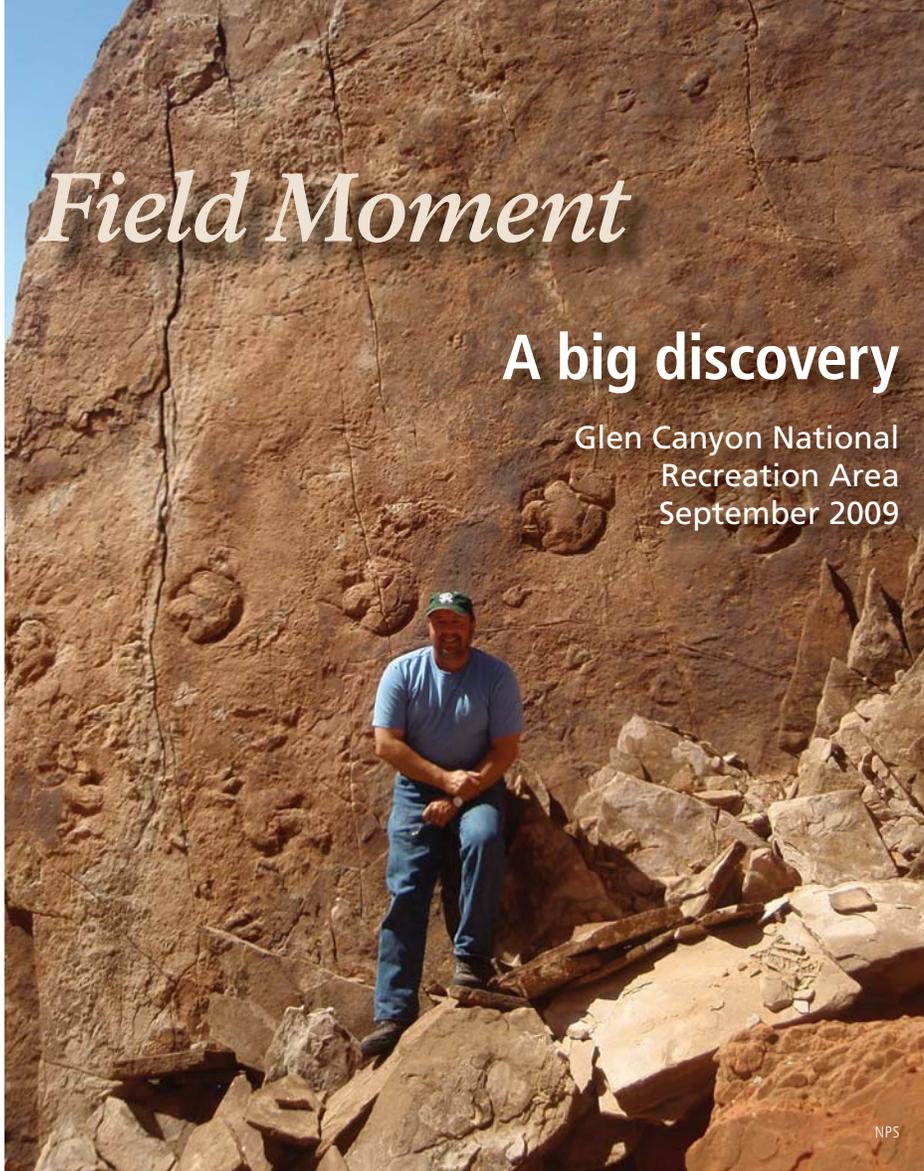


Field Moment

A big discovery

Glen Canyon National
Recreation Area
September 2009



To unearth this mystery and determine whether it is an ornithopod or some other unknown dinosaur, the National Park Service will consult with leading experts on dinosaurs and dinosaur tracks. If the tracks are determined to have been made by an ornithopod, this discovery may move back the known existence of this group of dinosaurs by 25–30 million years. In addition, the ancient sandstone block contains tracks of smaller dinosaurs that may tell us about the contemporaries of the mysterious creature.

Discoveries such as the trackway at Glen Canyon demonstrate the importance of national parks in preserving the fossil record. Since the inception of the NPS paleontological inventory program in 2001, scientists have gathered baseline information about fossil resources in parks. Paleontological inventories have greatly expanded the knowledge of the scope, significance, diversity, and distribution of fossils across the National Park System. Before the effort began, 110 parks were known to have fossils; today that number has grown to more than 230.

Each field season, our knowledge and understanding of the fossil record increase—a reminder, says Santucci, that most of what is to be learned about the history of life on Earth remains to be discovered. By adopting active management and monitoring strategies for paleontological resources in national parks, we can help preserve this fossil record, enabling future discoveries such as the mysterious track-maker in Glen Canyon.

—Virginia A. Reams

G **ORGE WASHINGTON** Memorial Parkway chief ranger (and paleontologist by training) Vincent Santucci and a team of National Park Service and Utah Geological Survey fossil experts were performing “houseboat paleontology” on Lake Powell in Glen Canyon National Recreation Area. They were working on a pilot paleontological resource monitoring program that would yield information regarding the condition and stability of in situ fossil localities and lead to greater protection of fossil sites both at Glen Canyon and across the National Park System. Notified by visitors of possible dinosaur tracks in an area of towering Navajo Sandstone blocks at the edge of the lake, they navigated to the site, secured the boat, and set out on a short hike. As they turned a corner, they saw not just one or two tracks but seven fossil prints stretching horizontally across the burnt-orange cliffs. “We were in awe of

what we were looking at,” said Santucci, who recognized immediately that “this was not just another track locality.”

The trackway is both significant and puzzling. It has more value than a single footprint: multiple tracks reveal information about the animal’s size, gait, and behavior. Also, these tracks are exceedingly large and seemingly out of place in the Early Jurassic rocks. There are no known fossil remains of an animal alive at that time that would leave tracks of this morphology or size. In addition, the tracks are unusual for the Navajo paleoecosystem, which was composed of wind-driven sand dunes with pockets of wetlands (or lakes) in low areas between dune crests. Santucci explains, “We would not expect to find a large bipedal reptile in such an environment.” The tracks appear to have been left by an ornithopod (bird-footed dinosaur), a creature unknown from the Early Jurassic.