

Wisconsin Geological and Natural History Survey Bringing 3 Billion Years of State History to a Highway Near You

Situation

Many state residents enjoy exploring the natural world, and marvel over marine fossils as they hike or streamlined hills as they go by on family outings. While a vast scientific literature exists on the geology of Wisconsin, nothing was compiled as an easy-to-understand quick reference for curious travelers. So when Mountain Press Publishing Co. put forth a request to write the Wisconsin edition in their Roadside Geology series, UW-Madison/Extension geologists who had long recognized the need took up the challenge of describing more than 3 billion years of geologic formation and landscape change along major highways.

Response

To create *Roadside Geology of Wisconsin*, Robert H. Dott Jr., emeritus professor of geology and geophysics, and UW-Extension geologist John W. Attig, Wisconsin Geological and Natural History Survey (WGNHS), spent five years touring state roads, documenting geological landmarks with nearby highway mile markers so others can find them. They organized their travel narratives by landscape type—the Western Uplands, the Baraboo Dells Central Plain, the Eastern Uplands, Door Peninsula, and the Northern Highlands.

Each section begins with geological history such as the tropical coral reefs near Milwaukee, or the cataclysmic draining of glacial Lake Wisconsin that carved out a 7-mile network of canyons—the Dells of the Wisconsin River. Area trip guides give details for identifying landscape features, and describe how geological change shaped people's lives—what areas were settled, farmed and mined; how groundwater reached those who need it; where roads were built, and even such icons as the annual American Birkebeiner Ski Race, the House on the Rock, Hayward's Fishing Hall of Fame, and the Dairy Shrine at Fort Atkinson. WGNHS artist Susan L. Hunt created illustrations, while a timeline puts them in perspective and a glossary defines terms. The authors write in the preface:

"We wanted to help you envision mastodons roaming in front of great glaciers 12,000 years ago, feel storm waves pounding sea cliffs 500 million years ago, and hear volcanoes exploding 1,900 million years ago."

Outcomes

Roadside Geology of Wisconsin was released in March 2004, and the first printing sold out in two months. Nearly 15,000 copies sold, followed by a third printing in 2006. The book is available from bookstores or UW-Extension WGNHS Map Sales at 608-263-7389, mapsales@uwex.edu. The authors use the guidebook for public talks about geology and fieldtrips. The guidebook has become a catalyst for public geoscience education, field trips, lectures, magazine and newspaper articles, public radio and television news features, bringing Wisconsin's geology resources to the attention of state residents. The authors donate their share of proceeds from book sales to the UW-Madison geology and geophysics department to help support the Geology Museum, library, research and fieldtrips.

Taylor County 4-H Youth Development Agent Dan Renzoni leads 4-H Youth Adventures leadership trips, such as canoe trips, hikes, summer camps, tree plantings and bus tours throughout the county and other states. Books like *Roadside Geology of Wisconsin* make me a more effective educator, he says. "The book makes it easy to coordinate investigations in natural history as part of any type of field trip we plan. Everywhere we go there are points of interest to look into and compare," Renzoni says. "Understanding geology helps tie environments together, understanding plant communities and hydrogeologic systems, identifying groundwater discharge and recharge areas, and understanding sociological features such as post-glacial till behind a moraine, ice-walled-lake plains and why people settled there to farm—because the glacier made it possible. If youth are going to grow up to be effective stewards of the land and avoid the costly mistakes of the past, this information is critical."

Young people, science teachers and other adults inspired by these tours use the book on family trips and class projects. A report on the tours was submitted to the Taylor County UW-Extension Community Partnership Advisory Team and the Federation of Taylor County, a 4-H program advisory board. John Exo, Sauk County UW-Extension basin educator, consults the book for his work protecting watersheds in the lower Wisconsin River basin. He regularly recommends the guide to colleagues. "The illustrations are spectacular," Exo says, "and the text is written at the perfect level of intellect and detail for non-geologists. Devil's Lake naturalist and writer Ken Lange finds the book very thorough, well organized and illustrated to complement his work, and valuable when leading field trips. He relies on the book's Upper Narrows of the Baraboo Hills trip guide for up-to-date information before Earth Day field trips in that area, and urges everyone to keep a copy of the book in their car.

Roadside Geology of Wisconsin is now a textbook in many science courses, and supplements the science curriculum for a new outdoor classroom in Dane County, Pope Farm Park, which features three watersheds, kettles and three moraines left by the last glacier about 18,000 years ago. Mel Pope led the effort to save his family's land from development and create the educational park overlooking Black Earth Creek Valley and Lake Mendota. In 2004 and 2005, Attig and other educators worked with Mel Pope, the Town of Middleton Park Planning Committee, and the Middleton-Cross Plains School District to develop a natural history trail, and K-12 teachers wrote lesson plans for field trips in the park. Susan L. Hunt created the signs describing the area's Ice Age geology, adapting her book illustrations. "The park's landscape features make it an excellent place to teach about the glacial history and landscape evolution of Wisconsin," Attig says. "It has begun to be the outdoor classroom we hoped it would become."

Bringing Wisconsin's geology resources to public attention raises citizen interest and improves public decision-making. Knowledge of geology provides a critical foundation for making informed decisions on water quality, waste disposal, housing development, facilities siting, road construction, and planning for a sustainable future.

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