnographic resources within these park units. Dr. Brian Reeves (U/Calgary) and Dr. Larry Loendorf (Loendorf and Assoc.) will work closely with park staffs and members of the Native American community presently using park resources for traditional cultural purposes. The results will provide information on present use of natural resources within these parks and a cross cultural perspective on

resource values to inform the development of natural resource management options.

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In honor of its 20th anniversary, Fossil Butte National Monument in 1992 hosted the Third Conference on Fossil Resources in the NPS. The 2 previous conferences were held by Dinosaur National Monument and Petrified Forest NP. Conference topics have dealt with paleontological issues such as promoting paleontological research in NPs, increasing NPS technical staff, fossils in the field, laboratories and museums, interpretation, law enforcement issues including theft and vandalism, and paleontological issues outside the Park System.

Final products of the 1992 conference are a technical report including abstracts, selected papers and a field trip guide, and a letter to the NPS Director describing the status of NPS fossils and recommendations for future actions. The Fourth Conference on Fossil Resources is planned for 1994 and will be hosted by Florissant Fossil Beds National Monument.