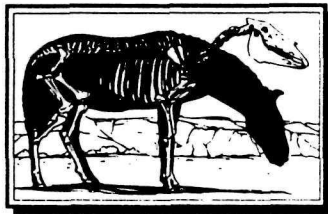


HAGERMAN FOSSIL BEDS NATIONAL MONUMENT

The
FOSSIL



RECORD

SPRING, 2001

VOLUME 10, No. 1

THE BARE BONES OF THIS ISSUE:

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VISITOR CENTER HOURS

The Visitor Center is now open
Friday and Saturday, 10:00 a.m. to
4:00 p.m. through May 24th.

Beginning May 25th, the Center
will be open daily from 9:00 a.m.
to 5:00 p.m.

CELEBRATE FOSSIL DAYS - MAY 26-27!

Visit our booth in the Town Park,
see fossils on display in our Visitor
Center, and join a ranger at the
Horse Quarry. Self-guided tours
are Saturday 1-5; Sunday 10-3. For
more information and directions,
stop in the Visitor Center.

This newsletter is printed on
recycled paper.



RESOURCE MANAGEMENT

What is the Oregon Trail Cooperative Weed Management Area (CWMA)?

By Jan Harper

The Oregon Trail Cooperative Weed Management Area (CWMA) was recently established in order to protect natural and economic assets impacted by the spread of non-native invasive plants and noxious weeds. The CWMA contains nearly 360,000 acres of lands owned by the Bureau of Land Management (256,133 acres), the National Park Service (4,200 acres) the State (16,940 acres), and private land owners (82,290 acres) which include sections along the Oregon Trail. The cooperative management plan promotes a strategy to coordinate and integrate the available resources, tools, and technology of the participating landowners. CWMA objectives include (but are not limited to):

1. Non-native invasive plant and noxious weed inventories.
2. Prevention and early detection programs.
3. Public awareness, education, and training programs.

4. Monitoring programs to assess treatments and determine any needed follow-up actions.

The cooperative goal of CWMA is to prevent, contain, reduce, and eventually eradicate selected species in the Oregon Trail area of Twin Falls County.

With all this in mind, I still had nagging questions as to why we needed a program to manage weeds at all, so I went to the plant experts to find out.

I interviewed Beth Colket, Seasonal Biological Science Technician at Hagerman Fossil Beds.

1. **What are non-native invasive plants and noxious weeds? How did they get here? How are they spread?** *Non-native plants are plants that have come from another country (mainly European and Asian countries). Non-native plants tend to have a selective advantage over native plants because they lack the same insects and diseases in this country that controlled them in their native countries. These plants spread quickly because of this lack of controls. They get here via boats, vehicles, ATV's, bicycles, hikers, animals, etc.*
2. **How can these non-native invasive plants and noxious weeds impact natural, economic, and social resources?** *Certain weeds can change fire*

regimes, alter the water table (thirsty weeds), enhance erosion, displace native plants and animals, and disrupt agriculture. The economic impact of weeds is high and can be assessed by all of the millions of acres that are lost to native plants and animals and agriculture.

3. **What are the various treatments employed (physical/mechanical, biological, chemical, or cultural) to eradicate these weeds? Isn't the treatment sometimes worse than the weeds themselves?** *The primary treatments include chemical (herbicides), mechanical, (hand pulling, fire), cultural (tilling, land use practices), and bio-control (insects, fungi, etc.). There is a lot of research that goes into the various methods; it is up to the land manager to determine whether the benefits of the particular control method outweighs any negative impacts (often it depends on the weed species in question).*
4. **Won't these non-native invasive plants and noxious weeds just come right back?** *Most will. In planning, the land manager ought to try to control the weed or weeds that are the greatest threat to the land, and are in the smallest populations. In addition, weeds determined as "noxious" (harmful to*

wildlife/livestock health) in the state of Idaho must, by state law, be controlled. By focusing on these select weeds, it is possible to eradicate or control the growth of the worst weeds.

Beth is continuing her education in a graduate program at the University of Idaho. Best of luck, Beth!

EDUCATION

Can't come to the Fossil Beds? No problem...have the Fossil Beds come to your classroom, with our Science Traveling Trunks! These marvelous tools include curriculum guides, books, videos, and casts of horse skulls, geology samples, and so much more. And, they are free to use; all you do is pay for the return shipping. We have trunks for 4-6th grade and 7-12th grade available. For more information, call Judi Hart at (208) 837-4793.

CRITTER CORNER

Pearce's Peccary (*Platygonus pearcei*)

Numerous isolated bones and teeth of the peccary, a pig that originated in the New World have been found throughout the Monument, indicating that this was probably a common member of the Hagerman fauna 3.5 million years ago. *Platygonus* meaning "flat head,"

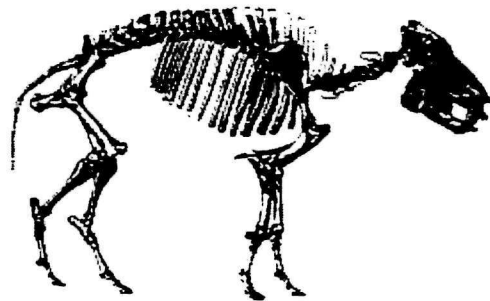
pearcei was first discovered by George B. Pearce (thus the species name), a member of the Smithsonian Institute's field crew at Hagerman in 1934, and described by Dr. C.L. Gazin, a scientist who excavated at the Hagerman Horse Quarry.

The remarkable discovery included three individuals (an adult and two juveniles) preserved as one unit and fully articulated (the bones were found in "life positions" or in proper position to each other rather than being scattered about), suggesting that this family group all died at the same time and was quickly buried by sediment.

Peccaries first appeared on the North American continent during the Oligocene Epoch, about 32 million years ago. They are often confused with pigs which originated in the Old World, but are easily distinguished from them by the shape of their canine teeth or "tusks" which are short and straight rather than long and curving around on themselves as in Old World pigs. Although common in South America today, peccaries did not reach that continent until about 9 million years ago when the Isthmus of Panama formed, allowing them to migrate there. Along with peccaries, llamas and tapirs also migrated south. While more animal species migrated from North to South America, some ancient South

American species, like the ground sloth, migrated to North America and are also found at the Fossil Beds.

Today there are three living species of peccary. *Dicotyles tajacu*, also known by its Spanish name, javelina (pronounced hah-vah-lee-nah), inhabits dry areas of the Southwestern United States. A second species is the *Tavassu peccari*, or white-lipped peccary, is found in the rain forests of Central and South America. The last species, *Catagonus wagneri*, or Chacoan peccary, is the closest living relative to the extinct *Platygonus pearcei* found at Hagerman. This last species has the distinction of being a "living fossil." It was first described from the fossil record and thought to be an extinct species. Local native Indians were well aware of its existence, but scientists did not "discover" it to be alive and well in the Chaco region of Paraguay until 1975.



Condensed from an earlier article by Greg McDonald, NPS Paleontologist

ARCHAEOLOGY CORNER

What's all the fuss about Context?

By Jan Harper

Today we are constantly telling people to leave artifacts and fossils “in place”. It’s a “Look, but don’t touch” edict. The Olsen-Chubbuck site in Cheyenne Wells, Colorado is a great example of how important contextual information can be in reconstructing a detailed picture of the past. Discovered in 1958, this site contained the bones of about 190 extinct bison buried in a narrow arroyo. The skeletons were excavated in such a way as to expose the animals in place.

First, a deep furrow was dug lengthwise in the arroyo (that was filled with sediment), revealing a “river of bones.” Next, the arroyo was divided into two-meter grid sections. The crews first excavated only the odd-numbered sections to reveal profiles that could be drawn and photographed. Finally, the entire bone bed was exposed by excavating the remaining even-numbered sections. The big question that became apparent was “What are all these bones doing here in one place?”

Because of the careful plotting and recording done during the excavation process, some very interesting inferences could be drawn from the data. It soon became clear that this was the site of an ambush. The animals had been driven to the arroyo and killed there. Modern bison herds number about 200 in size so it was assumed that this was probably an entire herd that was ambushed. Both sexes and all ages of individuals were represented, with most of the young calves appearing to be only a month or two old. This evidence helped to establish the time of the kill as being late May or early June (late in the calving season).

More details about the kill were revealed by studying the orientation of the bodies, particularly those on the bottom of the arroyo. Fifteen of the animals had bodies that had been violently twisted with their backs being broken as they became wedged against the arroyo walls. These animals at the front of the herd, would have tried to double back as they realized they were trapped and were subsequently crushed by the onslaught of stampeding animals being driven by hunters with spears. Indeed nearly two dozen beautifully flaked spear points were found directly associated with the bison. This evidence was used to infer that hunters had been stationed along the path leading to

the arroyo in order to force the animals in that direction. It was clear that the animals had been stampeded from north to south by the orientation of all the carcasses.

Other projectile points were found only in limited quantities, as were scrapers and knives that were used for butchering the animals. The animals at the bottom of the pile of carcasses still contained embedded points. These would have been the first to be killed in the ambush. Presumably, valuable points were removed from animals that were butchered from the top of the pile of bodies and were more easily accessible.

Clearly, this example shows how important it is to leave artifacts and fossils just as you find them so that important contextual information can be gained from them.

Reference: Thomas, D.H. 1998.
Archaeology, Third Edition, Harcourt
Brace College Publishers

STUMP A RANGER

If you have a question you would like to ask, or need information, please send your submissions to:

Stump A Ranger

Hagerman Fossil Beds NM

221 North State Street

P.O. Box 570

Hagerman, Idaho 83332

Or email to:

HAFO_Rangeractivities@

nps.gov

Submissions will be printed in the next newsletter.



JUNE SCHEDULE

Different activities are scheduled throughout the summer. All participants are advised to meet at the Visitor Center in Hagerman on Highway 30, prior to the actual tour for information and directions, unless otherwise noted. Participants need to drive their own vehicles to the Monument. Be prepared for variable weather (layered clothing is best), wear sturdy shoes (closed toes), bring plenty of water, sunscreen, and a hat. Call the Hagerman Fossil Beds for more information (208) 837-4793. All programs are free.

June 2 – Annual Snake River Clean Up Meet at 9:00 am at the Banbury Hot Springs Resort parking lot. Sponsored by Malad Gorge State Park and High Adventure River Tours. This will be a floating litter pick-up along the Snake River. Please call Kevin Lynott at Malad Gorge State Park for further information. 837-4505.

June 9 – National Trails Day 9:00 am
This three-mile history hike on the Emigrant Trail allows you to experience walking along a portion of the Oregon Trail and see actual ruts left by the wagons. Hike will last approximately two hours.

June 16 – Horse Quarry Tour 9:00 am
Participants will travel to the Monument in their own vehicles (a portion of the road is gravel). You will be hiking approximately ½ mile total with one short, steep section. Visitors will be able to see fossils in the ground and where the famous Hagerman Horse was first discovered.

June 23 – Geology for Kids 9:30 am
Learn about rocks and the “rock cycle” both in the Visitor’s Center and in the field. This will be a hands-on learning experience. “Kids” of all ages are welcome.