

Natural Resource Stewardship and Science
Reports for November and December 1996

BIG NEW ITEMS:

ZION WATER RIGHTS. The Agreement was signed on the banks of the North Fork of the Virgin River on December 4, 1996 at Zion National Park. The event received substantial coverage by the media, including the three primary networks out of Salt Lake City. The primary signatory's during the ceremony were Sec. Babbitt, Governor Leavitt, Exec. Dir of the Utah Department of Natural Resources Ted Stewart, Washington County Water Conservancy District Manager Ron Thompson, and Kane County Water Conservancy District Manager Todd McFarlane. Each individual spoke and praised the efforts of the negotiating team. They were especially impressed with, and continued to encourage, the cooperative efforts of the State, the NPS, and the Conservancy Districts. They were holding this agreement up as an example of what could be done when the State and Feds worked cooperatively together to resolve complex problems. the NPS received several strong endorsements and pats-on-the-back for their efforts and use of scientific facts. Sec. Babbitt specifically mentioned the work of the NPS Water Rights Branch, as did the State, and personally recognized the work of Owen Williams. In addition, Sec. Babbitt personally presented Owen his meritorious award prior to the ceremony.

All parties agreed that this process should and would be used to resolve outstanding water rights issues for the remaining parks in Utah. I have already contacted the State and we have agreed to complete the unfinished agreement for Tipanogas Cave and to begin negotiations on Bryce, Arches, and Cedar Breaks after the new year. Overall, the ceremony was a tremendous success and recognized the importance of the first Federal reserved water right for the NPS in Utah.

CENTRALIA POWER PLANT FINAL TARGET SOLUTION The Collaborative Decision Making (CDM) group announced its final target solution on December 3, 1996. The CDM Group, including NPS, believes that the final target solution will help to protect the resources at Mount Rainier National Park by:

- ☐ requiring full scrubbing to remove 90% of the sulfur dioxide end of 2002;
- ☐ limiting annual sulfur dioxide emissions to less than 10,000 tons per year beginning in 2003;
- ☐ requiring low-nitrogen oxide burners on both boilers by end of 2002;
- ☐ maintaining the viability of the power plant and the coal mine, including approximately 700 jobs in the small town of Centralia;
- ☐ improving regional air quality to benefit public health and improve visibility and acid deposition at Mount Rainier National Park, the Puget Sound area, and other locations throughout western Washington.

The final target solution will now undergo a full legal process with

opportunities for public review under the jurisdiction of the Southwest Air Pollution Control Authority, the regional air quality agency. The CDM group will hold a meeting in January to determine next steps in the process.

ENDOCRINE DISRUPTORS IN LAKE MEAD CARP The Nevada Basin and Range Study Unit of the U.S. Geological Survey's National Water Quality Assessment Program in cooperation with their Biological Resources Division and the National Park Service, U.S. Bureau of Reclamation, and the U.S. Fish and Wildlife Service, recently released the results of a 2-year study titled "Synthetic Organic Compounds and Carp Endocrinology and Histology in Las Vegas Wash and Las Vegas and Callville Bays of Lake Mead, Nevada 1992 and 1995". The investigators assessed the occurrence of organochlorines and semivolatile industrial compounds in the water, sediment and tissues of carp in the bays and in Las Vegas Wash. The investigators also searched for evidence of endocrine disruption in carp collected from those areas. Las Vegas Wash channels urban runoff and wastewater from the City of Las Vegas to Lake Mead. The investigators found evidence of endocrine disruption in Las Vegas Bay male carp which had elevated levels of an egg protein normally found only in females. In addition, tissue concentrations of some organic compounds exceeded the EPA 10-6 cancer screening criteria for consumption. Additional studies are now being formulated to ascertain if Striped Bass, the primary sport fish in Lake Mead, are also being similarly affected.

HEADS UP

ECOSYSTEM MANAGEMENT TRAINING Fifteen tuition-free trainee slots are still unfilled for the advertised 1997 BLM training in biodiversity and regional planning. Information can be obtained from Craig Shafer, WASO (202) 219-8934.

I&M DATA MANAGEMENT PROTOCOLS The Natural Resources Inventory and Monitoring Program will be issuing data management protocols and a data set catalogue template in the new year. The template is an ACCESS input template for all kinds of data including GIS or spatial data. The template has a spatial data button that will allow you to choose from the full FGDC template (developed by Dan Hurlburt, GIS, SHEN) or a core set of the FGDC standard to fill in. In either case, Joe Gregson, I&M data manager, is working with Dean Tucker, Water Resources GIS, to imbed the bounding coordinates for all parks as well as other convenient pick list items.

A-16 CALL The IGDC A-16 or Call for High Priority base carto requirements will be sent out in January. On Nov. 21 the Deputy Asst. for Water & Sci. sent a memo to all DOI Directors regarding their spatial data requirements. Hopefully these requirements will match what comes in from the parks in the January call. Some of the NPS priorities that will remain high and resubmitted for 98 production will be Alaska, Mojave, Greater Yellowstone, U.S. Mexico Border. If you have any concerns please give Leslie Armstrong a call at 303-969-2964.

NADP WET DEPOSITION MAPS AVAILABLE The National Atmospheric Deposition Program is distributing color maps of deposition chemistry collected at the 200 network sites during 1995. Thirty-three NPS units are included in this long-term monitoring network, founded in 1983 to determine trends in precipitation chemistry falling in rural/remote areas of the U.S. This is an interagency effort among Federal and states resource and regulatory agencies. Copies of the glossy handout can be obtained from NADP Coordination Office, CSU-NREL, Fort Collins, CO 80523-1499, (970) 491-3601, internet <http://nadp.nrel.colostate.edu/NADP>

TUCSON FOLLOW-UP/REMINDER The due date for "second draft" book chapters, stemming from the Tucson, Arizona, December, 1995, Ecological Stewardship Workshop, is January 9, 1996. NPS authors should get with their writing teams and see that their work is

submitted soon to the World Resources Institute (WRI). WRI is overseeing the book project for the Forest Service.

OTHER BIG STORIES/ACCOMPLISHMENTS

UV-B MONITOR INSTALLED IN GREAT SMOKY MOUNTAINS NP AS PART OF NPS/EPA EFFORT Recently the National Park Service and the Environmental Protection Agency signed an Interagency Agreement to develop a long-term environmental monitoring program, known as the Demonstration Intensive Site Network (DISPro). The first activity under DISPro is to install UV-B monitors in twelve NPS units by the end of 1997: Denali, Sequoia, Olympic, Big Bend, Everglades, Virgin Islands, Acadia, Shenandoah, Great Smoky Mountains, Rocky Mountain, Glacier, and Canyonlands NPs. The first monitor was installed at Great Smoky Mountains National Park on December 13, 1996, through the combined efforts of park staff, ARD staff, and EPA/NPS contractors. This monitoring network adds to the existing air and deposition monitoring coordinated by the NPS-Air Resources Division. This stressor monitoring will be integrated with effects research at a number of NPS sites.

REVIEW OF THE CRITERIA FOR COORDINATED LONG-RANGE OPERATION OF COLORADO RIVER RESERVOIRS The 1968 Colorado River Basin Project Act requires the Secretary to formally review every five years the Criteria which guide the operation of Colorado River Reservoirs. That review currently is on-going. The Water Resources Division, in full coordination with the seven Colorado River park units, submitted a detailed set of comments on the Operating Criteria to the Bureau of Reclamation. The National Park Service (NPS) is concerned that the environmental and recreational resource implications of reservoir operations be given full consideration in the development of Annual Operating Plans. Specifically, NPS is concerned that continued deliveries of water from Lake Mead for "surplus" consumption (consumption in excess of compact allocations) in the lower basin will impact resources in Lakes Mead and Powell, and on the Colorado River in Glen Canyon NRA and Grand Canyon National Park. Impacts will stem from lower lake levels, greater lake-level fluctuations, and reduced frequencies of flood "spills" and habitat-building "spike flows" from Glen Canyon Dam.

SPACE SHUTTLE SHOTS PARKS Beginning with the January 12, 1997 Space Shuttle launch, the Shuttle astronauts will be using hand held cameras to photograph the national parks from space. Most of the photography will be natural color photography from different altitudes. The use of several different lenses on both Hasselblad and Linhof cameras, and the varying shuttle altitudes offer a wide variety of both areal coverage and spatial resolution. Shuttle astronauts will be provided with a list of park geographic coordinates and priorities for their photography acquisition.

The National Park Service (NPS) will utilize the space shuttle photography to fill the data gap between aerial photography and satellite imagery. Data will be extracted through image processing and visual photo interpretation to gain knowledge about trends and changes in the natural resources of national parks and related ecosystems. Critical environmental monitoring sites such as the NPS Inventory and Monitoring Prototype parks will be photographed repeatedly by future shuttle astronauts. This will provide new data as well as complement existing data from earlier dates to document changes over time. Repeat coverage over several missions and photographing at various sun angles also highlights different geologic features and takes advantage of sunglint to show intricate ocean structures and land/water interfaces.

This image acquisition project is part of a larger NASA effort called the Space Shuttle Earth Observations Photography program based at the Lyndon B. Johnson Space Center in Houston, Texas. For more information about this program go to the following internet sites:

http://ersaf.jsc.nasa.gov
http://images.jsc.nasa.gov
http://shuttle.nasa.gov

NPS GEOLOGIST-IN-THE-PARKS (GIP) - Eighteen parks submitted proposals for geologic intern positions. The Geologic Resources Division (GRD) paneled these proposals and selected twelve as finalists for funding in FY-97. One park, Northwest Alaska Areas, provided its own funding but wants division assistance with finding a qualified candidate. Working with the GRD, the Geological Society of America (GSA) has agreed to fund two NPS geoscientist interns (\$2500 each) this year. GSA will select two of these proposals and administer these positions internally. The GSA magazine "Geotimes" will publish an ad and a short article about the GIP program in the February 1997 issue. The remaining proposals will be sent to the Student Conservation Association (SCA) to manage placements. All park website notices for the 28 parks that participated last year have been updated, and two parks new to GIP have submitted ads describing geological opportunities to the GIP website. The division also contacted the National Speleological Association and they will run an ad about the GIP program highlighting cave management/research opportunities in their January 1997 issue.

GEOLOGIC SOCIETY OF AMERICAN CONFERENCE PARTICIPATION A SUCCESS The Geologic Resources Division exhibit at the five-day fall Geologic Society of America Conference was very successful at getting exposure for our embryonic program and initiating future partnerships. Attendees at the conference, which had a paid registration of 6,350 geoscientists, largely were from the academic, educational, and governmental sectors, with a smattering of industry participants. About 550 "Geologists in the Park" brochures were handed out, and over ten pages of requests for additional information were compiled. One day-long session was dedicated to NPS geologic educational opportunities and attendance ranged from 50-100 people. Poster sessions included over a half dozen projects done in different parks.

NPS - USGS COORDINATION MEETING - Concurrent with the annual GSA conference, NPS Geologic Resources staff met with USGS program coordinators and regional geologists. Several important action items emerged from the meeting including:

- ☐ FY-98 USGS projects will be developed through proposals relating to themes in each program's prospectus. NPS staff geologists must work with USGS program coordinators to understand and influence prospectus contents. Prospectuses will be ready for dissemination to parks in early March. NPS proposals should be developed with USGS geologists and submitted to USGS regions in early May.
- ☐ USGS has produced a list of geological contacts for the 140 geology parks. GRD will distribute this list to parks and complete its compilation of NPS contacts in resource management and interpretation for use by USGS.
- ☐ USGS asked for a summary of geologic issues in parks, as defined by RMP project statements, to be considered for USGS assistance. GRD is planning to compile this information in 1998.
- ☐ USGS proposes to ask their geologists working on park projects to prepare a brief electronic summary (250 words, plus a figure) for park home pages. GRD will contact parks for approval to place these summaries on homepages, and follow up with USGS to ensure that the summaries are produced.

ACID DEPOSITION MODELING STUDY The Southern Appalachian Mountains Initiative (SAMI) has begun a modeling study of the effects of acid deposition on both terrestrial and aquatic ecosystems in two park units: Shenandoah and Great Smoky Mountains National Parks. A workshop held in Atlanta in December brought together the modeling teams and data managers to discuss data availability for use in the two models selected for sensitivity analysis: MAGIC-WAND and NuCM. Modelers, who will be presenting the results of their models tests to the SAMI Governing Body in April, include researchers from E&S Environmental Chemistry, University of Virginia, Desert Research

Institute, and Tetra Tech. Technical project managers are Kathy Tonnessen (NPS-ARD) and Pat Brewer (TVA).

STATE AGREES TO PLUG AND ABANDON OIL WELLS IN JEAN LAFITTE - The State of Louisiana will plug and abandon two orphaned wells in the Barataria Preserve Unit of Jean Lafitte. In response to the request of the park, assisted by the Geologic Resources Division, the Eason Oil Company No. 1 and the F. A. Callery No. 1 wells will be plugged using funds from the state's orphaned well fund. Both wells were only partially plugged when abandoned in the early sixties by the now defunct operators, and now pose a threat to park resources. Work will involve checking plugs at the surface casing shoes and setting surface plugs. The casing stubs will then be removed to below the mud line. This action by the state is not a 36 CFR 9B issue since there is no exercise of nonfederal oil and gas rights. Accordingly, the park issued a special use permit for the state to complete the work. NPS staff worked to ensure the State's bid was structured to address the park's environmental issues. Work is expected to be completed this fall.

BADLANDS ZEOLITE MINE PROPOSAL HITS SMALL SNAG - Lessor Does Not Own Mineral - In what has turned out to be an advantageous twist of legal detail for the NPS, Pan Energy's proposed zeolite mine 4 miles south of Badlands NP will not materialize. The mine was proposed on private lands on the Pine Ridge Indian Reservation. The land owner leased about 12 acres of land to Pan Energy for the surface zeolite mining operation. This fall staff from the State of South Dakota, Badlands National Park, NPS Geologic Resources Division, the Sioux tribe, and Pan Energy met on the site of the proposed mine to discuss the proposal. As a result of numerous concerns about impacts of the proposed surface mine, the Sioux Tribe decided to run a title search on the land. The results of the search showed that when the private owner purchased the property only title to the surface was acquired, not title to the minerals. So, the conclusion is that the surface owner leased a mineral that he did not own and the true owners of the zeolite, the Sioux tribe, told Pan Energy that they will not allow the zeolite to be mined. For now though, it looks like the Badlands zeolite will stay right where nature put it. Oh, how we long for all of these mineral issues to be resolve this easily!

Subject: Part II - Nov/Dec Natural Resources Monthly Report

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The last item of the report wouldn't fit in the first transmission:

GIS NEWS On Wed. Oct 23, the USGS announced in the Commerce Business Daily a new contract for non-Unix ESRI products. This is a sole source contract expected to be in place by the end of March 97. The NPS would be able to buy off this contract, as we do the GIS II contract for UNIX ArcInfo products.

* A contract for Digital Raster Graphics (DRG) data is now in effect with LandInfo. This company is providing the NPS Inventory and Monitoring Base Carto Program with DRGs that are tiled together and can be used directly with ArcInfo or ArcView. If you wish to use this contract and pay for your DRGs because you are a low priority park on the I&M list, not on the I&M list at all, or because you need DRGs within the next few months, please let me know. I will need your Purchase Order and a quad list including park name, quad name, State and USGS ID. DRGs are \$20.00 per quad.

* Declassified Intelligence Satellite Photographs for 1960 -1972 are available through EROS Data Center (606)594-6171 or on the web at:

<http://edcwww.cr.usgs.gov/glis/hyper/guide/disp/>

* You are invited to send abstracts or other documents and images for the NPS GIS website regarding GIS applications and data use. Send them to Bill Slocumb and he will convert them to html for you and post them to the GIS pages.

* NPS GIS ArcView 3.0 training classes are being scheduled as follows: 1) February 4-6, Raleigh, N.C.; 2) March 4-6, Yellowstone NP; 3) May 13-14, South Florida; 4) June TBD, Santa Monica Mtns. GIS for Managers is being held April 15-17, at University of Wisconsin, Madison.

Formal announcements and nomination forms will be forthcoming 6 weeks prior to each class.