FOR YOUR SAFETY

Watch for rattlesnakes while viewing the fossil areas or walking anywhere in the park. Avoid these snakes; do not molest them.

NATIONAL PARK SERVICE
U.S. DEPARTMENT of the INTERIOR

AGATE FOSSIL BEDS
Twenty million years ago strange creatures walked a Miocene savanna.
Careful digging at these quarries has brought to light the bones of these animals so long extinct.

Here at Agate Fossil Beds National Monument are concentrated the fossils of animals in beds of sedimentary rock, formed, about 20 million years ago, by the compression of mud, clay, and erosional materials deposited by the action of water and wind. These species of animals, then so numerous, have long been extinct. The beds, which acquired their name from their proximity to rock formations containing agates, are under the grass-covered Carnegie and University Hills. From the summits of these hills, named by early collecting parties, you can look down on the lazy meanders of the Niobrara River, 200 feet below. Early pioneers of scientific research in the West centered many of their activities here. Capt. James H. Cook was the first white man to discover fossil bones at Agate Fossil Beds, about 1878. Since then, bones from the site have been exhibited throughout the world. Captain Cook and his son, Harold, made Agate Springs Ranch a headquarters for paleontologists and acquired an excellent fossil collection.

AGATE FOSSIL BEDS TODAY
Scientists estimate that at least 75 percent of the fossil-bearing parts of the hills are unquarried. The Miocene fossil mammal bones are extremely abundant, comprise a variety of different species, and are remarkably well preserved, with numerous complete skeletons.

Except for livestock that graze on the hills which relieve the comparatively flat open valley of the Niobrara River, the scene is relatively undisturbed. The landscape is carpeted predominantly with grasses such as prairie sandreed, blue grama, little bluestem, and needle-and-thread. The prairie flowers—lupine, spiderwort, western wallflower, sunflower, and penstemon—add color to this grassland scene. Small soapweed, a yucca, growing on the hillsides, is particularly attractive, especially in late summer when its dark green spears stand out among the brown grass. Cottonwoods and willows along the river add to the attractiveness of the scene and supply resting places and shelter for birds and other animals. Animals are typical of the western plains: mule deer, pronghorn, coyote, cottontail, and prairie rattlesnake.

DEVELOPMENT OF AGATE FOSSIL BEDS
The Service plans to expose representative fossil remains at Carnegie and University Hills by removing the layers of sediments above the 2- to 3-foot thick horizontal fossil beds. You will then be able to see the fossil skeletons of many creatures just as they were buried millions of years ago, and feel closely associated with the now-extinct animals of a past age. Here, too, you will have an opportunity to watch scientists exposing the deposits, reconstructing some of the skeletons, and relieving certain deposits in place. Plans call for interpretive structures at major points of interest and for permanent buildings at the headquarters site. Roads, trails, and a bridge across the Niobrara River will provide access to these points.
DUCTED THE FIRST SCIENTIFIC EXCAVATION AT THIS SITE. THEY
TREATED QUARRIES FOR A NUMBER OF COLLECTING SEASONS. YALE
THE ABLE ASSISTANCE OF HAROLD COOK, THEN 17, CONDUCTED
THE HARRISON BEDS CONTAIN PRACTICALLY ALL OF THE KNOWN
SKELETONS. THE AMERICAN MUSEUM OF NATURAL HISTORY
COLLECTED HERE FOR ABOUT 20 YEARS, STARTING IN 1910.
SEVERAL OTHER INSTITUTIONS SENT COLLECTING PARTIES TO
AGATE LATER YEARS. THE LAST EXCAVATION WAS MADE AT THE
STENOMYLOS QUARRY IN 1950 BY THE SOUTH DAKOTA
SCHOOL OF MINES AND TECHNOLOGY.

ANCIENT LIFE
BY FAR THE MOST COMMON MAMMAL AT AGATE FOSSIL
BEDS WAS THE DEERATHERIUM, A TWO-HORNED RHINOCEROS.
THIS RHEEFOOTED GRASSER WAS SMALLER THAN A
SHEEP, AND SLENDER. IT WAS APPARENTLY AN AGGRESSIVE CREATURE
USED FOR DEFENSE AND FOR DIGGING UP ROOTS AND BULBS.
PERHAPS THE MOST FEROCIOUS WAS THE DINOHYUS, OR
"TERRIBLE PIG"—A MONSTROUS BEAST MORE THAN 7 FEET
TALL AT THE SHOULDERS AND ABOUT 10 FEET LONG. IT HAD A
MASSIVE HEAD WITH LARGE TUSKS AND A SMALL BRAIN. HOWEVE.
UNLIKE OUR DOMESTIC PIG, ITS LEGS WERE QUITE LONG
SLENDER, AND AGGRESSIVE. IT WAS FREQUENTLY WOUNDED IN BATTLE.

LARGE HERDS OF A DELICATE, GRACEFUL LITTLE MAMMAL—
THE STENOMYLOS—ROAMED THE MIOCENE PLAINS. IT WAS SLIGHTLY
OVER 2 FEET TALL AND HAD LONG, SLENDER LEGS AND DEERLIKE HOOVES.
FRAGMENTS OF FOSSILS HAVE BEEN FOUND OF MANY OTHER ANIMALS THAT LIVED HERE DURING THE MIOCENE EPOCH.

THE FOSSIL-COLLECTING STORY
IN THE SUMMER OF 1904, O. A. PETERSON OF THE CARNEGIE MUSEUM AT PITTSBURGH CAME TO AGATE, AND WITH THE
ABLE ASSISTANCE OF HAROLD COOK, THEN 17, CONDUCTED THE FIRST SCIENTIFIC EXCAVATION AT THIS SITE. THEY
DISCOVERED A RICH QUARRY, CONTAINING A TYPE OF RHINOCEROS THAT WAS NEW TO SCIENCE.
IN 1905, PROF. E. B. LOOMIS AND A PARTY FROM AMHERST COLLEGE JOINED THE COLLECTORS. THEY EXCAVATED IN A SMALL HILL WHICH LOOMIS CALLED AMHERST POINT. RETURNING IN 1907 AND AGAIN IN 1908, THE LOOMIS PARTY DISCOVERED A QUARRY OF STENOMYLOS SKELETONS. APPROXIMATELY 18 SKULLS, TOGETHER WITH ENOUGH SCULPTED BONES TO COMPLETE THE SKELETONS, WERE COLLECTED FROM ONE POCKET. IN AN ADJACENT AREA, THREE COMPLETE SKELETONS WERE FOUND.

THE COOK FAMILY
TO LEARN HOW THIS SITE IN THE VALLEY OF THE NIOBRA WAS KNOWN OF SUCH INTENSE INTEREST, YOU MUST KNOW SOMETHING ABOUT THE COOK FAMILY.
CAPT. JAMES H. COOK ACQUIRED THE AGATE SPRINGS RANCH IN 1887 FROM HIS FATHER-IN-LAW, DR. E. B. GRAHAM, WHO HAD ESTABLISHED IT A FEW YEARS EARLIER AS THE O-4 RANCH.
AT 16, JAMES LEFT HIS HOME IN MICHIGAN AND BECAME A COWBOY RIDING HERD ON UNPREDICTABLE TEXAS LONG-HOARNS ON LONG CATTLE DRIVES FROM MEXICO TO MONTANA. HE WAS A BIG GAME HUNTER AND GUIDE IN 1878 IN WYOMING AND LATER IN NEW MEXICO.
CAPTAIN COOK SERVED WITH DISTINCTION AS A SCOUT ATTACHED TO THE 8TH U.S. CAVALRY IN NEW MEXICO DURING THE CAMPAIGN OF 1885-86 AGAINST THE FAMOUS
APACHE CHIEFTAIN, GERONIMO.

ADMINISTRATION
THE MONUMENT, CONSISTING OF APPROXIMATELY 1,970 ACRES, IS IRREGULAR IN SHAPE. A SMALL DETACHED AREA OF 60 ACRES CONTAINING THE STENOMYLOS QUARRY IS INCLUDED.
THE SUPERINTENDENT OF SCOTT BULLFORD NATIONAL MONUMENT, WHOSE ADDRESS IS BOX 427, GERING, NE 69341, IS IN CHARGE OF AGATE FOSSIL BEDS NATIONAL MONUMENT. A PARK Ranger IS ON DUTY AT THE SITE.
THE DEPARTMENT CONSIDERS OUR ENERGY AND MINERAL RESOURCES AND WORKS TO ASSURE THAT THEIR DEVELOPMENT IS IN THE BEST INTERESTS OF ALL OF US.