Learn about the land Partners
For the 11th year the Iowa Geological Survey (IGS), the U.S. Geological Survey (USGS), and the Iowa Department of Natural Resources (IDNR) return as “Human and Natural Resource Partners”. Learn about the Land provides daily brochures describing interesting landscape, geologic, and other natural resource features and factoids along the RAGBRAI trail. Look for USGS volunteers as they distribute the Learn about the Land brochures in RAGBRAI campgrounds.

New this year is a partnership with the University of Iowa’s Mobile Museum. This 40’ RV will be at Expo and along the entire route distributing Learn about the Land brochures. Stop by to pick up your brochures and see the all new educational displays inside!

Special thanks to the Iowa Limestone Producers Association (ILPA) for assisting in the production of the Learn about the Land daily brochures. With their help, we are able to provide interesting information about one of Iowa’s greatest natural resources...limestone!

*R Cover photo: The loess hills approaching dusk.
Buried channels
Buried hundreds of feet beneath the surface in western Iowa lie ancient river channels carved into bedrock. South of Glenwood lies one of these bedrock valleys. Called the Glenwood Chute, this river is related to the ancestral Missouri River Valley and corresponds to the Platte River Valley in Nebraska. Over 100 feet of sand and gravel can be found in the bottom of this bedrock valley. The Glenwood Chute connects to the larger Fremont Channel, which was formed by large volumes of water from melting glaciers 2.6 million years ago. Both of these channels are buried by as much as 650 feet of glacial till and loess. The sand and gravel in these channels are an important source of water for many Iowa citizens. Sometimes these are flowing wells!

Water Quality Monitoring
Many things affect water quality. They are complex and interconnected, and occur at timeframes of minutes (e.g., flash floods) to decades (e.g., evolving management practices). Landscape use also contributes to the quality of our waters. In recent years, a major water-quality concern has been how much nitrate & phosphorus is transported (load) downstream. These nutrients are natural and a necessary part of every healthy ecosystem, but an imbalance in our rivers, streams, lakes, and estuaries can lead to serious environmental issues. As you cross the West Nishnabotna River, you will pass by a USGS streamflow station that is equipped with water-quality sensors. Real-time data for the nationwide USGS network are available online at: http://waterwatch.usgs.gov/wqwatch

The Loess Hills
For a very short stretch on Day 1, riders will cross the Loess Hills landform region. (Loess rhymes with bus). The City of Glenwood is located atop the loess hills, and US HWY 275 north of Tabor is positioned at the boundary of the Loess Hills and Southern Iowa Drift Plain. Iowa’s steeply rolling Loess Hills are composed of very thick accumulations of silt deposited during glacial periods. Loess, or wind-blown silt, originated from the historic Missouri River and accumulated on the landscape during the last “Ice Age” from 24,000 to 12,500 years ago. During warmer periods the ancient Missouri River would carry and deposit fine sediment from the northern glaciers along its banks. During cold periods, strong westerly winds would blow loess out of the valley onto the adjacent landscape. Near Glenwood, the loess thickness may reach 50 feet.

Back by popular demand! The gravel loop this year takes riders to Imogene. It requires about 1,000 tons of gravel per mile of road with another 150 to 400 tons per mile in annual maintenance. That means the approximately 17.25 mile rural route took more than 17,250 tons of gravel to make, that’s enough gravel to fill over 1,000 standard dump trucks!