

**MINING AND MINERALS BRANCH  
NATURAL RESOURCES - WASO  
Monthly Report - April 1995**

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**Mailing Address:**

National Park Service - MMB  
P.O. Box 25287  
Denver, Colorado 80225-0287

**Delivery Address:**

National Park Service - MMB  
Room 221  
12795 West Alameda Parkway  
Lakewood, Colorado 80228

**Telephone:**

Denver (303) 969-2090  
FAX (303) 969-2822

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**GENERAL**

**Conference on National Park and Public Land Management Focuses On Proposed New World Gold Mine Near Yellowstone**

- Branch staff attended a two day conference at Snowbird, Utah, hosted by the Utah University College of Law to discuss national park and public land ecosystem management as it relates to development projects affecting public lands. The first day addressed the Virgin River ecosystem and Zion National Park. Case study presenters discussed the importance of data gathering and studies, proposed development, legal constraints, and alternatives to the usual methods and locations for water impoundment. Review of the Zion water rights issue showed that early NPS involvement can make a positive difference in the outcome of development proposals that threaten units of the National Park System. Resolution of the issue was touted as a "successful model" for ecosystem management. The second day of the conference highlighted an ecosystem management case study on the proposed New World gold mine near Yellowstone National Park. Presenters discussed various important and controversial issues, including the location and basic layout of the mine, the permitting process, potential water quality degradation, and agency interaction in the EIS process. The conference provided a forum for personnel representing several Federal agencies to candidly discuss the critical issues associated with the mine, and sparked a renewed commitment to work together in evaluating alternatives and environmental impacts. (Moss, Shaver, Cloues)

**Branch Briefs Associate Director for Natural Resources on Minerals Management Issues**

- Branch managers and staff held a briefing for Mike Soukup, Associate Director for Natural Resources, on April 27 in Denver to apprise him of the numerous minerals management issues facing the NPS, and specifically the role and function of the Branch in resolution of the issues. Broad topics discussed included management of non-Federal oil and gas rights and other private minerals, Federal mining claims, NPS administrative sand and gravel extraction in parks, abandoned mineral lands, external mineral development, and disturbed lands restoration. Detailed discussions dealt with the status of the lawsuit challenging the NPS's authority to regulate nonfederal oil and gas development at Padre Island; the proposed mining

operation on Shi Shi Beach in Olympic; mining claims management in the California Desert parks; mineral rights acquisition; the mining claim validity examination program; the abandoned mineral lands program; and several proposed external mineral development operations, namely the New World mine near Yellowstone, Warm Springs mine near Glen Canyon, Apollo mine near Cumberland Gap, oil and gas development around Theodore Roosevelt, and potential lead mining near Ozark National Scenic River. The role of science in resolving these natural resources management issues was a frequent and important point of discussion. The briefing provided the Associate Director with background and a more complete understanding of the Branch's role in the management of natural resources. (Woods, Shaver, Higgins, McCoy)

**BOM Hosts Departmental Conference on Environment and Safety -**

Branch staff participated in the Department of the Interior Conference on the Environment and Safety hosted by the U.S. Bureau of Mines (BOM), held in Colorado Springs. The conference combined the annual BOM Hazardous Materials Conference and the BOM Safety Conference. Sessions focused on:

- **hazardous materials management** - pollution prevention, damage assessment, liability, environmental auditing, illegal disposal of contaminants, proper management and disposal of hazardous wastes, oil spill issues, and management of lands encumbered with unexploded ordnance;
- **occupational safety and health** - strategic plan implementation, OSHA regulations, accident prevention, safety and personal protection equipment;
- **abandoned mineral lands (AML) issues** - inventory and ranking, natural resource damage assessment (NRDA), and remediation and control technology.

Presentations by Branch staff included development of AML management plans in the DOI (Bob Higgins), radiological hazards at abandoned uranium sites (John Burghardt), and a poster session entitled "Reducing Mineral-Related Impacts on NPS Lands: A GIS Application (Mark Ziegenbein and Peter Budde, DSC-GIS). The conference provided an opportunity to learn from the experience of others in the DOI, and to develop useful contacts for dealing with NPS minerals management issues. (Burghardt)

**Bureau of Mines Partnership with NPS on AML Projects** - The Bureau of Mines (BOM) recently approved an NPS request to engineer and fund two new concepts for abandoned mine closures. One project will test the use of an inflatable bladder form and foam cement to close long irregular mine openings that are found at a number of abandoned sites. Another project will test the use of kaolin cement with acid-forming waste rock to fill mine shafts, creating a large plug that prevents further acid generation. In addition, the BOM has sponsored a proposal for EPA funding to characterize acid mine drainage at the Eugenia Mine in Rocky Mountain National

Park. Sampling would provide the data needed to determine appropriate remediation methods for this effluent to improve water quality in the St. Vrain Basin. These three projects should begin in the summer of 1995. (Higgins)

**Branch Stays Active in Office of Surface Mining EIS on Valid Existing Rights Rulemaking to Mine Coal** - Branch staff provided the Office of Surface Mining (OSM) with comments on chapters 1 and 2 of the draft EIS on the "valid existing rights" (VER) proposed rulemaking. Section 522(e) of the Surface Mining Control and Reclamation Act (SMCRA) prohibits surface coal mining operations in certain areas subject to VER and except for those operations which existed on August 3, 1977. NPS lands are specifically addressed in three separate subsections of §522(e) that provide important regulatory protection from surface coal mining in or around NPS units. Final VER rules issued in 1979 and 1983 were, in part, successfully challenged several U.S. District Courts. A proposal to define VER in 1988 was later withdrawn by OSM. Our comments suggested that draft EIS chapters expand discussions of four distinct issues, namely:

- potential environmental impacts associated with surface coal mining operations adjacent to National Park units,
- effects of alternatives on VER standards used by states where coal program management is delegated to the state,
- the process by which a coal operator may apply for a waiver in lieu of gaining a VER determination, and
- the fiscal limitations of the Departmental policy calling for the Secretary to prevent coal mining in protected areas under section 522(e)(1), such as National Park System units.

The Branch will remain involved in the VER EIS process to ensure that OSM fully considers impacts of the rulemaking on NPS resources and values. (Moss, McCoy)

**Draft Operator's Guide for Non-Federal Oil and Gas Development Nears Completion** - The Branch is preparing a simplified guide for private oil and gas operators proposing to conduct operations in NPS units. The guide is intended to: help operators understand and follow the pertinent NPS regulations at 36 CFR Part 9B; educate operators on the important natural, cultural, and recreational resources administered by the NPS; aid operators in the preparation of complete plans of operations; and present state-of-the-art mitigation methods and techniques to consider when planning operations. Hopefully, the guide will decrease administrative time that NPS managers must afford to private oil and gas operators involved in operation planning. We recognize that most operators in parks are small companies or individuals with limited resources and many have difficulty understanding the regulatory requirements of operating in a unit of the National Park System. In an effort to improve the utility of the guide, the Branch is structuring and writing the document in relatively simple and easy to read language, and not overly congested with material that applies only to very rare situations. Target

completion date for the draft document is June 30, 1995. The Branch will seek input from knowledgeable staff at affected parks and system support offices. The Branch will incorporate comments in the final document and distribute to park units and regional offices by September 30, 1995. (O'Dell)

**Servicewide Standard Operating Procedures Being Developed for Oil and Haz-mat Impacted Sites** - Numerous active and abandoned oil and gas sites on lands managed by the NPS have adversely impacted soil and groundwater through leaks, spills, or other unintentional releases. As many of the active oil and gas operations in the parks reach the end of their economic lives, the NPS can expect to see more well plugging and site restoration proposals. Many of such wells produced hydrocarbons for decades, and likely experienced several spill events or chronic leaks over the years that have contaminated the surface and subsurface. The issue is compounded by the fact that small operating companies with limited budgets often purchase these wells, and they may not have the financial capability to effectively remediate the contamination. The NPS can expect some operators to abandon their wells and production sites. To assume a proactive role in dealing with these sites, the Branch agreed to serve as the lead office in developing standard operating procedures (SOP) for parks to follow during contaminated site characterization and remediation. Initially, staff representing Padre Island National Seashore, Southwest Regional Office, WASO Environmental and Safety Division, WASO Environmental Quality Division, and WASO Water Resources Division provided input on defining appropriate procedures. The Branch compiled these comments and identified the following seven topics that require extensive elaboration in the SOP:

- overview of the existing regulatory framework,
- incorporation of spill and waste management action plans into plans of operations as required by 36 CFR Part 9B,
- pre-operations baseline soil and water quality data collection,
- environmentally sound operating practices to prevent pollution,
- administrative procedures for spills and other unintentional releases occurring during operations,
- assessment procedures to identify impacted resources at active and abandoned sites, and
- remediation options and goals.

The Branch has sent the draft SOP to affected park units for review and comment. Copies of the draft document are available from Bruce Heise at (303) 969-2017. (Heise)

**"Soft Footprints" Talk Presented at Colorado School of Mines** - Branch staff presented a new, enlarged, and improved version of our "Soft Footprints" slide show to a Colorado School of Mines senior class of petroleum geologists and engineers. The show is a collection of examples depicting low impact, or soft footprint,



oil and gas operations we have observed on public lands. It was disappointing to note that none of this class had any exposure to environmental issues in the oil and gas industry in particular, or environmental issues in general. Many of the students could locate a national park, although they often confused the NPS and USFS. Outreach programs such as this one hopefully will foster an awareness of some of the environmental issues associated with their chosen profession. (Heise)

**NPS Comments on EPA's Draft Rulemaking for Effluent from Offshore Oil and Gas Operations** - Branch staff evaluated EPA's draft rulemaking on effluent limitation guidelines and pretreatment standards for offshore oil and gas operations. We prepared NPS's official comments on the rulemaking, incorporating comments prepared by Western and Alaska Regional Office staff. The primary NPS concern with the rule as written is a less than adequate assessment of potential resource impacts to coastal parks resulting from proposed effluent chemical concentration thresholds and accidental spills. (Heise)

**Staff Presents Posters at George Wright Society Meeting** - The theme of the Eighth Biennial Conference on Research and Resource Management, sponsored by the George Wright Society, was "Sustainable Society and Protected Areas." Over 500 people, mostly NPS staff, attended the conference which provided an excellent opportunity to hear broad ranging discussions on ecosystem management, sustainability, and restoration as it relates to park management. Branch staff presented three poster sessions at the conference. Dave Steensen presented one on the fledgling Disturbed Lands Restoration Program, which focused on raising the issue of NPS disturbed lands and the need for a funded Servicewide program. He also presented a poster on the Martin Mine reclamation project, completed last fall at Craters of the Moon NM, Idaho, which highlighted the success of cooperation between staff of the Branch, Monument, Pacific Northwest Region, Bureau of Land Management, and a local Boy Scout Troop. The key connection with the conference theme is that land restoration is a basic component of sustainable land use.

Mark Ziegenbein, along with Peter Budde of the Denver Service Center GIS Branch, presented a poster featuring a Branch project to identify minerals issues in or near park units. A principal purpose of this project is to recognize potential conflicts with park management goals before problems actually develop. Through the use of interagency GIS data, the Branch has improved mineral-issue awareness, coordination, and communication with neighboring land management agencies throughout the National Park System. The GIS map layers in association with ArcView® software have enabled staff to produce quick graphics for reports and memos; respond accurately to who, what, and where questions from management and the public; and track land-use planning or mineral leasing efforts. Map layers and associated databases developed to support this project include: NPS unit boundaries, major

hydrographic/transportation features, BLM resource area and district boundaries, state and county boundaries, National forest and grassland boundaries, mineral industry location system (MILS) points, five and 10-mile areas around park units, and oil and gas pipelines in and near parks. (Steensen, Ziegenbein)

**Geoscience Information Please** - The NPS reorganization efforts will bring the Mining and Minerals Branch into the WASO Natural Resources Office, rechristened the Geologic Resources Division. This move will help to develop an increased emphasis on geologic resource management in the NPS. We plan to use the attached **"PRELIMINARY"** lists of NPS geoscientists and geological parks as a starting point to promote the following objectives:

- identify NPS staff skilled in geological resource issues,
- improve our understanding and protection of geological resources in the National Parks,
- help to better focus the work of the new Geologic Resources Division, and
- encourage networking among geoscientists and geological parks, and help Parks to more effectively share staff expertise as envisioned in the NPS reorganization plan.

The NPS "geoscientists" list comes from the Natural Resource Personnel Database, which contains more than 100 NPS employees in parks, regional offices, and the WASO Natural Resource Center who have a background or interest in geology and related subjects. We plan to update and build on the database by requesting details about geological expertise from NPS employees currently on the list, and by seeking names and expertise of other NPS geoscientists not now in the database.

The attached list of "geology parks" was created at the time management decisions were being made to create a division that would emphasize geologic resource management. These parks have geologic resources as a central theme, contain significant geologic features, or demonstrate notable geologic processes.

Please review these lists and provide any information to improve the database. The geoscientists list should be reviewed to see if anyone has been overlooked in the scan of the Natural Resource Personnel Database. We also need to identify those staff not in natural resources positions, e.g., rangers, cultural resources, interpretation, etc., that are working in or have academic background in some aspect of geoscience. Additionally, we would appreciate a review of the geology parks to see if any were missed, or if some that are on the list should be dropped.

Notification of this request will also be posted in the NPS Morning Report and listed personnel will be contacted directly via cc:Mail. If you have additional information about either of these lists, please contact Bob Higgins by phone at (303) 969-2018, FAX at (303) 969-2822, or cc:Mail. Thank you for taking the time to respond.

## **ALASKA REGION**

**Alaska Mineral Appraisal Evaluation Board Convenes** - Alaska Region Contracting requested Phil Cloues, Mining Engineer with the Branch, to serve on the Mineral Appraisal Evaluation Board. As a board member he will help select a qualified contractor to perform the next round of fair market value appraisals for mining claims in Denali National Park. The board's function is to evaluate the seven firms which submitted proposals in accordance with the criteria in the Federal Acquisition Regulation 15.608(a)(2) and prepare a brief report documenting the evaluation for the regional contracting office. The report includes a description of the evaluation ranking criteria, justification for scoring, and qualifications of the members. (Cloues)

**Glacier Bay Nickel Deposit On Ice** - A deposit of nickel ore held by patented mining claims apparently lays under the Brady Glacier in Glacier Bay National Park and Preserve, Alaska. The owner of the mining claims approached the Alaska Region seeking an offer to buy out the mineral rights. The initial price tag suggested by the claimant appeared unreasonably high. The regional Lands Office then requested Branch staff to investigate published reports and provide an estimate of the market value for the mineral rights. Branch staff evaluated the reports and presented recommendations to the region for use in negotiations with the claimant. The negotiations are getting closer to being "placed on ice" as technical review of the reports support assumptions of infeasibility. A Fluor Utah, Inc. (1974) study entitled "Preliminary Engineering Study and Order of Magnitude Estimate" and a Dunn-Behre Dolbear, Inc. study entitled "An International Supply-Demand Market Study for Nickel, 1992" give additional support to earlier findings that the deposit has serious technical hurdles to get over, financially threatening road blocks, and legal constraints which constrict its very life blood. This appears to be another example of a high risk, low potential mining project being offered to the NPS for sale at unrealistic prices. (Cloues)

## **MID-ATLANTIC REGION**

**Delaware Water Gap Stabilizes Old Mine** - While attempting to install a locking bat gate at the 200 year old Pahaquarry Copper Mine, the maintenance crew at Delaware Water Gap National Recreation Area, Pennsylvania, encountered deteriorating rock conditions and were threatened by rock fall. Chief of Maintenance Dennis McGennis immediately contacted the Branch for technical assistance. Within the day the Branch provided an alternative design plan for a temporary support system, list of materials required (e.g., 30 inch diameter culvert, pvc drainage pipe, polyurethane foam, and gate design), and instructions for installation. The alternative design replaced the possibility of blasting the hillside and protected not only the cultural

resource but the natural resources in the immediate area.  
(Cloues)

#### MIDWEST REGION

**Mineral Appraisal Expertise Provided to Midwest Region and Hopewell Culture** - In these stressful times of downsizing and economizing, a little understood niche of Branch expertise continues to function and ensures that NPS funds are wisely spent. A sand and gravel mining operation, until recently, was extracting material on about 142 acres in Hopewell Culture National Historical Park, Ohio. The mining operation threatened the future existence of cultural resources near the park. Condemnation has stopped the mining, but a purchase price approaching almost a million dollars is a significant amount necessitating close review under the Uniform Appraisal Standards for Federal Land Acquisition. Branch staff provided the Midwest Region Lands Division with input on geology, mineral appraisal methodology, economics, mining engineering, and market analysis to assist in the evaluation process and guarantee a successful outcome in the halls of justice. (Cloues)

#### ROCKY MOUNTAIN REGION

**Testing the Legal Waters at New World** - In an effort to bring further legal and policy expertise to bear on the controversial proposed New World gold mine near Yellowstone National Park's northeastern border, Branch staff met in Denver with Marilyn Averill, Regional Solicitor. Crown Butte Mines, a Canadian owned entity, has proposed a multimillion dollar gold mining operation just north of Yellowstone. Without adequate environmental safeguards, the mine could have drastic, long-lasting impacts primarily to the water quality and quantity flowing into Yellowstone. For years legal scholars have wrestled with various theories about NPS responsibilities and authorities to protect park resources from "external" operations. Within the last five years those theories have crystallized. We believe the New World gold mine controversy is fertile ground to sow the seeds of these now well established theories and interpretations to extend NPS authorities to influence development on adjacent lands. There are also good indications that higher level Department of the Interior officials share the public's sense of urgency on this matter. Though Crown Butte's plan is still in the early stages of review, Branch staff are mobilizing to coordinate efforts with all key players to ensure adequate protection against this very real threat. (Kassman, Shaver, McCoy, Moss)

**Branch Pens Letter Panning New World EIS Alternatives** - Branch staff compiled comments on the recently circulated draft Appendix A (Development of Alternatives) of the New World gold mine EIS. The comments were prepared for signature by the Superintendent, Yellowstone National Park. The New World EIS, overseen by the Montana Department of State Lands acting in concert with the Gallatin National Forest as lead EIS agencies, is in the early



stages of preparation and has already drawn fire from the NPS, Environmental Protection Agency (EPA), and a host of environmental groups. The lead agencies in the EIS process released an administrative version of the alternatives document several months ago and received harsh criticism from cooperating agencies for not addressing a wide enough range of alternatives and not supplying supporting data on rejected and retained alternatives. Most of the debate centers around alternatives to Crown Butte Mining's proposed tailings impoundment in the Fisher Creek drainage and the need for groundwater data not yet supplied by the company. The lead agencies promised a revised document containing adequate supporting data for retained and rejected alternatives, adequate groundwater pumping data, and a cooperating agencies meeting prior to the release of the draft alternatives. However, none of the items have yet come to pass. Our draft comments strongly called for an immediate cooperating agencies meeting, full analysis of alternatives such as off-site tailings disposal, and a revision of the lead agencies proposed June 1995 release date for the entire draft EIS in the absence of necessary groundwater data. The letter was signed out of Yellowstone with a few additions. The NPS has received no response to the comments other than a promise by the lead agencies to hold a meeting of all cooperating and lead agencies in Denver at EPA headquarters on May 19, 1995. (Moss)

**Branch and Theodore Roosevelt National Park Team-up to Minimize Impacts from Adjacent Oil and Gas Drilling** - The Branch, working closely with park staff, reviewed a BLM environmental assessment (EA) for a proposed oil and gas well on private land just outside Theodore Roosevelt National Park, North Dakota. The park staff had the foresight to get involved in the planning for this well since it was originally proposed over two months ago. They participated in the BLM site meeting with the operator and used the opportunity to express their concerns. The EA incorporated the park's recommendations to minimize impacts stemming from the well. Significant differences of opinion remain between the NPS and BLM on particular regulations that we believe require park consent, rather than consultation, before approving a well drilling permit. While this issue still needs to be clarified, park resources are protected in the interim through the early involvement of the park staff. (Heise)

#### **SOUTHEAST REGION**

**Administrative Sand and Gravel Concerns Discussed at Southeast Region's Facility Management and Resource Management Workshop** - Branch staff attended the Southeast Region's Facility Management and Resource Management Workshop held at Myrtle Beach, South Carolina on April 5, 1995. We presented the findings of the Servicewide study conducted by the Branch concerning administrative sand and gravel extraction in and near park units. The presentation emphasized the need to address all economic issues when evaluating development of sand and gravel pits in parks versus acquisition of material from commercial sources

outside parks. Economic considerations include planning, environmental compliance, restoration, hauling, impact on resources and visitor use, road degradation and maintenance associated with hauling, material quality and quantity, and exotic plant control. The presentation was well received by the attendees. Feedback focused on the need to provide for the safety and enjoyment of visitors by properly maintaining park roads while protecting park and ecosystem resources from adverse effects of gravel extraction. Many attendees also suggested that the NPS needs to evaluate administrative sand and gravel extraction in more depth due to increasing park needs for such material and increasing controversy. The Branch intends to publish the results of the Servicewide study in an "issue paper" for presentation to the National Leadership Council. The paper will include management recommendations. (Geniac)

#### **SOUTHWEST REGION**

**Alternatives for Reclaiming Cinder Quarries at Petroglyph Assist Reclamation Planning and GMP Efforts** - Branch staff prepared a report delineating impact mitigation alternatives for three cinder quarries at Petroglyph National Monument, New Mexico. The quarries include about 10 acres of disturbance, and a 60-foot highwall is a potential safety problem at one site. Mostly, however, the quarries are visual intrusions and have a very low capacity for natural vegetation recovery. The report provides discussion of the sites and a range of work alternatives that include engineering design, equipment recommendations, and possibilities for maximizing the revegetation potential. Also presented in the report are the estimated costs to do the reclamation work, which varies from \$30,700 to \$53,100. This cooperative effort between the Branch and park staff highlights the advantages of having NPS restoration expertise that is available to all parks. For example, Petroglyph has only three sites and cannot justify full-time personnel to address the full spectrum of disturbed land issues. But, using Branch technical services, Petroglyph now has readily accessible information to proceed with selection of a preferred alternative and proposals to funding sources. Additionally, Petroglyph included language in their GMP stating their intent to restore the quarries. (Steensen, Wood)

**Branch Evaluates Proposed Oil and Gas Plan of Operations for Lake Meredith** - Devon Energy (Devon) recently acquired two producing oil and gas wells located in Lake Meredith National Recreation Area, Texas. Operation of the wells by the previous owner was not contingent on an NPS approved plan of operations due to a specific exemption granted in the NPS regulations governing nonfederal oil and gas rights at 36 CFR Part 9B. Devon's acquisition of the wells triggered loss of the exemption and continued operation of the wells is subject to an approved plan of operations. Devon is a sponsor of the Colorado School of Mines' annual conference on environmental issues in the oil and gas industry and is very proud of their low impact production

fields in the San Juan Basin. The Branch reviewed their plan and found it was essentially complete, lacking only some reclamation cost estimates and bond information. Devon presently has a performance bond with the BLM, and sought to use it in lieu of an additional bond with the NPS. The NPS regulations specifically prohibit doing so. Devon was informed that they would need to obtain another bond for their wells in the park. (Heise)

#### **WESTERN REGION**

**Subsidence Stabilization Actions Developed to Protect Historic Gold Stamp Mill at Joshua Tree** - Recent subsidence of the shallow mine workings is threatening the Lost Horse Mill, a 10-stamp gold mill on the National Register of Historic Places in Joshua Tree National Park, California. The subsidence was accelerated by heavy winter rains and has resulted in the formation of a 30' x 30' x 40' deep collapse hole. The Superintendent requested technical assistance because the mill is teetering on the edge of the collapse hole and further subsidence is imminent. The Lost Horse Mill and mine site is one of the most popular hiking destinations in the park. Branch staff conducted a field investigation at the Lost Horse Mine and submitted a report with mitigation alternatives, cost estimates, and construction documents. Alternatives considered were: relocating the mill, stabilizing the collapse zone with polyurethane foam or road culverts held in place with polyurethane foam, addressing immediate safety concerns only, and no action. The Branch recommended that the park stabilize the hole (thereby protecting the mill from further collapse) with polyurethane foam at an approximate cost of \$106,000. The report was accompanied by several examples of abandoned mine land safety signs to be placed at the trailhead and the site to immediately warn the visitors of the hazards associated around abandoned mines. (Smith, Cloues)

#### **PROFESSIONAL DEVELOPMENT**

**Staff Improve Skills in Environmental Economics, Risk Assessment, and Statistics** - Judy Geniac, Environmental Protection Specialist, successfully completed graduate-level courses in environmental economics, risk assessment, and statistics at the University of Denver. The training was funded through the Albright Grant program. All three courses focused on application in environmental impact analysis. Associated topics included directions that the U.S. Congress, Department of the Interior, NPS and the public are taking in examining the social value of parks, protection and maintenance of natural resources and ecosystems, and assessing the environmental risks of industrial development. The knowledge and skills acquired are essential for thorough evaluation of proposed mineral development plans in and near parks. (Geniac)