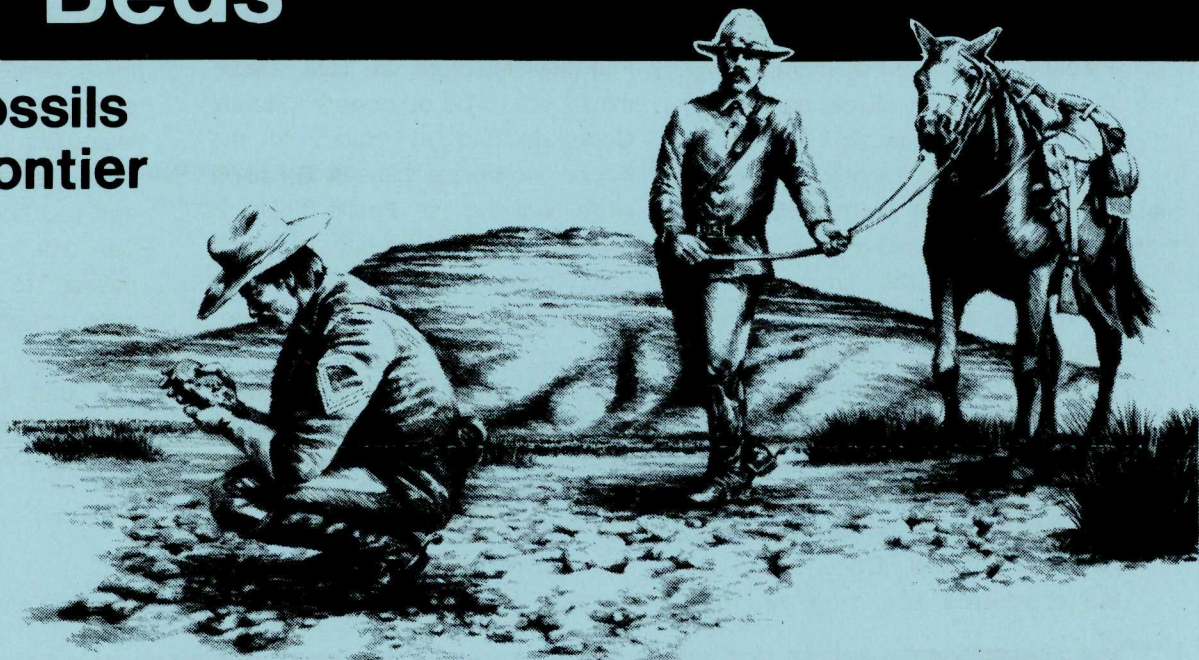


# John Day Fossil Beds

National Monument  
National Park Service  
U.S. Department of the Interior

## Finding Fossils On the Frontier



The year was 1861. The nation was divided — so was the world. A firestorm of controversy was gaining momentum even as the contest between North and South raged. The controversy centered on a book published in 1859 by a British biologist. His name was Charles

Darwin. Darwin's theory, that new species of plants and animals arise from old in an ever-changing, evolving world, was being argued in halls of learning worldwide. But neither side could prove its case without evidence—fossil evidence.

### DISCOVERY

In Oregon, the Reverend Thomas Condon met Capt. John Drake's cavalry troop returning to The Dalles from the Crooked River country. Condon, a Congregational minister and avid naturalist, was the first to recognize the importance of the fossilized teeth and bones that the cavalry had picked up along the way.

Gold was struck in Canyon City at the head of the John Day Valley in 1862. Military patrols were stepped up to guard ore shipments. Joining army escorts to the Canyon City

gold fields, Condon searched the John Day Valley for riches of another sort. Oregon gold for the Union might decide the war. Oregon fossils for science might decide the evolution controversy. Daring the passage through Picture Gorge in 1864, Condon discovered a lost world of eroded gullies and pinnacles. Here was the wealth of fossils he was seeking. Condon named the valley "Turtle Cove" for the many fossilized tortoise shells he found. But it was bone, not shell, that first caught the interest of Othniel C. Marsh.



Yale University launched an expedition in 1871. Othniel Marsh, America's first Professor of Paleontology, was in command. He had received a box of fossils on loan from Thomas Condon the year before. One skull was of a small, three-toed horse. The mystery of the horse family tree was a passion with Marsh. The expedition was guided by Thomas Condon, but Marsh only worked here a week before

returning to dinosaur digs in Kansas. Condon was disappointed at Marsh's apparent lack of interest.

Before he left Oregon, however, Marsh lured Condon's prized collectors, Leander S. Davis and William Day, into working for Yale. Marsh was a shrewd businessman and a successful collector. Davis and Day, attracted by the better pay Marsh offered, sent hundreds of prime specimens East over the next 15 years.

What became of Thomas Condon's box of fossils? Marsh answered Condon's constant pleas for their return by begging a little more time to study them. Condon became Oregon's first State Geologist and professor at the University of Oregon at Eugene. But that did not impress Marsh. He named Condon's little horse *Miohippus* and proclaimed it the missing link of the horse family. Thomas Condon never received credit for the find.

---

## DISPUTE

Paleontology was a competitive field, and Othniel Marsh had many enemies. Chief among them was Edward Drinker Cope, a brilliant young scientist with influential friends at the Academy of Natural Sciences and the University of Pennsylvania. Where Marsh was methodical and politically wise, Cope was an unconventional, hot-headed genius.

When one of these feuding scientists made a find, the other was never far behind. Cope heard of the specimens streaming into the

Peabody Museum at Yale. Determined not to be outdone by Marsh, Cope decided to collect in the Pacific Northwest himself. In 1878, while working at Fossil Lake in southern Oregon, he sent his dedicated collector and friend Charles Sternberg to collect in Turtle Cove.

Sternberg, using his recently developed technique of wrapping fossils in a protective cocoon of burlap and plaster, began sending excellent specimens back to Cope's laboratory in Pennsylvania. Sternberg wintered in Turtle Cove, enduring

many hardships but collecting constantly. In one narrow escape, the expedition buried its finds in a river bank just south of Picture Gorge and fled from a band of rampaging Bannock Indians. After the raiders passed to the north, the fossils were unearthed and sent on their way east. Cope's specimens are now part of the collection of the American Museum of Natural History in New York City.

---

## DISASTER

By 1889, the John Day Fossil Beds had been explored for almost 30 years. Nonetheless, William Berryman Scott of Princeton was determined to find fossils in Turtle Cove for the collection at his university in New Jersey. Led by Leander Davis, the famous local expert who had earlier guided Condon, Marsh, and

Sternberg, Professor Scott and his team amassed a ton-and-a-half of fossils. He credited their success to Davis, "whose knowledge of the country and the fossil beds was very exact."

But the fate of the beautiful specimens sent back to Princeton was

tragic. They were stored for a time in the cellar of Nassau Hall on the campus. During refitting of the heating system, workmen stole or destroyed all but a few pieces. Scott was heartsick at the loss which "would not be possible to duplicate in our time."

---

## REDEDICATION

A decade later, in 1899, John C. Merriam proposed the first University of California expedition. Collections of John Day fossils graced the major Eastern universities and had found their way abroad, yet aside from some of Condon's specimens in Eugene, none existed in museums of the West. The administration at Berkeley agreed that a collection was needed, and Merriam's expedition was launched.

Professor Merriam hoped to collect more than fossilized bones. He wanted information about the rocks that contained them as well as a collection of the present-day plants and animals along the John Day River. Two graduate students,

Frank Calkins, a mineralogist, and Loye Miller, a chemist-turned-naturalist, accompanied Merriam on this first complete scientific survey of the area. Guided by the renowned Leander Davis, they collected fossils and rocks and prepared study skins of animals. This was the first of many Berkeley expeditions sent out between 1899 and the 1920s. Most were led by Merriam, who came to respect the complex geology of the John Day Country. Loye Miller, who got his first taste of fossil-hunting here, went on to a distinguished career in paleontology.

Today paleontology is a complex but rewarding science. Specialists in geology, biology, chemistry, and computer science aid modern researchers. Using new equipment and techniques, paleontologists now learn much more from fossils than was possible in the 1800's. Vital information about some early collections has been lost—or was never recorded at all. As a result, many questions about ancient life here must go unanswered until new research is done. Even so, the pioneering efforts of these early-day fossil hunters remain the cornerstone of our understanding of the John Day Basin's distant past.

