Paleontological Resources Management

By Vince Santucci, Paleontologist

The year was very active in paleontological (fossil) resources management. The ongoing inventory of park paleontological resources added fourteen parks to the list of parks with paleontological resources and several thematic inventory efforts are proceeding, along with development of a Servicewide database. Program publications, education, and outreach efforts were broadened particularly through the revitalization of the Park Paleontology newsletter and development of paleontological information on the Division Webpage. Also, the Geologist-in-Parks program included several interns involved in paleontology in numerous parks.

Park Paleontology Surveys

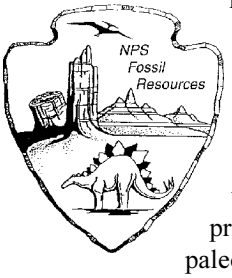
Continuing efforts by the divisions paleontologist and Geologist-in-Park interns and volunteers surveying individual parks has expanded the list of parks that contain noteworthy fossil resources by fourteen, bringing the Servicewide total to 120 parks. The parks surveyed and added in 1998 are: Blue Ridge Parkway, Chickamauga and Chattanooga National Military Park, C&O Canal National Historic Park, Golden Gate National Recreation Area, Great Smoky Mountains National Park, Hovenweep National Monument, Mojave National Preserve, Mount Rainier National Park, Navajo National Monument, Oregon Caves National Monument, Ozark National Scenic Riverways, Rainbow Bridge National Monument, Springfield Armory National Historic Park, and Vicksburg National Military Park. Paleontological surveys have been discussed for Arches, Canyonlands, Bighorn Canyon, Chickamauga and Chattanooga (cave), Grand Canyon, Niobrara Wild & Scenic River, Petrified Forest, and Zion for 1999. Graphic images including survey logos, maps and illustrations have been created for various park paleontology surveys.

Thematic Paleontological Resource Inventories

A compilation of NPS areas identified twenty-four parks as having fossil vertebrate tracks as a resource. This data was published in a professional journal (Santucci, Hunt & Lockley, 1998), and presented as a poster at the Society of Vertebrate Paleontology's annual meeting, and at the Fifth Conference on Fossil Resources. In 1998, division staff initiated a Servicewide inventory of paleobotanical specimens in consultation with paleobotanists from the Smithsonian Institution, the Denver Museum of Natural History and Brigham Young University. Also, in a collaborative effort with the division cave specialist, an inventory of paleontological resources associated with NPS caves was initiated. Cave fossils generally occur in two categories: those contained in marine limestones that form the caves, and fossils of more recent (Pleistocene/Holocene) organisms that have either died in or been transported into caves.

Servicewide Paleontology Database and Information Management

Division staff, in cooperation with the Inventory and Monitoring program, developed a prototype NPS paleontological resource database. The prototype is an ACCESS database and is designed to accommodate Servicewide paleontological resource management information. Although, the database is not specifically designed for park use, it can be adapted for park specific needs.

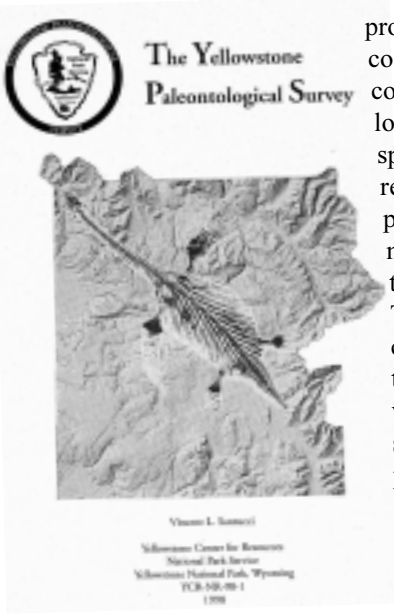


Publications, Interpretation, and Education

Division staff completed several publications on management, interpretation, protection, and research related to NPS paleontological resources. The quarterly newsletter *Park Paleontology* was revitalized and published in 1998. The newsletter serves to communicate information related to fossil interpretation, protection, resource management, new discoveries, and current issues related to the world of paleontology and paleontological resources management. A Fact Sheet, *Paleontological Resources in National Park System Units,* was also prepared as part of the series produced by the Natural Resources Information Division. The newsletter and fact sheet are available on the Geologic Resources Division Intranet site.

NPS Paleontological Research, Volume 3, was published as the first Geologic Resources Division Technical Report. This is the third research publication specifically dedicated to paleontological research in the national parks and contains 38 original articles representing 21 national parks, including the multi-park research of the Morrison Paleoecosystem Study and an historical account of the forgotten Fossil Cycad National Monument. All of the NPS Paleontology Research Volumes have been posted on the Division Website.

The Yellowstone Paleontological Survey contains results of the comprehensive survey completed in 1998. This park management document addresses interpretation, resource management,



protection, and museum collections concerns, and contains a bibliography, fossil locality maps, and a paleospecies list. There are also recommendations on paleontological resource needs and suggested projects to support park planning. The report has generated considerable interest throughout the NPS and will serve as a model for similar surveys initiated or planned for other parks.

The program developed a number of Paleontological Resource Training presentations in Microsoft Power Point for educating NPS staff. These programs include: Definition of a Fossil, Fossil Resource Protection, An Inventory of NPS Paleontological Resources, NPS Paleo Surveys, and Paleoecosystem Approach to Managing Fossils. Presentations were provided for Natural Resource Program Center staff in Denver, for staff training at Big Bend National Park, Death Valley National Park, Fossil Butte National Monument, and Guadalupe Mountains National Park, and to a number of community groups. A number of formal presentations were delivered at scientific conferences including Yellowstone's 125th Symposium, the Society of Vertebrate Paleontology Annual Meeting, and the Fifth Conference on Fossil Resources. For educational outreach, a paleontology "Parks as Classroom" proposal and prototype was developed. The concept involves a series of trading cards depicting the notable NPS units with paleontological resources, and containing an interpretive message, questions, and an Internet address for students to utilize as an activity to learn about the fossils and have fun.

Geologists-in-the-Parks Program

The Division recruited seven interns at Fossil Butte National Monument providing them with a wide range of experiences including interpretation, curation, preparation, and field collection. Many of the interns were also involved in various paleontological surveys at Arches, Grand Teton, Timpanogos Cave, and other NPS areas. The interns assisted in the Park Paleontology newsletter, provided interpretive programs, assisted in compiling data for the Alaska national parks and the Cave-Paleo Survey, conducted research at Timpanogos Cave NM, assisted with the Fossil Butte curatorial backlog, co-authored a publication on Fossil Cycad NM, helped initiate the Death Valley Paleontological Survey; and compiled information on fossiliferous stratigraphic units preserved in NPS areas.

Paleontological Research

Paleontological research continues in many NPS areas. Many presentations at the 1998 Society of Vertebrate Paleontology Conference and the Fifth Conference on Fossil Resources were directly related to research in the national parks. The Division received requests to review paleontological research proposals in Big Bend, Death Valley, and Yellowstone. A Memorandum of Understanding (MOU) was established between the Division and Georgia College to develop and facilitate field programs for training paleontology students in parks. Since 1985, Dr. Bill Wall and his Georgia College students have assisted many NPS areas with paleontological inventories and other technical assistance.

NPS Park Paleontology Recognition Pins

The program created two recognition pins to acknowledge individuals making positive contributions in promoting management and protection of NPS paleontological resources. Both pins are modeled after the Park Paleontology newsletter logo. The first version of the pin is black and gold and is presented to individuals making noteworthy contributions to promote paleontology in the national parks. A solid gold version of the pin is presented to individuals making significant contributions to paleontology in the National Park Service. Listed below are the 1998 recipients of the gold Park Paleo pin.

The first recipient of the gold "Park Paleo" pin was **Rachel Benton**, paleontologist at Badlands National Park, for among many other accomplishments, coordinating two Fossil Resource Conferences. The second pin recipient was **Greg McDonald**, paleontologist at Hagerman Fossil Beds National Monument. During 1997, Greg obtained a $50,000 grant from Cannon Corporation to conduct an excavation of the Hagerman Horse Quarry. The third pin recipient was **Diann Gese**, geologist in the Geologic Resources Division. Through her efforts with the Geologists-In-Parks Program, Diann successfully promoted paleontology by placing geology and paleontology student interns in NPS areas. The fourth pin recipient was **Lindsay McClelland**, the Washington-based geologist in the Geologic Resources Division. Lindsay has provided a strong voice in Washington to promote geology and paleontology in the parks. Among his many contributions to paleontology in the parks, Lindsay assisted in co-editing two NPS Paleontological Research publications. The fifth pin recipient was **Ted Fremd**, paleontologist at John Day Fossil Beds National Monument. Ted has successfully provided leadership in paleontological resource management and still functions as a viable researcher. The sixth pin recipient was **Torrey Nyborg**, paleo-intern at Death Valley National Park and at Fossil Butte National Monument. Torrey was recognized for his work in documenting fossil localities at Death Valley. ◆