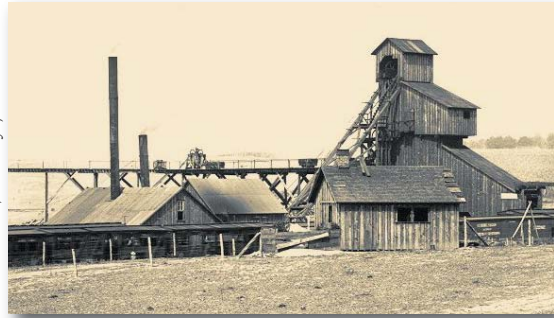


## RAGBRAI Geo-pedia

### Iowa's Coal History

Iowa's coal resources played an important role in the state's social and economic history. Small quantities of coal were first mined in the 1840s near Fort Des Moines to fuel the post's blacksmith forge. In 1854 the Rock Island Railroad reached the Mississippi River, and by 1860, 500 miles of railroad track existed in Iowa. By 1876, Iowa was the leading coal producer west of the Mississippi and fifth in the U.S. By 1918 annual coal production in Iowa peaked at 9.3 million tons. Production declined thereafter and the industry shifted from underground to surface mining operations. The last coal mine in Iowa closed in 1994.

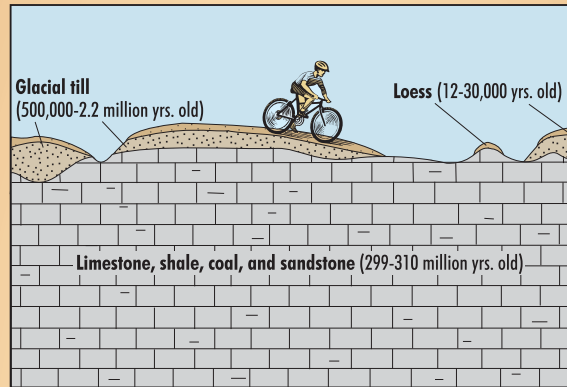


Calvin Collection, University of Iowa

Many large coal companies, such as Consolidation Coal Co. (photo above – Consolidation Mine #8 in Mahaska County), constructed camps in southern Iowa to house miners and their families. A few camps have persisted as small communities, but most have disappeared. Buxton was one of the best known of these, and was a thriving community with schools, stores, a YMCA, a municipal band, and a baseball team. Children went on to become doctors, lawyers, and teachers. Eventually, the coal was mined out, and in 1927 the last of the Buxton coal mines closed. Many of the residents resettled in Des Moines where their descendants still live today.

COVER PHOTO: *The hilly terrain of the Southern Iowa Drift Plain a few miles south of Lacona, Iowa.*

### Day 4 Milestones



**Start:** Indianola

**South River:** approx. 7 mi. after Indianola

**Glacial erratic in field:** 5.3 mi. after Milo

**Pennsylvanian limestone (creek):** 6.8 mi. after Milo

**Whitebreast Creek:** 5.6 mi. after Lacona

**Hotel Charitone:** Chariton (endangered site)

**Finish:** Chariton – 42 miles

#### For more information...

about the John L. Lewis Memorial Museum of Mining and Labor, visit: [www.coalmininglabormuseum.com](http://www.coalmininglabormuseum.com)

The IOWATER program is a statewide volunteer effort to help sample and keep tabs of Iowa's streams and rivers. If you would like to find out more on how to become a volunteer, visit: [www.iowater.net](http://www.iowater.net)

Pennsylvanian-age coal beds in south central Iowa have been studied extensively, both for economic reasons and to develop greater understanding of Iowa's rich geological history. For in-depth information about Pennsylvanian geology, including the cyclic nature of deposition, and important stratigraphic formations and groups, go to: [www.igsb.uiowa.edu/inforsch/coalkyst.htm](http://www.igsb.uiowa.edu/inforsch/coalkyst.htm)

# RAGBRAI 2009

## Learn about the Land

# Wednesday, July 22 Day 4



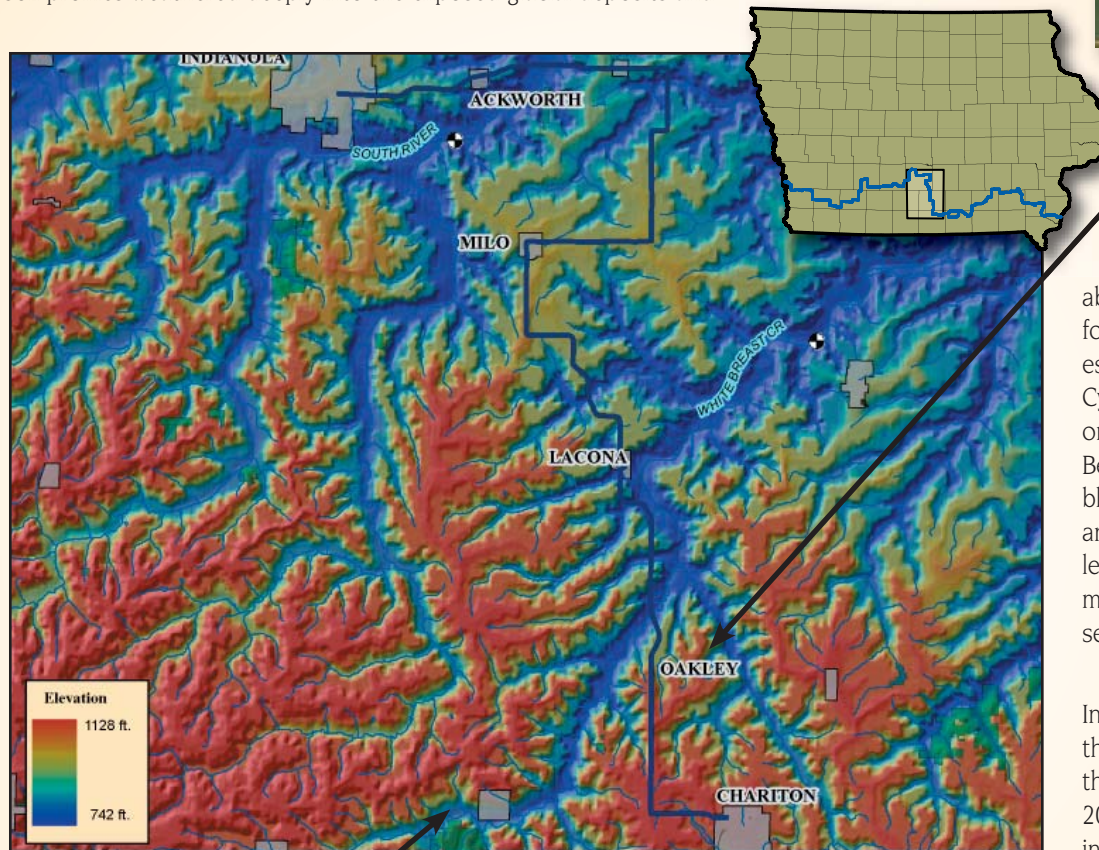
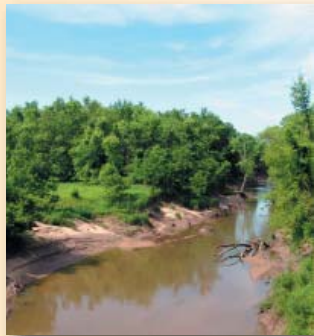
### Iowa DNR – Geological and Water Survey



109 Trowbridge Hall  
Iowa City, IA 52242-1319  
(319)-335-1575  
[www.igsb.uiowa.edu](http://www.igsb.uiowa.edu)

### US Geological Survey

Iowa Water Science Center  
400 S. Clinton St.  
Iowa City, IA 52240  
(319) 337-4191  
<http://ia.water.usgs.gov>

Looking across the landscape in southern Iowa, it would be easy to assume that geologic processes have been working uniformly forever. However, a closer look at the distant profile of the landscape reveals that the hillsides are not smoothly flowing slopes, but rather have broad "steps" carved into them (photo below, left). These **stepped erosion surfaces** are the result of alternating periods of active erosion and relative stability that have acted on the landscape over thousands of years. During periods of rapid erosion, valleys deepened and widened, and steeper slopes were notched into the landscape. But, during long periods of relative stability, soil profiles weathered deeply into the exposed glacial deposits and created a relatively stable and level surface. Take a look at the distant landscape while riding in southern Iowa and see if you can spot the tell-tale stepped erosion surface that indicates past irregularities in the long erosional history of the region.



 USGS streamflow station  
 Parks and Preserves

The **Whitebreast Creek Watershed** has been the subject of many water quality improvement and sampling efforts since 2002, including several IOWATER volunteer snapshots. Water quality monitoring has been coupled with improvement in land uses to try to clean up water in the creek (photo above).



Geologic units are commonly named after nearby places. One such unit is the **Oakley Shale**, named for the small town of Oakley, Iowa. Its "type section" (the exposure that typifies the unit) lies along Whitebreast Creek near Oakley (photo above). The Oakley Shale is a wide-spread 1½-foot thick, black, fissile "core shale" (the deepest-water deposit) of the Verdigris-Ardmore Cyclothem. It lies above the Whitebreast Coal, one of Iowa's most valuable coal resources. Because of their environment of deposition, black shales and coals like the Oakley Shale and Whitebreast Coal frequently contain high levels of toxic metals such as copper, cadmium, mercury, lead, chromium, uranium, and selenium and have a high sulfur content.

In the second half of the 19<sup>th</sup> century, and the early part of the 20<sup>th</sup> century, coal mining was a major industry in southern Iowa. Lucas, Iowa, is the site

of the **John L. Lewis Memorial Museum of Mining and Labor**. Lewis (photo right), who served as president of the United Mine Workers of America (UMWA) from 1920-1960, was born in a mining camp about one mile east of Lucas in 1880 to Welsh immigrant parents. He began working in the mines near Lucas as a teenager then left Iowa at 21 and worked in mines around the country for the next five years while educating himself. A persuasive speaker and labor organizer, he rapidly rose to power in the UMWA, advancing from branch secretary to president in only 10 years. As president of the UMWA, John L. Lewis was instrumental in the founding of the Congress of Industrial Organizations in the early 1930s.



Library of Congress, Prints and Photographs Div.