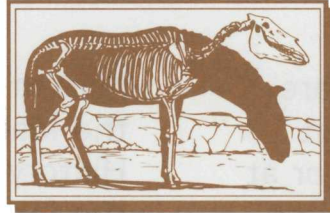


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# HAGERMAN FOSSIL BEDS NATIONAL MONUMENT

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The  
**FOSSIL**



**RECORD**

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WINTER, 1999

VOLUME 8, NUMBER 1

THE BARE BONES  
OF THIS ISSUE:

Visitor Center Schedule

Ranger Patrol

Resource Management

Critter Corner

School Program

Printed on recycled paper.

## VISITOR INFORMATION

Winter hours for the Visitor Center are Thursday through Sunday, 10:00 am until 4:00 pm (unless otherwise noted). Brochures and copies of the Fossil Record may be picked up in front of the Visitor Center (which is located on Highway 30 across from the High School), or by calling (208) 837-4793.

## RANGER PATROL -

Numerous contacts have been made in the field with hunters this season with no violations of hunting regulations within the Monument.

Staff have assisted BLM Rangers and Idaho Fish and Game officers in making successful cases of dumping and poaching violations in the



surrounding area. Boundary encroachments have continued with vandalism, trespassing, and resource damage to the fragile desert soil by motorcycles,. Monument staff hope to catch these violators with increased patrols and volunteer help. Anyone witnessing violations should contact a Park Ranger at 837-4793.

**TRAIL USERS** - Freezing weather can be tolerated as long as the trails are solid. But as soon as it warms up enough to thaw, or after a rain storm, the trails can become unpleasant and even hazardous from mud. Soft trails are also prone to rutting, which can leave an uneven surface for later users and increase the risk of erosion. When the trails are dry they provide peaceful and excellent views of the Snake River, the Hagerman Valley, and the mountains. So get up and get out!

## RESOURCE

**MANAGEMENT-** Students in Jeff Miller's horticulture class at Hagerman Junior High School are using their newly learned skills to assist with National Park Service revegetation efforts. As part of a class project, the students this Fall collected seeds on the Monument from native grasses and shrubs to revegetate disturbed areas there. The



Hagerman and Jerome teachers.

students are Alicia Jester, Brittin Chappell, Jessi Patterson, Kristin Prescott, Josefina Mendez, Jessica Baker, Emily Mortensen, Natalie Parton, and Kevin Wise.

Chief Ranger, Bob Willhite and Mr. Miller also collected limb cuttings to grow black cottonwood trees. Thanks to Jeff and Barbara Simms here in the valley, juniper tree seeds were also collected. Rocky Mountain juniper grew extensively along the Snake River before they were cut for fence posts. Only three junipers are known to grow on the Monument today. Someday there will be many more if these efforts are successful.

Students will be growing the plants in the school greenhouse and out-planting the "fruits" of their work this spring. Mr. Miller said, "This is

a wonderful opportunity to give our students some hands-on experience and benefit their local environment at the same time.” The Monument provided the soil pots for the plants. Superintendent Neil King said, “This is just one example of how the Monument can work with local students to accomplish mutual goals.” Progress on this project will be reported in future articles.

## CRITTER CORNER

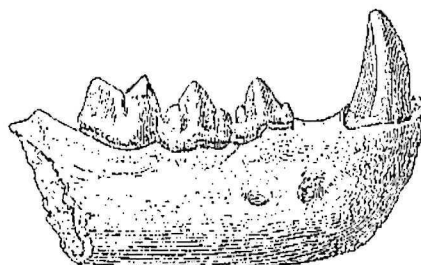
### Hagerman’s Lake Cat

By Dr. Greg McDonald,  
Monument Paleontologist

Even before the completion of the final field season at Hagerman by the Smithsonian in 1934, Dr. C.L. Gazin started publishing papers of the fossils found earlier. From 1933 to 1938 Gazin published a series of scientific papers describing the variety of fossil vertebrates found at Hagerman and firmly placed the area on the scientific map. One of the first papers was written in 1933 on the fossil cats from Hagerman. In this paper he described an early sabertooth cat (see Critter Corner in Vol. 5 No. 3 of the Fossil Record), but also a member of what is considered to be the “true cats.” This group is represented by living lions,

tigers, house cats, mountain lions, and bobcats, to name a few.

While Gazin’s new sabertooth cat was based on only a single partial



jaw, he had a much larger sample to work with when he described his other cat; four jaws from Hagerman and two jaws from Grandview, a younger locality in the Glens Ferry Formation. Additionally, there were a few limb bones which he considered to be part of his new cat. Gazin gave the new cat the scientific name, Felis lacustris, which means “lake cat.” Felis is the genus in which most living cats have been traditionally placed, although that idea is changing with the advent of DNA studies. The species name lacustris comes from the Latin for lake. The name does not indicate that this cat had aquatic habits, but is based on an old name for the geology here - the Hagerman Lake Beds. Early workers at Hagerman thought the sediments represented an ancient lake rather than flood plain deposits as is the current interpretation. The name was

meant to reflect the place of origin of the animal.

Living cats can be easily distinguished based on differences in patterns and colors of the fur. But take away the outside and the differences between the skull, teeth, and the rest of the skeleton are subtle, making it hard to tell the species apart. Often size is an important way to separate the different species but, even this can be tricky. For example, in the mountain lion or puma, there is often a size difference between males and females, with the males being significantly larger. If you don't know if your fossil animal is a boy or a girl then it is hard to say if its size is because it is a different species or due to the gender of the individual. Another complication is that the average size of individuals within one species often depends on where it lives. Mountain lions for example, get larger away from the equator, a trend seen in many animals. The average size of an individual in Canada is much greater than that of an individual in Central America. If your fossil species had a wide distribution, such as the living mountain lion which ranges from northern Canada almost to the tip of South America, then size alone may not work to show that two fossils from widely separated localities are the same species.

One last complication is that many lineages of animals have changed size through time. The popular idea is that they always become larger, and for many animals this was the case, but a reduction in size can also occur. Jaguars in North America during the Pleistocene (Ice Age) were much larger than their living descendants. Perhaps this size reduction is why they survived when other big cats disappeared. So as you can see size may not be useful to tell which critter you have if the two fossils are not the same age.

Gazin noted that the size of the jaw of his new cat was smaller than the average mountain lion and there were some differences in the shape of the jaw and teeth. Despite these differences, when compared to the living North American cats it more closely resembled a mountain lion rather than a lynx or bobcat, according to Gazin.

In 1970 Dr. P.R. Bjork published a study on the carnivores of Hagerman, including additional material of the Lake Cat collected by the University of Michigan and a partial skeleton from the Smithsonian collections. He concluded that the Hagerman Lake Cat is closely related to another fossil species, *Felis rexroadensis*, first found in Kansas. He went further to say that it was not closely related to

the bobcat or lynx. While he did conclude that the Lake Cat may have had habits similar to a mountain lion, he did not say they were closely related. This difficulty in determining the closest living relative to the Lake Cat is easy to understand when only living North American species are considered. With only three species: bobcat, Canada lynx, and mountain lion, there is not much of a choice for comparison. When one considers another important group of living cats not considered in previous studies of the Lake Cat, it may be possible to come up with an answer. This group is the living South American cats, such as margays, jaguarandis, pampas cats, ocelots, and jaguars. All of these cats are derived from North American ancestors and it may be that the Hagerman Lake Cat is one of those ancestors. It has also been suggested that the Lake Cat may be closely related to the ocelot but more research is needed.

While the number of Lake Cat specimens is not huge, it has grown over the years since the original discovery at Hagerman. These new discoveries include specimens from other localities as well as several new specimens recently found in the Monument and now housed in the permanent collections. Perhaps, a renewed examination of the older

collections, as well as this new material and comparisons with a wider sample of living species, including the South American forms may solve the question. Who knows, perhaps it will turn out to be the missing lynx after all.

#### FURTHER READING

Bjork, P.R. 1970. The Carnivora of the Hagerman Local Fauna (Late Pliocene) of Southwestern Idaho. Transactions of the American Philosophical Society n.s. 60, (7):54.

Gazin, C.L. 1933. New Felids from the Upper Pliocene of Idaho. Journal of Mammalogy 14:251-256.

Werdelin, L. 1985. Small Pleistocene Felines of North America. Journal of Vertebrate Paleontology 5(3):194-210.

"Ecology is now teaching us to search in animal populations for analogies to our own problems. By learning how some small part of the biota ticks, we can guess how the whole mechanism ticks."

Aldo Leopold, 1949

**MINI-CASSIA HOME SCHOOLERS  
CURRICULA FAIR  
MARCH 27  
10:00 - 3:00**

**First Baptist Church in Burley**

**The Fossil Beds will present two  
workshops on how to use and  
reserve the Traveling Trunk  
for your class!**

**The Fair is open to anyone.  
For more information, call  
677-2388.**