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Big River

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Why Is The River Where It Is?

By Robert E. Sloan

In short, the Mississippi River is where it is today, because a glacier shoved it there about 700,000 years ago. Before that, the Missouri River flowed into Hudson Bay, where the Nelson River presently flows, and the Ohio and the upper Mississippi Rivers flowed north through what are now the Great Lakes into James Bay and on into Hudson Bay.

We need to travel a bit further in space and time for a more complete explanation of why the river is where it is: Panama collided with Columbia 2.5 million years ago, separating the Caribbean and the East Pacific. This collision turned the Caribbean and Gulf of Mexico into a very warm, shallow sea. This warm sea accentuated the development of the Gulf Stream, which flows out of the Gulf of Mexico through the Havana Straits, up the East Coast and crosses the North Atlantic, warming southern Greenland, Iceland and the north coast of Europe. (Would you believe that palm trees grow today within a mile of the coast of Scotland as a result?)

As the Gulf Stream flows through the North Atlantic it wets and warms up an air mass that flows onto Canada, Greenland and northern Europe, where the moisture is wrung out as rain or snow. A glacier grows where there is more snow in the winter than melts in the summer. Because of small cyclic changes in the amount of sunlight during Northern Hemisphere summers, there were about 38 episodes of small icecap glaciers formed and then wasted away, one after another between 2.5 million years ago and 700,000 years ago. Each of these episodes involved icecaps centered on the Canadian Rockies, the Maritime Provinces, Greenland, Scandinavia and the Alps.

(continued on page 2)

EMP Report to Congress — Flowing into the 21st Century

By David Syring

The most important piece of equipment for the future of the Upper Mississippi may not be a bulldozer or a dredge, but a small stack of paper that will determine the fate of the Environmental Management Program (EMP). Some argue that the 100-page Report to Congress, completed by the Army Corps of Engineers in December of 1997, will set the river’s ecological agenda well into the 21st century.

(continued on page 4)
Four Big Glaciers

Then about 700,000 years ago, the global climate changed and created four major ice sheets much bigger than previous ones. The first of these is called the Nebraskan Glaciation, because it reached as far south as Nebraska; the others are the Kansan, Illinoian and Wisconsin glaciers. The Wisconsin glaciation ended only about 12,000 years ago, and the climactic change (warming) at the end of the Wisconsin made possible the beginning of villages and agriculture all over the world.

During each of these ice ages, the sea level all over the world dropped to about 450 feet lower than it is today. When the ice caps melted and we went into a full interglacial climate, the sea level rose to 200 feet above the present level. This means that when (not if) the present ice caps of Greenland and Antarctica melt, the Gulf of Mexico will extend up the river as far as Memphis, Tennessee.

When the glaciers were at their maximum and the sea level was lowest, all the rivers in the world carved their channels down from tide water all the way back to their sources. As the glacier melted and sea level rose, those extra-deep valleys filled with sand, gravel and silt. The city of Winona and the nearby floodplains and islands sit atop about 300 feet of river fill that buries the bedrock bottom of the valley, all deposited in the last 12,000 years.

The sea level is still rising as the glaciers melt, at a rate of about one-eighth inch a year, but one concern about the greenhouse effect is that it will only take a rise in temperature of about two degrees to melt the Greenland and part of the Antarctic ice cap and greatly increase the rate of sea level rise. Global temperature has gone up one-and-a-half degrees since 1880. All over the world, glaciers are melting.

The Nebraskan glacier was the biggest of the lot, completely rearranging the rivers of the Upper Midwest. The ice piled up more than two miles thick over Hudson Bay and spread out by flowing under its own weight. Coming across Manitoba and Saskatchewan it completely buried the old course of the Missouri, and a new river valley was cut right along the maximum advance of the ice. So from Williston, North Dakota to St. Louis, the Missouri still traces the outline of the edge of the Nebraskan Glacier.

The old upper Mississippi Valley was buried in ice as the ice entered Minnesota from the Red River Valley near Winnipeg and came through the Lake Superior basin. Similarly the Ohio was detoured around the south edge of the ice to its present location, meeting the Mississippi at Cairo.

In southeastern Minnesota the ice spread south and east, finally coming to a screeching halt right on top of a very broad high hill of limestone at about 1,300 feet above sea level. It reached north from Red Wing, Minnesota, south to Dubuque, Iowa, west to Mankato, Minnesota, and east to Madison, Wisconsin. None of the later glaciers reached that far.

The meltwater from that ice sheet cut a deep valley to 300 feet above sea level at the edge of the ice. The valley was cut by a series of waterfalls with steep cliffs at the hard resistant limestones. These waterfalls retreated upstream and left the deep valley, the sides of which are still visible on both sides of the river.

The glacier melted quickly — it only took about 2,000 years — and as the glacier melted, the sea level rose and the deep valley filled in. It filled in because with the rising sea level the river was less steep and couldn't carry as much sand.

As the sea level rose higher than the present level, the river contin-
Previous glacial valleys (gray) of the Mississippi River and the St. Croix River are buried in the Twin Cities. The lakes (black) were formed when blocks of ice were buried in the old valleys as the ice retreated. When the ice melted, lakes formed in the depressions. The valleys were located from well-drilling records.

Volley excavated by waterfol I retreat

ued to fill up with sediment, producing level bottomland well above the present river level. The terraces that rise as much as 100 feet above the present river and are visible as you drive along the river are remnants of these high river levels. Examples can be seen north of Red Wing near the Cannon River where flat plains flank Highway 61, very high above the river.

Each successive glacier re-excavated the valley, and then after each glacier melted, the valley filled in again. In the Twin Cities each new glacier completely buried the older valleys, and as it melted it cut a new set of valleys. Each glacier cut a new St. Croix, Mississippi and Minnesota valley.

These buried valleys pose interesting problems for building big heavy buildings. For example, the Radisson Hotel in Bloomington is actually built, not on bedrock, but on 300 feet of pilings in the middle of one of these old buried valleys!

In Minneapolis the chain of lakes — Cedar Lake, Lake Calhoun and Lake Harriet — are remnants of the previous course of the Mississippi.

On the St. Paul side of the river, Centerville Lake, Pleasant Lake, Lake Vadnais, and the big valley in which I-35E lies were once part of the St. Croix valley.

Bob Sloan was a Professor of Paleontology at the University of Minnesota, working on dinosaurs, trilobites and the rocks of southeastern Minnesota for 44 years. He now lives on the Big River right across from Trempealeau Mountain.

Mississippi River earthquakes may come again, but not just along the New Madrid Fault, which is named after a river town in southern Missouri and runs 125 miles from southern Illinois to southeast Arkansas. Geologists have discovered a layer of silt that has shifted vertically about 20 feet near Holly Ridge in the Missouri Bootheel region, indicating another possible fault. The discovery may support the notion of a large seismic area, the Commerce Geophysical Lineament, which parallels the New Madrid Fault about 20 miles to the northwest.

Massive New Madrid quakes in 1811 and 1812 caused the Mississippi to briefly flow backward and shook buildings on the East Coast.

Getting a Note from the River

We included something new with this month's newsletter, the first of a series of River Notes we are creating for the Minnesota-Wisconsin Boundary Area Commission. Each note will center on a place on the river in order to illustrate how the river works and how people have affected it. It will also suggest activities and resources.

We'd like your feedback and ideas on the project, by mail, email or in person. Each new River Note will be posted on our web site. We hope to include others with the newsletter in the future.
Created by an act of Congress in 1986 and overseen by the Corps, the EMP works to measure, maintain and revive the river’s health. Teams from the Minnesota, Wisconsin, Iowa, Illinois and Missouri Departments of Natural Resources work together on the program. Its current funding and authorization ends in 2002. The report recommends that Congress renew authority for the program and increase its annual budget from about $19.4 million to just over $33 million (the original budget adjusted for inflation).

According to the report, many of the river’s current problems come from building levees and maintaining the navigation channel, which the Corps launched a century ago and expanded with the locks and dams in the 1930s. A process called “pool aging” has led to sedimentation in the reservoirs behind the dams, which reduces water and habitat quality. At the same time, erosion of islands and loss of shallow areas due to higher water has affected the diversity of plants and animals in the Upper Mississippi.

The solution, according to the report, requires active management. A strong EMP, the report argues, would repair habitats and provide important information for river managers and users.

Habitat restoration and river research are the heart of the program. In the last decade, the monitoring part of the program gathered information ranging from land use to water quality and the health of fish populations.

No other organization keeps track of so much information about the Upper Mississippi. In fact, the EMP gathers information from older studies and other organizations, as well as initiating new studies. Such data is a key to understanding how the river changes over time, and will help planners make sense of the balancing act between human efforts and natural processes.

By the time current funding expires, the restoration part of the program will complete 38 rehabilitation projects to create or improve 68,000 acres of river and floodplain habitat. Projects include island-building, dredging sediment from backwaters and other attempts to create or preserve habitat. EMP projects have restored a rich mix of plants and animals in many places once in danger of losing diversity.

The weak point of habitat efforts is that they have been fragmented and scattered throughout the Mississippi Valley, with no overall plan. A comprehensive survey of habitat needs, included in the proposed renewal of the program, would lead to a basin-wide approach.

Renewed funding and ongoing authority would expand and make better use of an already extensive information base about how the river works. It would also make habitat projects more efficient and effective, since the current system of requiring new authorization every five or ten years impedes long-term planning.

Creating a Forum

The program’s greatest strength, so far, seems to be its ability to get people talking and working together. EMP supporters say the gap between those who use, study and manage the river shrank appreciably during the first 12 years of the program.

The report says, “The EMP is truly a unique, multi-participant program,” and also notes that the EMP has “improved communications and expanded partnership among the many Upper Mississippi River System management agencies, interest groups, and the general public.”

Many river organizations agree with this assessment and argue that the EMP could play an important role in the river’s future.

“We believe that the EMP Report to Congress is a critical document for the future of the river and the operation and maintenance of its nationally significant ecosystem,” concludes a letter of support from the Minnesota-Wisconsin Boundary Area Commission. The Commission was appointed in 1965 to advise the governors of the two states on St. Croix and Mississippi River issues.

The report paints a rosy prospect for cooperative river management. It suggests that we can have a healthy river and still meet the many demands — from the barge industry, other businesses and recreational users — on what it calls a “multi-purpose resource.”

While the EMP offers some hope for the river’s health, the language of cooperation and consensus could become a smoke screen for business-as-usual, leading to inaction and more problems. The EMP’s list of accomplishments is impressive, but hard decisions lie ahead regarding such things as large-scale draw-downs, restrictions on commercial and recreational boating to prevent further spread of zebra mussels, solving pollution problems and other river management issues.

State officials will review the report in February and send their comments to the Corps, which is expected to submit the report and comments to Congress this spring.

You can find out more about the Report to Congress and about the EMP by visiting a library (most river community libraries received a copy of the report), by contacting the Rock Island District of the Corps of Engineers at (309) 794-5210, or by visiting the Big River Home Page where you’ll find a link to the EMP’s web site.

David Syring is a former associate editor of Big River. His last story for Big River was “Remodeling the River” (January 1998).
Mine the Backwaters?
Cottage Grove, Minn. — Controversy is brewing over a huge deposit of sand and gravel in Mississippi River backwaters south of Lower Grey Cloud Island. A masonry products company wants to mine these privately owned backwaters, causing concern among natural resource agencies and environmentalists.

J. L. Shiely Co. and its parent company, CAMAS, Inc., are considering mining about 200 acres of the backwaters. According to CAMAS spokesperson Bob Bieraugel, this area contains enough aggregate to supply road-construction and other building projects in the Twin Cities for the next 20 years. Bieraugel says that with the right equipment and techniques, these backwaters can be mined without harming the environment.

But others aren’t so sure. According to Izaak Walton League spokesman Bill Grant, “The backwaters of the Mississippi are already under a great deal of stress from a variety of pollution sources as well as from navigation activities. It sounds to me like this would be adding just one more insult to a very valuable backwaters resource.”

CAMAS has not formally applied for permission to mine the backwaters, but Bieraugel says the company is currently preparing an environmental assessment worksheet and is seeking input from city, state and federal agencies. During the past year, CAMAS has discussed its plans with officials from Cottage Grove, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the Army Corps of Engineers and others, according to the St. Paul Pioneer Press (12-26-97).

“We’ll make every effort to bring the environmental groups to the table to talk,” Bieraugel says. “CAMAS is conscientious about the controversial nature of this project. We have been conducting numerous environmental studies, such as sediment resuspension analyses and impacts on macroinvertebrates, to determine how we could deliver a win-win situation.”

The Bright Field Report
New Orleans, La. — Human negligence caused the ship accident in December 1996 that injured more than 100 people on New Orleans’ Riverwalk Mall.

A Coast Guard report says the crew of the Bright Field, a Chinese-owned, Liberian-registered freighter, ignored long-standing engine problems. A clogged oil filter caused an engine shutdown at a crucial moment. Without power, the ship crashed into the mall, a hotel and a parking garage (see Big River, January 1997). The Coast Guard won’t press charges because it’s nearly impossible to prosecute nonresidents in U.S. courts.

The incident convinced the Coast Guard to develop a crisis plan and to install an electronic warning system and other safety measures on this tricky part of the Mississippi, according to the Associated Press (12-19-97).

Caviar Crackdown
Harare, Zimbabwe — An international agreement, effective April 1, 1998, will make importing caviar much more difficult and expensive. This agreement is designed to protect sturgeons and their relatives from intensive egg harvesting.

The plan was agreed on at the Conference of the Parties of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) held last summer in Harare, Zimbabwe. New measures will tightly control the trade of sturgeons and their eggs, which should increase legal and illegal fishing pressure on American sturgeon and paddlefish, whose eggs are used as substitutes for European and Asian caviars, according to River Crossings (November/December 1997).

Ill Eagles
Madison, Wis. — A mysterious disease that began affecting bald eagles and American coots in Arkansas appears to be spreading to other states, according to wildlife specialists at the U.S. Geological Survey’s (USGS) National Wildlife Health Center in Madison, Wisconsin. The disease has killed at least 55 bald eagles in southwestern Arkansas and a small number of coots in North Carolina and Georgia.

The disease damages the brain and central nervous system, causing afflicted birds to display uncoordinated or disoriented behavior, such as erratic flying in eagles, or impaired swimming and diving in coots.

Although scientists have studied the disease extensively, its cause remains a mystery. Bacteria, viruses and parasites are apparently not factors, but scientists suspect a neurotoxin, according to a USGS press release.

The USGS urges people to report sick or dead eagles or coots to Dr. Kimberli Miller at the National Wildlife Health Center, (608) 270-2448.
On and Off Wisconsin

Prairie du Sac, Wis. — The water levels on the Lower Wisconsin River were a lot more stable when the Wisconsin Power and Light (WP&L) hydroelectric facility in Prairie du Sac was controlled manually. Since it was computerized, people have complained of dramatic changes in river levels.

When the Lower Wisconsin State Riverway Board first expressed concern to the company in 1996, the problem was blamed on a computer glitch. Problems continued through 1997, but now WP&L says it has installed missing software that will remedy the problem, according to the Sauk Prairie Eagle (1-1-98).

Canvasbacks are Back

Lansing, Iowa — The future of canvasback ducks looked dim a decade ago, but last fall record numbers of them were counted in the 12-mile stretch of the Mississippi below Lansing.

The U.S. Fish and Wildlife Service counted 197,000 canvasbacks there in November, which is about a third of the total population and the most ever counted in one location, according to an article in the Dubuque Telegraph Herald (12-12-97).

Wetland Definition Too Broad

St. Charles, Md. — A federal appeals court reversed a conviction based on the Clean Water Act, which may force a change in the definition of what constitutes a federally protected wetland.

The U.S. Court of Appeals for the Fourth Circuit claimed that the Army Corps of Engineers used an overly broad definition of wetlands, which included potholes and other low places where water collected. The appeals court, while not defining the term, said the Corps’ mandate does not apply to real estate parcels with standing water not connected to interstate, navigable rivers or lakes, or the streams and other waters that flow into them, according to a story in the Washington Times (12-26-97).

The court overturned the conviction of Interstate General Co. and its CEO, James L. Wilson. Wilson had been sentenced to 21 months in jail; him, his company and a subsidiary fined millions of dollars for filling in wetlands in 1991, in a residential development in St. Charles.

“Garbageman” Collects

Rock Island, Ill. — Chad Pregracke, the one-man river cleanup campaign, was awarded a $20,000 matching grant and a $5,000 startup grant from Alcoa in January.

Alcoa operates a huge aluminum sheet and plate plant on the Mississippi in Riverdale, Iowa, just upriver from Bettendorf.

The 23-year-old, self-proclaimed “Garbageman of the River” aims to clean up the Mississippi from Guttenberg, Iowa, to St. Louis next summer (see Big River, November 1997). Last summer he collected more than 35,000 pounds of trash in the Quadr Cities area and recycled more than half of it.

Waste Management of North America and West Marine have also pledged support for the project.

To contribute to the challenge grant, write a check to Quad City Conservation Alliance for Chad Pregracke, 2621 Fourth Ave., Rock Island, IL 61201.

Princess Heads South

St. Louis, Mo. — When the Winona Island Princess, an excursion boat, left Winona, Minnesota, for St. Louis last fall, there was some doubt that it would return in the spring.

In January, Al Thurley, Winona Convention and Visitors Bureau director, confirmed that the boat would not return, according to the Winona Daily News (1-10-98).

The 700-horsepower, 149-passenger Princess was built by La Crosse, Wisconsin-based Skipperliner in 1994.

The city built a $260,000 building in Levee Park and leased it to Mike Rivers, the boat’s owner, who used it to sell tickets for cruises.

Clammers’ Trial

Dubuque, Iowa — A Brownsville, Minnesota, couple facing federal charges of transporting illegally harvested mussel shells across state lines are scheduled to go to trial on February 23.

Greg Meyers and Lisa Ann Meyers pleaded not guilty to the charges in U.S. District Court in Davenport, Iowa.

Greg Meyers faces 13 counts and Lisa Ann Meyers faced two counts. Each charge carries a maximum penalty of five years in prison and a $250,000 fine.

Smile for the Camera

Brainerd, Minn. — The fish don’t stand a chance. Soon you’ll need room in your tackle box for an underwater camera next to your sonar and global positioning unit.

Jeff Zernov, has formed Nature-Vision Corp. to market the portable underwater camera he developed for anglers. The $1,495 unit can spot fish up to six feet away in murky water during the day. At night you can switch on its infrared light for nocturnal viewing, according to the St. Paul Pioneer Press (1-7-98).

The camera was scheduled to go on sale in January in the Twin Cities area. Within a year or so, Zernov expects the price to drop to about $600.

Aid to Frogs

Minnesota — If the Minnesota Legislature gives its nod, $500,000 from the state’s 1998 General Fund will go into looking for the cause of abnormalities in hundreds of deformed frogs discovered throughout the state since 1995.

Governor Arne Carlson wants
the Minnesota Pollution Control Agency to use the money to coordinate efforts to get to the bottom of the freaky frogs, according to the St. Paul Pioneer Press, (1-16-98)

**More Boats**

Minnesota — Minnesota registered an all-time record of 768,680 boats in 1997. Leading the increase were personal watercraft, jumping 18 percent since 1996. Registrations were also higher for outboard aluminum boats 16 to 26 feet long, and fiberglass/plastic canoes and kayaks.

According to the Minnesota Department of Natural Resources, 16-foot aluminum boats with small outboard motors are still the most popular boats in Minnesota, but boaters are also going for big pontoon boats and big fishing boats. In fact, Minnesota is the biggest market for pontoons made by Premier Marine, and with 175-horse outboard motors that can pull a waterskier. The company's high-end boats are selling for up to $35,000 fully loaded, according to the St. Paul Pioneer Press (1-18-98).

Minnesota boaters now face the same penalties as highway drivers, if caught driving after drinking too much alcohol. A state law went into effect on January 1 to include motorboats, all-terrain vehicles and snowmobiles in motor vehicle DWI statutes. Of the 12 Minnesota boating fatalities in 1996, 58 percent were alcohol-related.

**Cleaner Refinery**

Rosemount, Minn. — On the heels of state investigations of possible water quality and hazardous waste violations, Koch Refining Company, L.P., announced it will invest up $80 million in environmental improvements over the next decade.

For several months prior to the announcement, the Minnesota Pollution Control Agency (MPCA) investigated Koch's methods of wastewater treatment. Koch had also been working on pipeline and tank areas that leaked gasoline and petroleum products into soil, ground water and a wetland near the Mississippi River last August.

Koch, Minnesota's largest refinery, supports creating an independent council of public officials, Dakota County residents, refinery employees and the MPCA to help advise the company on environmental issues. "We know their expectations continue to rise and we need to do better," says Koch Refining's manager Tim Rusch.

Koch's plans include a program to keep above-ground storage tanks in better shape than industry standards, relocate most of Koch's underground product lines above ground, study the possible replacement of the refinery's underground sewers and expand ground water monitoring.

**Correction**

We mistakenly reported last month that Illinois, Iowa and Wisconsin banned commercial clamming. Actually the Departments of Natural Resources (DNR) in Illinois, Wisconsin and Iowa asked for a commercial ban on the harvest of washboard mussels.

Surveys last summer in pools 9, 10 and 11 found very few washboards of legal harvest size and almost no immature ones. Nearly all the washboards were mature, but too small to harvest. A healthy population would include more immature and older mussels, according to Kurt Welke, a DNR Mississippi River biologist based in Prairie du Chien, Wisconsin.

Washboards can live 60 years. They start to mature at about 10 years and reach harvestable size in about 21 years. Washboard harvest along the Minnesota-Wisconsin boundary was closed in 1987.

The DNRs are asking that the harvest of washboards be stopped until the immature segment of the population can be restored. Nobody is offering an explanation of why the population has changed, but the zebra mussel invasion, poor water quality and poor conditions for reproduction may all be factors.

The legislatures may act on the requests this winter.

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**UMR Washboard Mussel Population in 1997**

**Pools 9-11, Quantitative + Qualitative**

<table>
<thead>
<tr>
<th># collected</th>
<th>DNR</th>
<th>SEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10</td>
<td>1.7%</td>
<td>1.8%</td>
</tr>
<tr>
<td>11-20</td>
<td>96.7%</td>
<td>93.2%</td>
</tr>
<tr>
<td>21-30</td>
<td>1.5%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

The chart above combines the results of washboard mussel surveys by the Wisconsin Department of Natural Resources (DNR) and the Shell Exporters of America (SEA). The DNR measured 1,159 washboards and the SEA 2,739.

The left section of the chart shows immature washboards; the center, maturing or mature mussels; and the right, mussels large enough for legal harvest. The light grey bars represent the SEA survey and the dark grey bars the DNR survey.
Special Events and Festivals

**February**

- **7-8** Eagle Watch, Winona, Minn., bus field trip, 1-800-657-4972 or (507) 452-2272.
- **12-15** St. Paul Sports and Travel Show, Civic Center, St. Paul, Minn.
- **15** Soar With The Eagles, 1 p.m. - 3 p.m., St. Felix Auditorium, Wabasha, Minn.
- **27-29** Trader's Jubilee, Harpers Ferry, Iowa, (319) 873-2387.
- **28-29** Eagle Watch, Stillwater, Minn., (612) 430-1938.

**March**

- **7-8** Eagle Watch, Winona, Minn., bus field trip, 1-800-657-4972 or (507) 452-2272.
- **15** Soar With The Eagles, 1 p.m. - 3 p.m., St. Felix Auditorium, Wabasha, Minn.
- **28-29** Eagle Watch, Stillwater, Minn., (612) 430-1938.

Workshops & Conferences

**February**

3 “Do We Share Common Values?”, Farmer-Environmentalist Day of Dialogue on Water Quality, 9 a.m. - 3 p.m., Maneko, Minn., The Minnesota Project, 1-800-366-4793 or (612) 645-6159.


**March**

4 Aquatic nonindigenous nuisance species, Houston, Texas, Gulf of Mexico Sea Grant, 1716 Briarcrest, Suite 702, Bryan, Texas 77802.


16-19 International Zebra Mussel and other Aquatic Nuisance Species Conference, Sacramento, Cal., 1-800-866-8776; profedge@renc.igs.net.


Meetings & Hearings

**February**

- **3** City Hall, Clearwater, Minn.
- **4** Stearns County Adm. Center, St. Cloud, Minn.
- **5** Minnesota-Wisconsin Boundary Area Commission, 10 a.m. - 3 p.m., EMTC, Onalaska, Wis., (608) 783-5270.
- **7-8** Winterfest, Lake City, Minn., 1-800-369-4123 or (612) 345-3401.
- **7-8** Winterfest, Great River Bluffs State Park, Dakota, Minn., (507) 643-6849.
- **7-8** Ice Fisheree, Prairie du Chien, Iowa, (319) 242-3401.
- **7-8** Ice Fisheree, Delafield, Wisc., (414) 278-2766.
- **7-8** Ice Fisheree, Madison, Wisc., (608) 256-6800.
- **7-8** Ice Fisheree, Decorah, Iowa, 1-800-4NE-IOWA.

**March**

- **11-12** Navigation Environmental Coordination Committee, UMR navigation study, Holiday Inn, Moline, Ill., 1-800-872-8822.

Almanac

**February**

By Kenny Salway

February, the last full month of winter is also the shortest, yet at times it seems it will last to the Fourth of July! As the days grow longer, my patience grows shorter. Get a hold of yourself, Kenny. Take up your walking stick, get out and stretch your legs in the hills and backwaters!

The silver maple buds are plump and firm. The birds are singing and flying about more. I even hear a cardinal’s song. Flocks of eagles execute aerial mating displays with breath-taking grace, sending shivers up and down my spine. Deer trails are packed down deep in the snow. They haven’t been browsing much on the cedar trees; it’s been a good winter for them. Flocks of turkeys are out scratching in the fields.

The silver maple buds are plump and firm. The birds are singing and flying about more. I even hear a cardinal’s song. Flocks of eagles execute aerial mating displays with breath-taking grace, sending shivers up and down my spine. Deer trails are packed down deep in the snow. They haven’t been browsing much on the cedar trees; it’s been a good winter for them. Flocks of turkeys are out scratching in the fields.

Cross country skiers, ice skaters and ice anglers are out in force. A lovely crimson sunset casts dark shadows across the big river. Children’s laughter and a chickadee’s songs find my ears. Water drops punch holes in the roof’s icicles.

Supper’s cooking. My wife asks, “Great day for a hike wasn’t it?”

“Sure was honey,” I answer. “Somehow February seems too short!”