

The FOSSIL



RECORD

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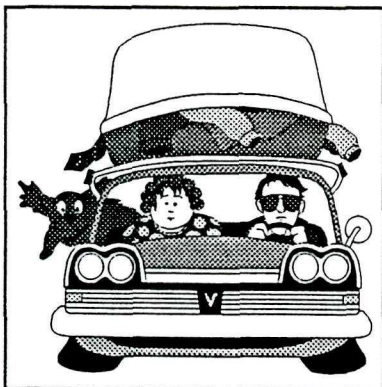
THE BARE BONES OF THIS ISSUE:

- Center Fully Functional
- Public Input Helpful
- Monumental Science

Landslides

Critter Corner

- Tours for Aug. and Sept.



VISITOR INFORMATION

CENTER FULLY

FUNCTIONAL - The new temporary visitor center was a busy place on its opening day, Fossil Day, May 28.

Almost two thousand people came to see the new

exhibits, slide show and videos in the auditorium.

The two free bus tours to the Monument's famous Horse Quarry were filled, and the boat tours were in high demand. The community celebration was better than ever.

Book on fossils, geology, other aspects of the natural



environment, and the Oregon Trail are also on sale, thanks to assistance from the Craters of the Moon Natural History Association.

TOURS FOR SECOND PART OF SUMMER - Monument activities scheduled for August and September, 1994, are on the last page of this newsletter. We regret that we cannot accommodate special requests for tours at this time. We hope you'll join us at the scheduled tours.

PUBLIC INPUT - A special edition of the newsletter in April requesting mail-in responses, and meetings held in May gathered input on how the Monument should be managed. The input was recently reviewed by the General Management Plan team and evaluated for incorporation in developing of management alternatives.

The plan will guide the Monument over the next twenty years. and a draft of the alternatives will be presented to the public for comment in early 1995.

RANGER COMPLETES LAW ENFORCEMENT TRAINING - Park Ranger James Ward recently earned his law enforcement commission by completing three months of intensive training. The program is required of all law enforcement rangers and includes classroom studies and extensive practical application. Some of the subjects include Constitutional and criminal law, detention and arrest, pursuit driving and firearms training. Park Rangers recently had their revolvers upgraded to semi-automatic pistols to combat the increasing crime in many National Park units.

Ranger Ward said he is

excited about coordinating with other law enforcement agencies, and looking forward to his challenge of educating the public about the special laws and regulations necessary for park and visitor protection. Most of all he says he is glad to be away from the humidity of the South and back home with his wife.

MONUMENTAL SCIENCE

RESOURCE MANAGEMENT

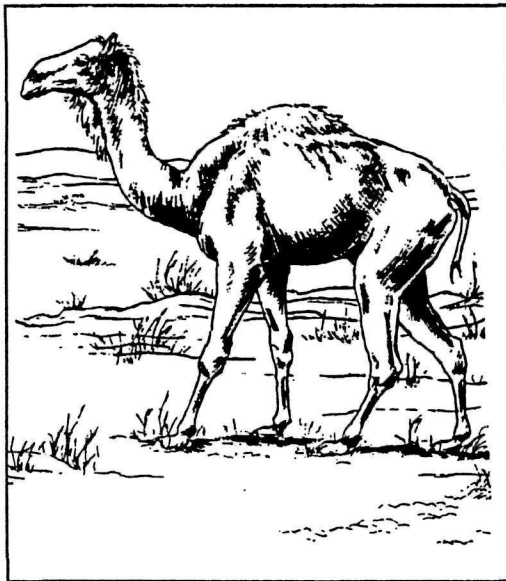
LANDSLIDES - Work is progressing on the landslides. Six wells were recently drilled in cooperation with the U.S. Geologic Survey to provide for monitoring and possible de-watering. The monitoring wells drilled in 1986 stopped when

subsurface basalt was encountered. At that time, scientists believed that the water flowed along the top of that surface. The landslide in 1991 made it clear that the water in the Fossil Gulch area flows along the bottom of the basalt, where the intense heat baked the clays much like pottery. These new wells penetrate the basalt in hopes of further understanding the underground flow.

Proposals are also being evaluated on how to best compile the data from previous studies, and what additional measurements are needed to identify the bounds of the underground water systems and flow. The canal seepage will be measured to determine if any particular area loses more water than other segments of the canal. An attempt will be made to locate the underground

channels that allow water to flow in its five month trip to the discharge sites along the slopes and into Fossil Gulch. These seeps saturate the sediments, which eventually collapse and create additional landslides, which destroy fossil bearing stratigraphy.

CRITTER CORNER -
By Dr. Greg McDonald,
Monument Paleontologist



CAMELS: NOT JUST DESERTS - When someone mentions camels, what is the

first image that comes to mind? For most people, its a dry hot desert with tall sand dunes. This is not unreasonable when we think of where the two types of modern camels live. The dromedary (single humped) is found in the Middle East (including the Sahara Desert) and the Bactrian (double humped) lives in the arid parts of Asia such as the Gobi Desert. Because of the close association of modern camels with the desert, most people are not too surprised when they find out we have fossil camels in southern Idaho. After all, with only 9 inches of precipitation a year this area is classified as a desert, so why shouldn't a camel be able to survive here. But the desert we see today didn't exist in southern Idaho 3 million years ago.

Camels originated in North American about 50 million years ago and their presence

in the Old World is a recent event, geologically speaking. Most of their history is preserved in the fossil record in North America. Based on this record we know that most camels didn't live in deserts but were adapted to grasslands and parkland situations. Certainly the camels that we find in Hagerman Fossil Beds weren't living in a desert. The presence of many other animals such as beaver, otter, muskrat, turtles, frogs and waterfowl indicate extensive wetlands in the Hagerman area 2 to 3 million years ago when camels roamed here. In fact, camels probably didn't adapt to desert conditions until after they dispersed into Asia and the Middle East.

Past evidence for camels and their close relatives, llamas, at Hagerman has been scanty. The few bits and pieces, such as isolated teeth

and toe bones didn't tell us much about these animals except that they were here. However, our knowledge of camels at Hagerman Fossil Beds took a giant step forward recently with the discovery of a complete skull of the extinct genus Camelops, whose name when translated, literally means camel face.

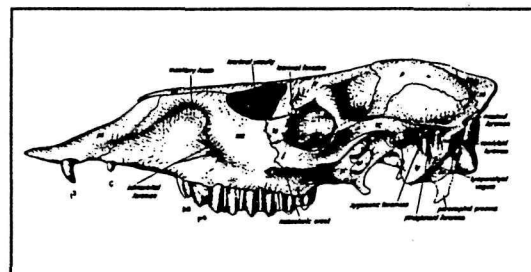
Camelops is known from a number of other places in Idaho, such as American Falls Reservoir. It is also known from many other localities in the western United States, including the well known La Brea Tar Pits in California. All of these other sites are from the younger Pleistocene epoch (known more popularly as the Ice Age). Our newly discovered skull is certainly a different species from the Ice Age Camelops. We are not yet sure which species of Camelops we have, because specimens preserved from older rocks are few

and far between. This complete skull from the Monument will greatly enhance our understanding of the early history of Camelops.

This skull is exciting for another important and totally unexpected reason. It came from a layer that wasn't supposed to have any bones in it! All previous discoveries of fossils in the Monument were made in the Glenns Ferry Formation, which is mostly composed of fine sands, silts and clays. Sitting on top of the Glenns Ferry Formation is a thick layer of coarse gravel known as the Tuana Gravels.

Bones are rarely preserved in coarse gravels because the tumbling action of the gravel in fast moving water tends to break bone into small pieces. As it turns out, on top of the gravels is another layer of fine river channel sands, just right for preserving bone, and it was

in this layer that the skull of Camelops was found. We don't know for sure the age of our new discovery but because of its position above the Glenns Ferry Formation we can be sure that it is younger than all the typical fossils found at the Monument. Perhaps it is as young as 2 million years or maybe younger. Although our skull of Camelops will provide much new information, more importantly it shows that even after 65 years of research, there is still much more to be learned about the Monument's fossils and geology.



MONUMENT TOURS FOR AUGUST AND SEPTEMBER, 1994

PLEASE NOTE: Tours require the use of your own vehicle. Be prepared for an extreme of weather conditions which can include heat, dust, and wind with possible rain showers. The code letter(s) at the end of the description indicates the other conditions you might expect. TOURS MEET AT THE VISITOR CENTER unless otherwise noted and about ten minutes BEFORE the time shown. Morning programs should conclude by noon unless otherwise stated. Call (208) 837-4793 if you have questions. Fossils cannot be removed from the Monument.

Information Codes of conditions for each activity:

- (1) Vehicle should withstand dirt roads with possible muddy conditions.
- (2) Some easy hiking is involved. Wear sturdy footwear.
- (3) Steep slopes are involved and not suited for physically limited individuals.
- (4) Wheel chair accessible

August 6	The Snake River Ecosystem - An evening program of slides and a visit to the River. 7 p.m. (2, 4)
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- August 13 The Famous Hagerman Horse Quarry
Take a scenic look at the past, present
and future of the Hagerman Valley and
its famous fossils. 9 a.m. (1,2,3)
- August 20 Environmental Ideals - Give and Take.
9 a.m. (2, 4)
- August 27 Human Influence and Effects on the
Hagerman Valley. 9 a.m. (2, 4)
- September 3 Archaeology of the Hagerman Valley.
9 a.m. (2, 4)
- September 10 Geology for Kids. Come explore the
exciting world of fossils. Program is
designed for children in grades K-3.
10:30 a.m. Bring your parents. (4)
- September 17 Hagerman Horses and River Courses - A
Fossil Tour to the Monument. 9 a.m.
(1,3)
- September 24 First Aid for Fossils
Join a Park Ranger for a tour to learn
what you can do to preserve the special
resources at the Hagerman Fossil Beds.
9 a.m. (2, 4)