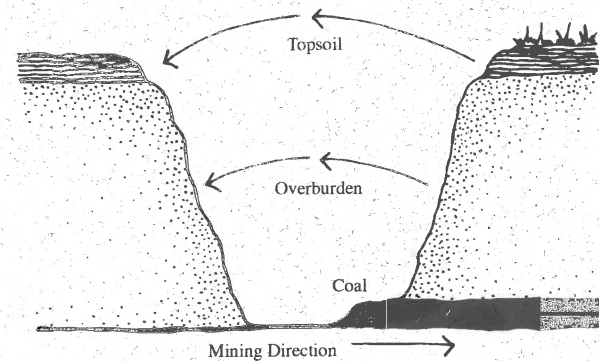


McCallum Field Auto Tour

Stop #5 (4.4 miles)

Reclaimed Coal Mine — Although you may not recognize it, there was once an active coal mine here. Look about 1 and 1/2 miles to the east (your left). You can barely see a square-shaped area covered with grass but without sagebrush. This was the Bourg coal mine. Coal was discovered in North Park in the late 1880s. North Park's coal is very low in sulphur, making it easier on the environment when burned.

At the end of a mine's life, coal mine operators are required to reclaim the land disturbed by their mining operations. The Bourg mine was reclaimed in 1989. After mining operations ceased, the open pit was filled in with "overburden," the layer of material found between the topsoil and the coal. It was then graded, recontoured and covered with a six-inch layer of topsoil so vegetation could be re-established. This reclamation and vegetation process essentially restores the land to its pre-mining state.



Did You Know?

- Although humans have used coal since pre-historic times, coal mining became a major industry only in the 18th Century.
- Coal was discovered in the U.S. in 1673, but coal mines did not operate until the 1740s.
- The U.S. has nearly one-fifth of the world's coal.
- Coal is by far the most abundant fossil fuel in the world.
- Coal derives from trees and other plants that flourished as long as 290 million years ago.

Stop #6 (6.2 miles)

North Park Ranching — Ranching is the oldest continuous industry in North Park, dating back to 1878 when Leadville butcher Reid Mathews brought a herd of cattle here to fatten up during the summer. When severe drought along the Front Range in 1879 forced stockmen there to seek new pastures, many other ranchers followed Mathews to North Park, establishing numerous ranches.

Much of North Park's rangeland is public lands, managed by the Bureau of Land Management. Ranchers pay an annual fee to the BLM to graze their cattle on these lands, under the terms of their grazing permit. In addition, cooperative efforts between the BLM, ranchers and other interested parties build fences, develop water projects and other endeavors designed to provide proper livestock management. This sustains the natural productivity of the land, assuring compatibility with other uses including wildlife habitat, watershed and recreation. As a result, proper management of these resources ensures that North Park's public lands can continue to support livestock grazing, helping to feed and clothe our nation.

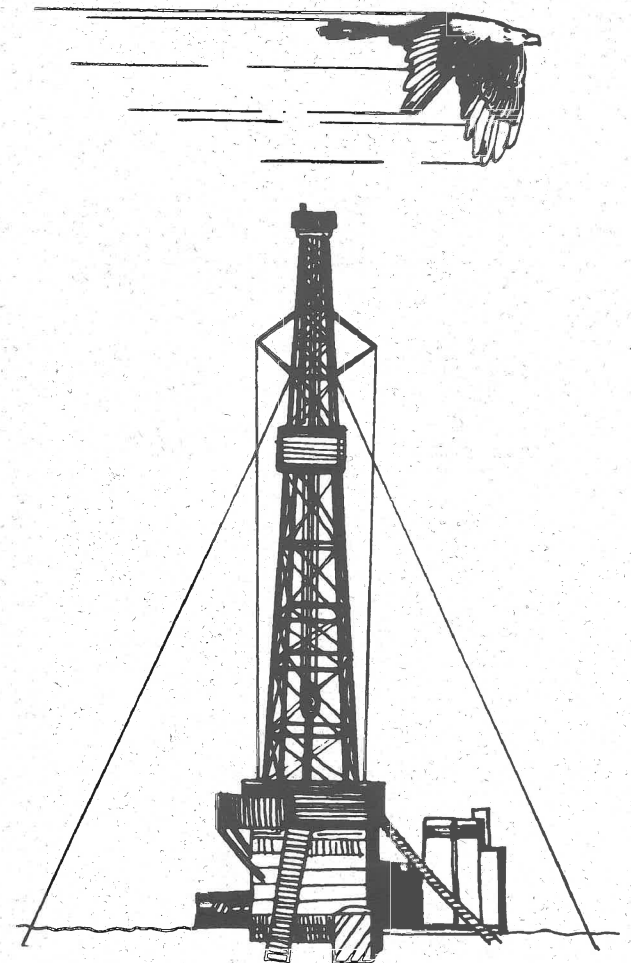
Stop #7 Walden (No-pull out)

Walden — The largest community in North Park, Walden was named for Marcus A. Walden, an early settler who established a post office near here in 1880. Before Euro-American settlers arrived, North Park was the summer hunting grounds of the Arapaho and Ute Indians who hunted the vast herds of deer, buffalo and antelope that grazed the valley's natural pastures. A colorful parade of people followed. Trappers and fur traders came to North Park as early as the 1820s. When gold and, later, silver and coal were discovered in the late 19th Century, the valley echoed the voices of boisterous miners. Enticed by prospectors' tales of lush grass higher than an antelope's back, stockmen soon established ranches throughout North Park.

Founded in 1890, the town of Walden was established as a central point for distributing supplies hauled into North Park by 12-horse team freight wagons. Walden became the county seat of Jackson County in 1909 and the Laramie, Hahn's Peak and Pacific Railroad arrived two years later. You can learn more about the interesting history of Walden and North Park at the North Park Pioneer Museum located next door to the Jackson County Courthouse two blocks west of Main Street on Logan Street.

For more information about public lands in North Park contact:

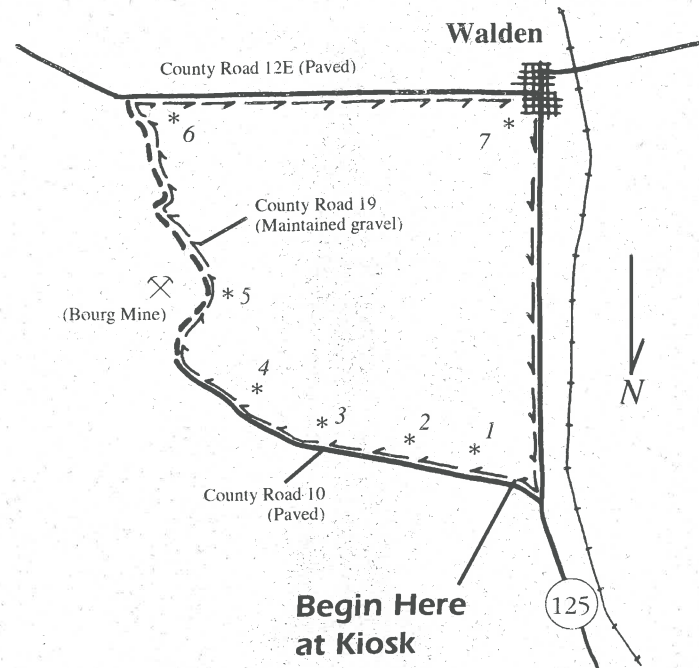
Kremmling Resource Area
1116 Park Avenue
Kremmling, CO 80459
(970) 724-3437



McCallum Field Auto Tour

Welcome to the McCallum Field Auto Tour. This eleven-mile long interpretive drive winds through one of Colorado's historically significant oil and gas fields. Along the way are numbered turn-outs at selected points where interesting features or themes are explained. The tour provides information about oil and gas development in North Park, and the history of the area. The entire tour route, four miles of which is maintained gravel, can be driven in passenger vehicles.

For your safety and that of others on the road, please use caution and observe all traffic regulations.



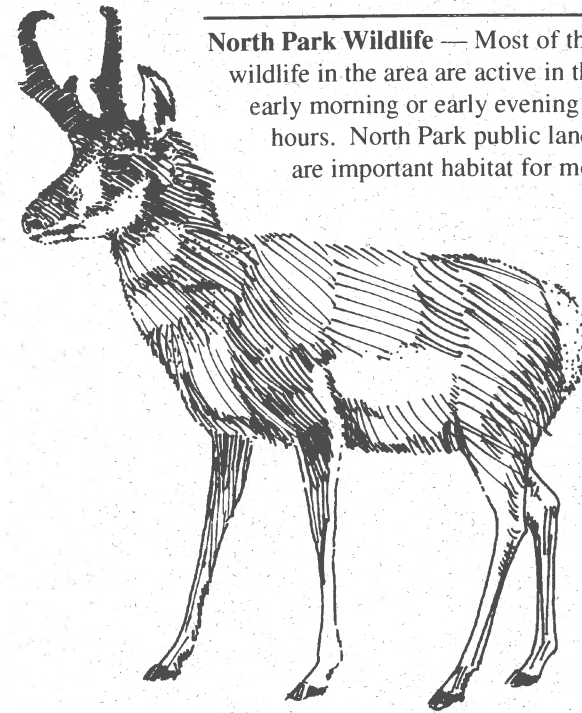
Stop #1 (.5 mile from kiosk)

Protecting the Environment — The McCallum Oil Field was first explored in 1926 by Continental Oil Company (CONOCO). In those early days, drilling technology was primitive by today's standards. During drilling operations, oil and gas often spewed forth uncontrolled, damaging North Park's fragile environment.

Today, oil companies employ state-of-the-art techniques to carefully prevent such damage. By using drilling mud in the wellbore and special equipment at the surface, uncontrolled releases ("blowouts") are a thing of the past. When oil does spill, oil-consuming bacteria can be introduced to literally eat up oil spills or leaks. During drilling, sub-surface fresh water zones are sealed off from the wellbore with cement to prevent contamination by oil. When a well no longer produces oil economically, the well is plugged with cement. All roads and well pads are re-contoured and re-vegetated to return the site to a more natural state.

Stop #2 (1 mile)

North Park Wildlife — Most of the wildlife in the area are active in the early morning or early evening hours. North Park public lands are important habitat for more



than 300 wildlife species. Sagebrush, found along the tour route, is particularly valuable to a wide array of animals. Some of these include:

- Pronghorn antelope
- Richardson's ground squirrel
- Merriam's shrew
- White-tailed prairie dog
- Black-billed magpie
- Swainson's hawk
- Mourning dove
- Sage sparrow
- Western meadowlark
- Prairie falcon
- Coyote
- Mule deer
- Deer mouse
- Sagebrush vole
- American kestrel
- Sage grouse
- Say's phoebe
- Red-tailed hawk
- Golden eagle
- Sage thrasher

North Park's public lands are managed to assure the protection and enhancement of habitat for wildlife. Fertilization, controlled burning and protective fencing are some of the management techniques employed to perpetuate wildlife on public lands. Unique habitat features such as sage grouse strutting grounds and nest sites for birds of prey are identified and given protection from disturbance. In addition, special stipulations can be added to mineral leases to protect wildlife.

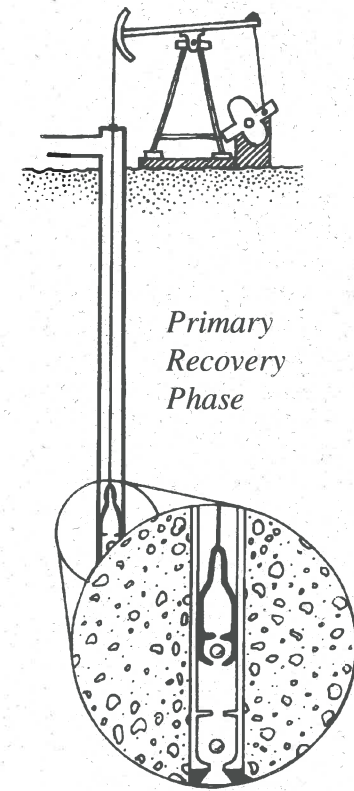
Stop #3 (2 miles)

Carbon Dioxide — Beneath North Park's surface is a vast reserve of carbon dioxide (CO₂). A dense, odorless gas, CO₂ is today a major product of the McCallum Oil Field. But it wasn't always that way. Although carbon dioxide was found here when the first oil well was drilled in 1926, from 1955 to 1984 most of the CO₂ was released into the atmosphere as a waste gas while the oil was separated out for sale. The building to your left is owned by Liquid Carbonic, Inc., a firm that captures the CO₂, purifies it to remove hydrocarbons, and sells it as a valued commodity.

Carbon dioxide has many uses. It is the gas that produces the fizz in soft drinks and beer. Used in fire extinguishers, CO₂ pushes air aside, robbing fire of the oxygen needed to burn. It is also utilized to enhance production in oil wells, and is used in food processing, greenhouses and steelmaking.

Stop #4 (2.5 miles)

Oil Well — One of the most common methods of lifting oil out of a well is through a pump at the bottom of the shaft, driven by a surface beam engine, or "pump jack," like the one you see here.



At McCallum Field up to 25% of the existing oil is recovered during the primary recovery phase. As reserves are extracted from their underground reservoirs, the process of lifting oil becomes more difficult. To enhance the flow of oil from the well, water or carbon dioxide is injected down an injection well into the oil reservoir. This forces the remaining oil to the producing wells where it can be lifted to the surface. This process recovers an additional 30% of the existing oil. At present, about 45% of McCallum Field oil is unrecoverable.

Secondary Recovery Phase

