

THE MACKINAW RIVER BASIN

AN INVENTORY OF THE REGION'S RESOURCES

Published by the
Illinois Department of Natural Resources
with Assistance from
The Nature of Illinois Foundation

A Project of the Critical Trends Assessment Program



ABOUT THIS REPORT

The Mackinaw River Basin: An Inventory of the Region's Resources is a product of the Critical Trends Assessment Program (CTAP) and the Ecosystems Program of the Illinois Department of Natural Resources (IDNR). Both are funded largely through Conservation 2000, a six-year State of Illinois initiative to enhance nature protection and outdoor recreation by reversing the decline of the state's ecosystems.

Conservation 2000 is the culmination of recommendations from CTAP, the Illinois Conservation Congress, and Governor Edgar's Water Resources and Land Use Priorities Task Force. The CTAP recommendations came out of its 1994 report on the state of the Illinois environment. CTAP investigators inventoried and analyzed existing environmental, ecological, and economic data to establish baseline conditions from which future changes in ecological conditions might be measured. The report concluded that:

- the emission and discharge of regulated pollutants over the past 20 years has declined in Illinois, in some cases dramatically;
- existing data suggest that the condition of natural systems in Illinois is rapidly declining as a result of fragmentation and continued stress;
- data designed to monitor compliance with environmental regulations or the status of individual species are not sufficient to assess ecological health statewide.

The Illinois Conservation Congress and Governor Edgar's Water Resources and Land Use Priorities Task Force came to broadly similar conclusions. For example, the Conservation Congress concluded that better stewardship of the state's land and water resources could be achieved by managing them on an ecosystem basis. Traditional management and assessment practices focus primarily on the protection of relatively small tracts of land (usually under public ownership) and the cultivation of single species (usually game animals or rare and endangered plants and animals). However, ecosystems extend beyond the boundaries of the largest parks, nature preserves, and fish and wildlife areas. Unless landscapes are managed on this larger scale, it will prove impossible to preserve, protect, and perpetuate Illinois' richly diverse natural resource base.

Because more than 90% of the state's land area is privately owned, it is plainly impossible for Illinois governments to acquire resources on the ecosystem scale. Therefore, the Task Force and the Congress called for public agencies and private landowners to cooperate in a new approach to natural resource protection and enhancement. If landowners can protect, enhance, or restore precious natural resources through enlightened private management, the need for public acquisition can be reduced.

The Congress and the Task Force agreed that this new approach ought to be:

- organized on a regional scale;
- voluntary and based on incentives;
- guided by comprehensive and comprehensible ecosystem-based scientific information;
- initiated at the grassroots rather than in Springfield.

Finally, the Congress and the Task Force agreed that natural resource protection need not hamper local economic development but can enhance it through tourism and outdoor recreation.

CTAP described the reality of ecosystem decline in Illinois, while the Congress and the Task Force laid out principles for new approaches to reversing that decline. And Conservation 2000, designed to achieve that reversal, has implemented a number of their recommendations, drawing on \$100 million to fund nine programs in three state agencies.

One of these programs is IDNR's Ecosystems Program. The program redirects existing department activities to support new resource protection initiatives such as Ecosystems Partnerships. These partnerships are coalitions of local and regional interests seeking to maintain and enhance ecological and economic conditions in local landscapes. A typical Ecosystem Partnership project merges natural resource stewardship (usually within a given watershed) with compatible economic and recreational development.

(continued on inside back cover)

A Project of the Critical Trends Assessment Program

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Jim Edgar, Governor
State of Illinois



Brent Manning, Director
Illinois Department of Natural Resources

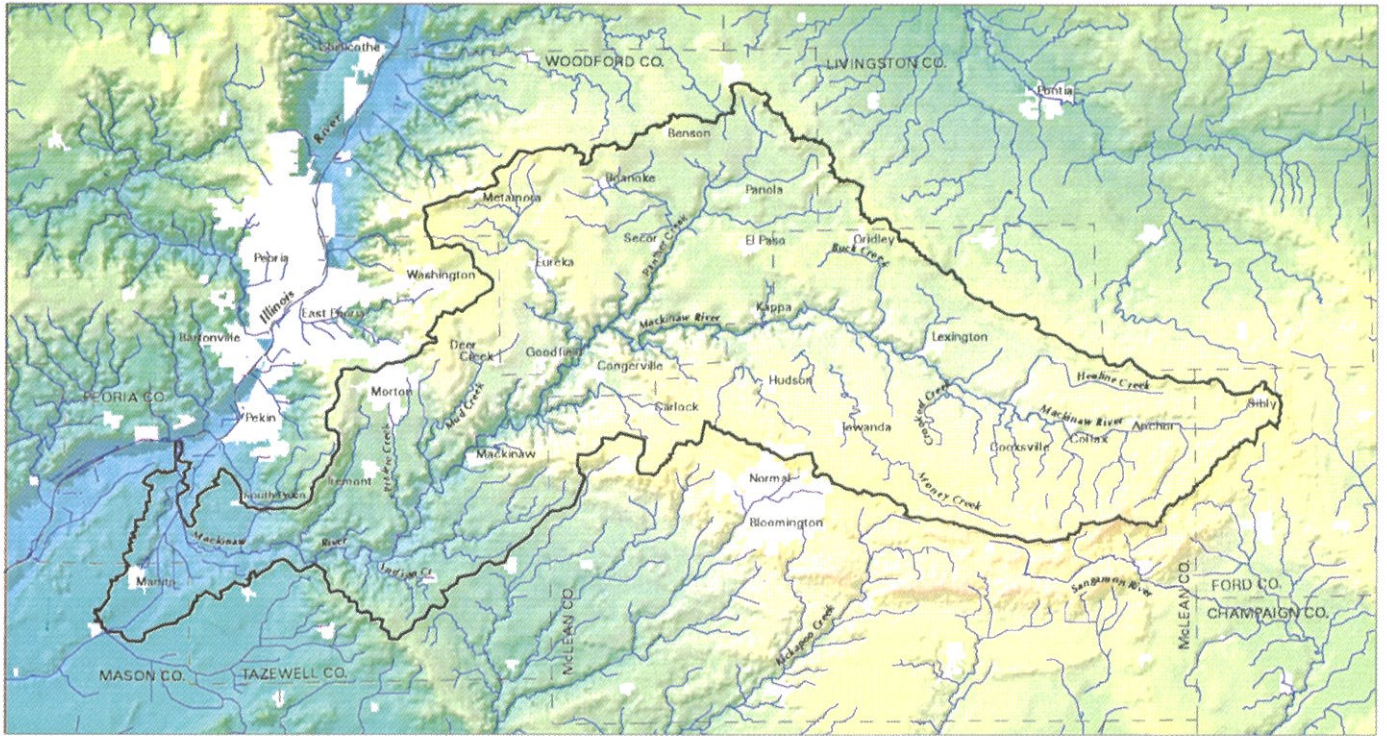


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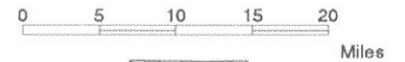
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J. Hester and L. Smith, ISGS



Elevations in feet above mean sea level



MACKINAW RIVER ASSESSMENT AREA SHADED ELEVATION MAP



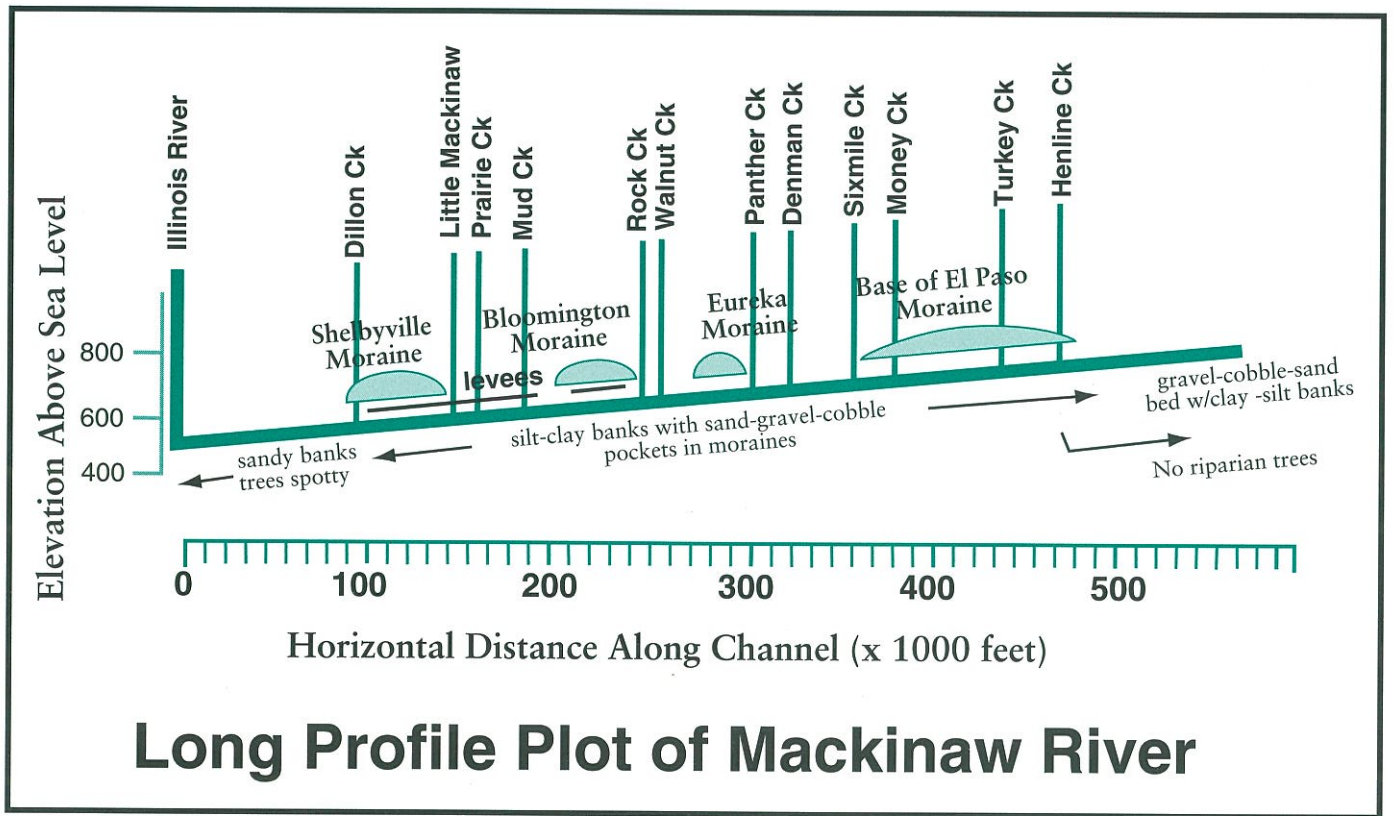
The Mackinaw River near the fish and wildlife area and an aerial view of the river running at the edge of the town of Colfax

At a stop along a dusty gravel road, the river beckons. The Mackinaw isn't particularly pretty here—the hot haze, the green-brown water and large chunks of concrete on the banks don't do it justice—but the day is hot and just being near water is inviting. A large cottonwood, a recent flood victim, has fallen, forming a natural bridge and good perch to sit and bask. Cicadas drone in the forest along the river while below hundreds of narrow-winged damselflies, their emerald bodies glinting in the sun, are swarming, mating, and depositing eggs. A giant swallow-tail

butterfly pauses on the still, leafy branches and then moves on. Dueling kingfishers sally forth with raucous calls as they survey and defend their small corridor of the river; a great blue heron fishes in the shallows. A muskrat swims by, breaks up the damselflies, and soon all are gone and the river is quiet.

One of the earliest accounts of the Mackinaw was written by Patrick Kennedy in 1773 while on a quest for a copper mine along a tributary of the Illinois River. Although no copper mine was found, he left a far greater treasure, a brief glimpse of the river prior to the era of European

settlement. On August 6, 1773, he wrote, "At sun-set we passed a river called Michilimackinac. It is on the south-eastern side of the Illinois River; is 50 yards wide, navigable for about 90 miles, and has between 30 and 40 small islands at its mouth; which at a distance appear like a small village. On the banks of this river is plenty of good timber, viz. Red and white Cedar, Pine, Maple, Walnut . . . The land is high on the eastern bank of the river, but on the western are large plains or meadows, extending as far as can be seen, covered with fine grass. The river is 195 miles from the Mississippi."



Long Profile Plot of Mackinaw River

Profile of the Mackinaw River from USGS 1:100,000 topographic maps with locations of reach types (physical setting within the watershed), tributary junctions, and moraines. Also see map on page 6. (Adapted by Michael R. Jeffords from Geomorphic Reconnaissance and Draft Management Strategy for the Mackinaw River Ecosystem Illinois. The Nature Conservancy, May 1994.)

He uses an early name of the river, Michilimackinac, that was also used in the *Atlas of Indian Villages of Illinois*, compiled by Tucker and Temple, and was still in use by some as late as 1846. Mackinaw is a derivative of Michilimackinac.

The Setting

The Mackinaw River originates in Ford County near Sibley and flows in a westerly direction before joining the Illinois River at River Mile 147.7, downstream of Pekin. The boundaries of the Mackinaw River Area Assessment as well as the Mackinaw River Ecosystem Partnership, coincide with the boundaries of the Mackinaw River Basin. The basin is an area of 1,138 square miles

in central Illinois and covers parts of six central Illinois counties: Ford, Livingston, Woodford, McLean, Tazewell, and Mason. The majority of the watershed is in the Grand Prairie Division. In this division during presettlement times forests were associated with stream valleys and moraines, while prairie dominated the level to gently rolling landscape. Principal tributaries of the Mackinaw are Panther, Walnut, and Money creeks.

From narrow and deep to wide and shallow, the Mackinaw shows many faces as it winds nearly 130 miles through its watershed. A profile of the Mackinaw can be divided into different "stream reach types" that characterize the different physical set-

tings within the watershed. The Mackinaw starts as a ditched channel in flat uplands near Sibley; the water here has little energy, but moves along efficiently. The banks are clay/silt with a gravel bed. Few trees are found along its banks. Near Colfax, meanders occur, and a thin band of trees occurs along the river. At Lexington, the corridor of trees widens, while at the junction with Panther Creek are larger forested floodplains. The banks here are clay/silt and erosion-resistant. The middle Mackinaw passes through glacial moraines, arc-shaped ridges of ground-up rock debris that melted out at the edge of the last glacier when it stood at these locations. Here the river bottom has cobbles and gravel

that form riffles. In Tazewell County the river is channeled and levied, cutting it off from its floodplain. The southern part of the watershed passes through end moraines. When the lower Mackinaw cuts through the last moraine (Shelbyville Moraine), its banks become sandy because it has entered a broad plain of glacial outwash that flowed away from the ice front. The river begins to meander and is less stable with large sand bars appearing in the riverbed.

The Mackinaw varies in depth from one to six feet and has an average width of 70 feet. As one of the most variable rivers in the state in terms of the quantity of water it carries, the Mackinaw floods during the wet season and is nearly dry during periods of drought. This wild fluctuation is due to the rapid fall, compact drift beds, and the near absence of headwater marshes and other impoundments.

The sentiments of a local resident perhaps sum its flow more poeti-

cally. “Growing up near the town of Mackinaw, I didn’t think much about the river—it was always just there. Our school bus crossed it daily, the river somehow mirroring the emotions of the riders. In spring, the river would be raging, the water swirling, spilling over its banks, nearly touching the bridge—like us after a long school year, ready for freedom. In late summer it ran slow and many gravel bars appeared—again, like us, tame after a summer’s wildness.”

A Resource Rich Area

The small drainage ditch, appearing near Sibley in Ford County, gives not a clue to the biological wonders downstream: 66 species of fish, 31 kinds of mussels, and 9 species of crayfish all call the Mackinaw home. The Mackinaw is also the only central Illinois site for a unique, stream-dwelling plant, the heart-leaf plantain. Numerous birds nest along its banks, and countless insects, such as dragonflies, the black-winged damselfly, and

The Area at a Glance

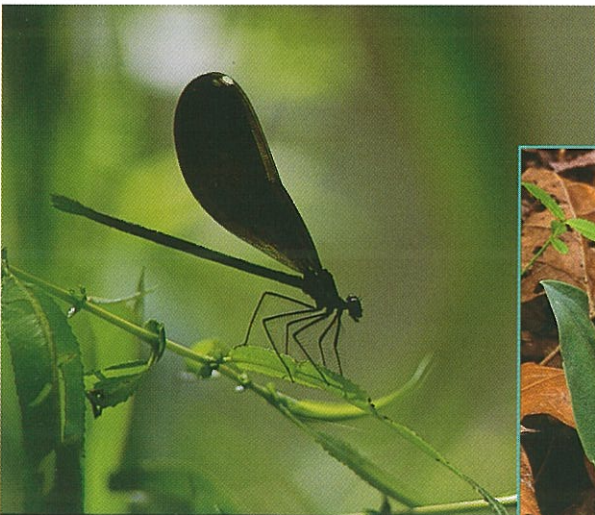
△ The Mackinaw River assessment area is 1,138 square miles in central Illinois and covers parts of six central Illinois counties: Ford, Livingston, Woodford, McLean, Tazewell, and Mason.

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△ The Mackinaw River is home to 66 species of fish, 31 kinds of mussels, and 9 species of crayfish.

△ Numerous birds nest along its banks, and countless insects, such as dragonflies, the black-winged damselfly, and the much rarer ruby-spot damselfly, are found in and around the water. The presence of the latter two species is an indicator of good water quality.



The black-winged damselfly (above) is an indicator of good water-quality in the Mackinaw. The showy orchis (right) is one of the rare treasures found among the area’s more common plants.

Mackinaw River Nature Preserves

The ParkLands Foundation has carried the conservation torch in the basin for many years. The Foundation is a volunteer, non-profit group based in Bloomington that was, and still is, dedicated to preserving open lands in the Mackinaw River Valley. The preservation and establishment of the Mackinaw River State Fish and Wildlife Area began in 1967 with land donations to the Foundation. This organization has also been instrumental in securing preservation of the three nature preserves along the Mackinaw.

Mehl's Bluff Nature Preserve

The early Mackinaw Township history describes the land where Mehl's Bluff lies. "The land in the northern part of the township is somewhat rough and broken. It is covered with a splendid growth of timber." In 1960, the landowner's opinion was, "it is absolutely valueless to me." Luckily, the Mehl family thought differently and purchased the tract. The family were members of ParkLands and with their combined efforts, the land was dedicated as a nature preserve in 1988.

The preserve contains some of the highest bluffs along the Mackinaw River. This rugged topography contains a good quality closed-canopy ravine forest, along with creek, seep, and eroding bluff communities. The state endangered heart-leaf plantain is found here. During periods of low water, an interesting geological formation can be seen—patterned ground features in the shape of polygons. These polygons occur as a result of weathering in a very old soil, called paleosoil, that was formed about 75,000 years ago.

ParkLands Nature Preserve.

ParkLands Preserve is a 40-acre tract of land within the Mackinaw River State Fish and Wildlife Area. During an inventory by the Department of Conservation in the 1970s to identify natural areas and endangered and threatened species, two tracts of the area were recognized for their biological significance. The preserve is dissected by two, clear-flowing, intermittent streams that provide habitat for the state endangered heart-leaf plantain. Here the Mackinaw River is very scenic and its waters are clear as they flow over sand and gravel. Other habitats found on the preserve include a dry-mesic savanna, dry-mesic upland forest, and mesic upland forest. The area was dedicated as a nature preserve in April, 1990.

Wooded area near Mehl's Bluff

Ridgetop Hill Prairie

Ridgetop Hill Prairie is a high quality glacial drift hill prairie on the Mackinaw River in Woodford County. The prairie is part of a 19-acre tract of land owned and managed by the ParkLands Foundation. Although the land surrounding the prairie was farmed and pastured, the hill prairie has remained relatively untouched. The land is steep and rough and lived up to its generic nickname of "goat prairie", an area only a nimble-footed goat could potentially graze. This hilltop prairie is one of the best remaining examples of prairie in central Illinois.

The land's original owner had the area platted as the Tall Oaks Subdivision and the lots were offered for sale. The ParkLands Foundation recognized the high quality hill prairie and took action. With the help of The Nature Conservancy and the Natural Land Institute, the two lots that contained the best hill prairie were purchased. On June, 1984, the prairie was dedicated as an Illinois nature preserve.



The Mackinaw is one of the finest examples of a prairie stream left in Illinois. The Nature Conservancy conducts fish population studies to identify what is presently there, comparing their findings with what historically should have been there.



the much rarer ruby-spot damselfly, are found in and around the water. The presence of the latter two species is an indicator of good water quality. Plants such as yellow lady's slippers and showy orchis are diamonds among the more common Dutchman's breeches and Virginia bluebells. Mammals are numerous, but usually evidenced only by tracks in the sand. To those living along it, the river often instills a sense of wonder. Not the same questioning sense as an early pioneer might have imagined—where does the river go?—but as a river curiously “full of the little things that run the world.”

The Mackinaw is one of the finest examples of a prairie stream left in Illinois. The Nature Conservancy considers it “a real jewel in Illinois”. The Biological Stream Characterization or BSC, an index of stream quality, echoes this sentiment with solid scientific evidence. The BSC identified 24 stream segments of excellent quality throughout Illinois. The Mackinaw is one of those select few.

Geology

Cross Mackinaw River. Note deep valley and steep bluffs cut by the river, which here breeches the Bloomington Moraine.

—MILE 31
OF GEOLOGICAL SURVEY FIELD TRIP
BLOOMINGTON-PEKIN AREA MAY 1951

The topography of the Mackinaw Basin is much like that of Central Illinois, and is a reflection of its glacial history that has been modified by post-glacial erosion. While the area doesn't have many outcrops or large rock exposures, moraines provide topographical relief.

Most of the Mackinaw River basin is within the physiographic division called the Bloomington Ridged Plain, an area characterized by a series of end moraines that, in the immediate Mackinaw River area, cross the land surface in a general northwest-southeast trending arc. Although the surface is generally flat, it is interrupted by these end moraines, ridges of debris deposited when the Wisconsin glacier stood in this area some 16,000 to

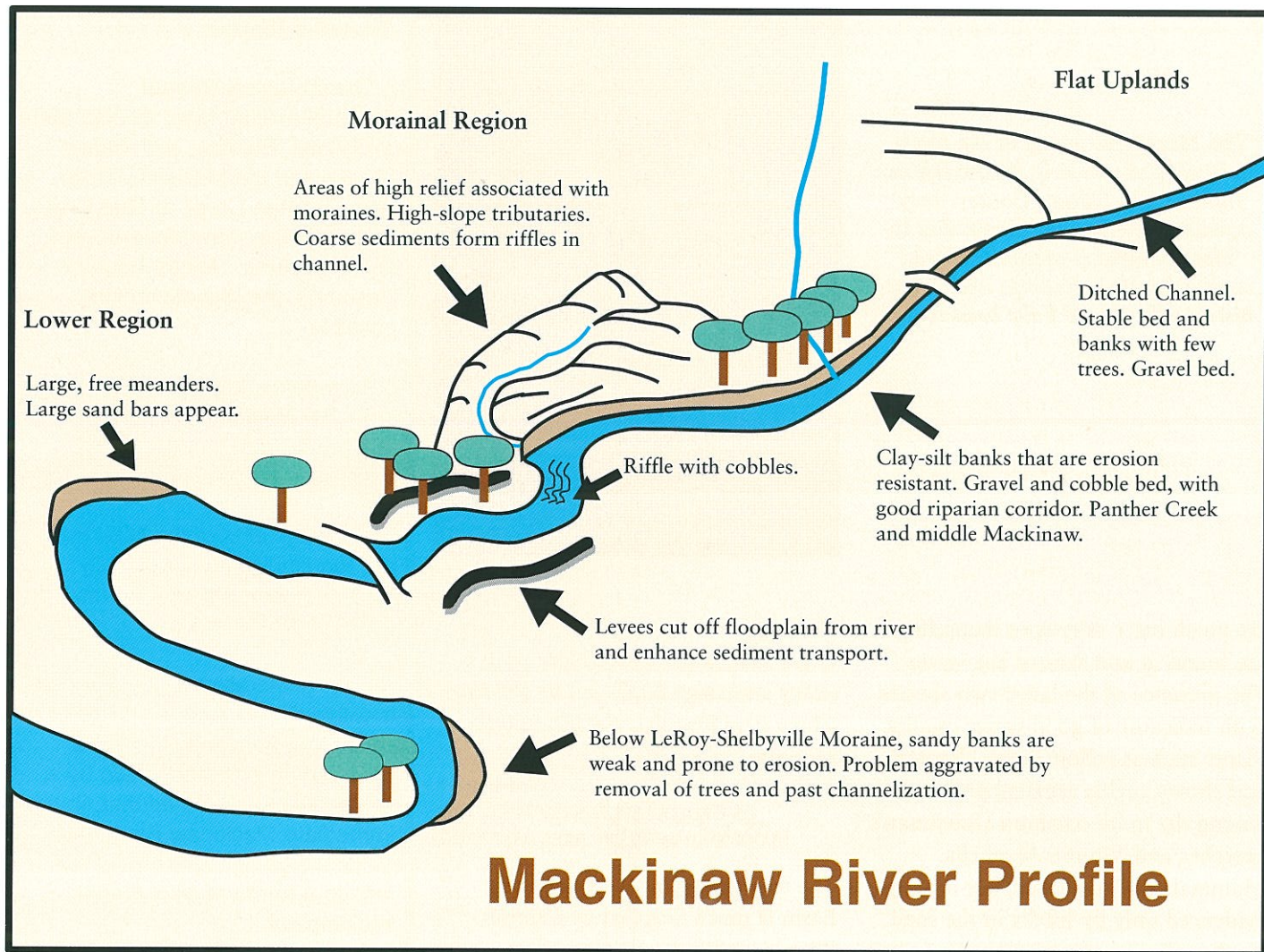
Area at a Glance

△ The Biological Stream Characterization rated all segments of Henline, Panther, and Walnut Creeks and the Mackinaw River from Denman Creek to Mud Creek and upstream from Money Creek as “A” streams, Unique Aquatic Resource, the highest ranking possible.

△ As a percentage of total drainage area, the Mackinaw River Basin has the highest number of “A” streams in Illinois.

△ Two segments of the Mackinaw are recognized as Biologically Significant Streams due to the fish and mussel diversity.

△ Most of the Mackinaw River basin is within the physiographic division called the Bloomington Ridged Plain, an area characterized by a series of end moraines that, in the immediate Mackinaw River area, cross the generally flat land surface in a northwest-southeast trending arc.



A stylized profile of the Mackinaw River shows how geology and human interference have affected fluvial processes (stream action) from source to mouth. (Adapted by Michael R. Jeffords from Geomorphic Reconnaissance and Draft Management Strategy for the Mackinaw River Ecosystem Illinois. *The Nature Conservancy*, May 1994.)

17,000 years ago. When the ice front melted at about the same rate as new ice flowed into the area from the north, the glacier was in equilibrium and a moraine formed at the ice margin. Rock debris frozen in the ice melted out; the coarser material was deposited very close to the ice front while the finer material was carried away by meltwater streams.

A drive from northwest to southeast will traverse several of these moraines. The Bloomington

and Shelbyville moraine systems are the major two, but smaller ones such as the El Paso Moraine, with its leading edge fronting the Mackinaw River, are no less important. The Bloomington Moraine is more than 100 miles in length and locally about 150 feet high. The town of Danvers, lying about 880 feet above sea level, is atop this moraine. Further to the southwest lies the Shelbyville Moraine that marks the maximum western edge of

the Wisconsin glacier. As the river crosses these moraines the width of its valley varies from about a quarter of a mile at the inner part of the Bloomington belt, to nearly a mile at the Shelbyville Moraine.

The distribution of glacial sediment was in many ways influenced by the surface of the underlying bedrock. The top of the bedrock contains buried valleys, lowlands, and uplands. These buried valleys were part of an ancient drainage system and contain

sands and gravels that form productive aquifers and play an important role in the local economies. Tazewell and Woodford counties had 30 active sand and gravel pits in 1992 that provided these raw materials to various construction projects. The surface materials are a mix of till (all sizes of rocks and ground-up rock debris), outwash (sand and gravel), fine grained silt and clay, organic deposits, and loess (windblown silt). The loess varies in thickness across the basin from west to east. It is generally about ten feet thick in the western part of the watershed and thins eastward where it is about three to four feet thick. Although located on private property, the Danvers Geological Area in western McLean County has an outstanding exposure of loess.

Early Inhabitants

One band of them [Kickapoo] took up quarters along with some Potawatomi, Chippewa, and Ottawa on the Mackinaw River.

—GLADYS GARST,
MACKINAW REMEMBERS, 1827-1977

During the waning stages of the Ice Age, the first Native Americans began to arrive in Illinois. Along many of the larger rivers fairly permanent communities existed. Clues to their existence are provided by archaeological research conducted along the state's many rivers and streams. The Mackinaw is no exception as 527 archaeological sites are documented in the Basin. These limited sites have provided insights into the basin's past. From 10,000-8,000 B.C., habitation was most common on elevated landforms such as end moraines (material deposited at the front of a glacier that was melting at the same rate it was advancing). By 6,000 B. C., habitation

had shifted to ground moraines (material deposited by a rapidly retreating glacier) and eventually in and along stream valleys. This shift corresponds to a change in climate around 6000 B. C. when Illinois became warmer and drier, making larger expanses of land available for occupation.

The name Mackinaw is from the Ojibways and means turtle. Early European inhabitants recall tales of many tepees in the area and of Indian trails that disappeared into the forested bluffs. Located on the farm of Sally Breese, a member of the Mackinaw River partnership, is Indian Field Cemetery. This cemetery was named after a nearby Indian cornfield that was recorded in the 1824 Land Survey Field Notes. After a gentle rain, a walk through freshly plowed fields nearby will likely reveal artifacts. Perhaps one of the most significant archaeological finds was made in 1916



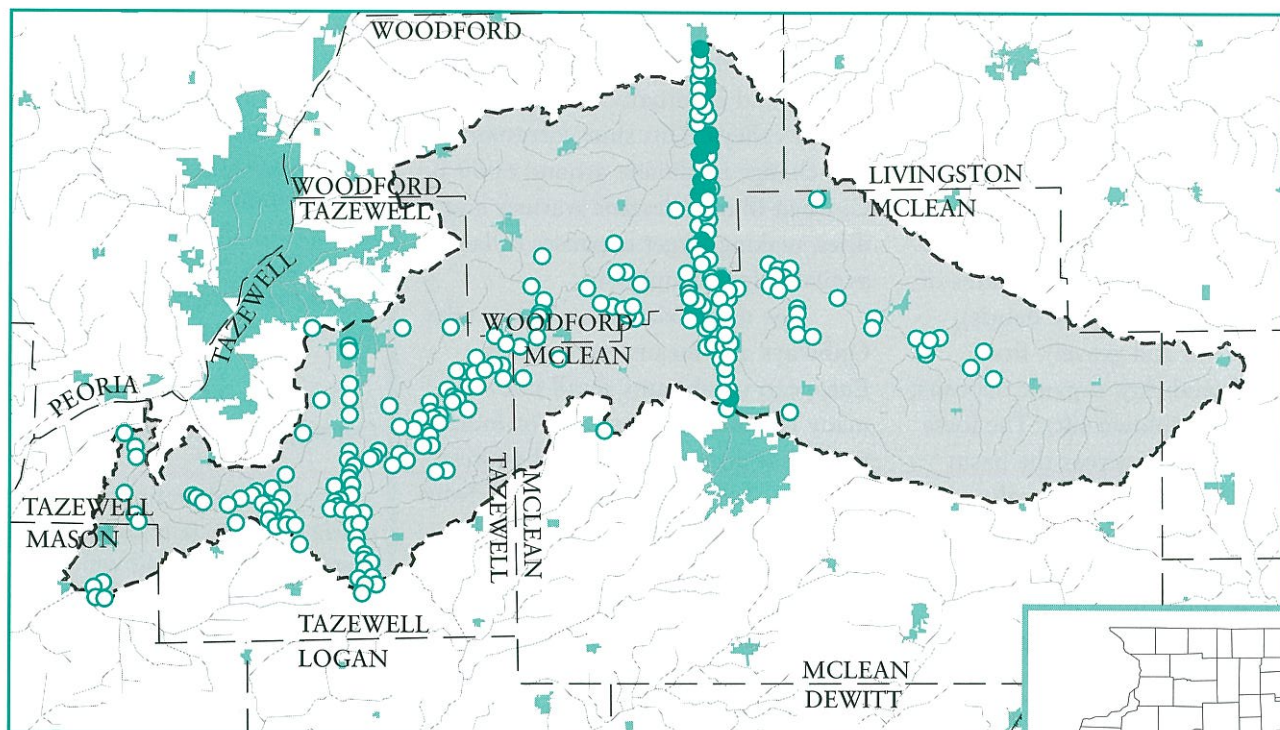
*Flint spear from the Mackinaw Cache
(Courtesy Illinois State Museum)*

The Area at a Glance

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△ The name Mackinaw is from the Ojibways and means turtle.

△ A significant archaeological find, made in 1916, is known as the Mackinaw Cache: 40 white flint spears from the Hopewell Culture which have been likened to a carefully matched string of pearls.



EARLY INHABITANTS IN THE MACKINAW RIVER BASIN
There are 527 known archeological sites in all. Unfortunately, uncounted upland sites have been plowed and streamside sites are often buried by silt from eroding fields. IAS Database: March 21, 1997

○ = archeological site

by two boys digging gravel two miles northwest of the village of Mackinaw. Found on the slope of a small hill not far from the river was a cache of about 40 white flint spears. These thin, elliptical blades with tapered shoulders were magnificent in design. No more than 3/32 of an inch variation occurred in the thickness of any of them. This discovery is known as the Mackinaw Cache. When 31 of the spears were displayed at the Illinois State Museum, they were likened to a carefully matched string of pearls. A study of the form, technology, and site location has dated these artifacts from the Hopewell Culture (ca. 100 B.C. to A. D. 300). The blades appear to be made from a chert found along outcrops near St. Louis. In a letter dated January 22, 1917, Dr. W. H. Holmes,

Curator, Department of Anthropology, Smithsonian Institution, stated, “Undoubtedly, they represented the most skillful work in stone flaking that has yet been found in this country.”

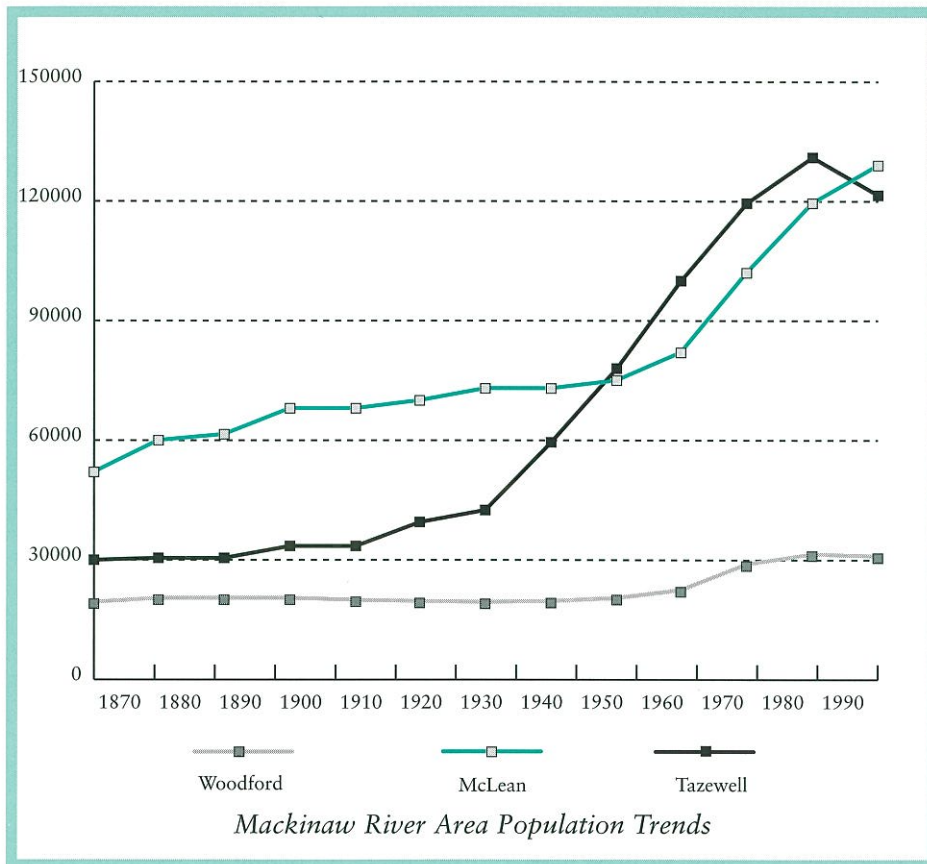
Human Resources

Tremont is the shire town for Tazewell county, and is situated in a delightful prairie, bounded on the east and south by a large belt of forest, on the Mackinaw creek... Tremont is beautifully laid off in squares, with streets of an hundred feet in width, running at right angles with each other—parallel to the sectional lines by which the whole state is divided into townships and sections.

—ABNER D. JONES,
 IMPRESSIONS OF TREMONT
 DURING AN EXTENDED VISIT, 1838

Tremont is only one of many small villages found in the three main counties—McLean, Tazewell, and Woodford—through which the Mackinaw and its tributaries flow. The three-county area contains 12 cities, 38 villages, and one town. Although the river is bounded by two major metropolitan areas, Bloomington-Normal on the southeast and Peoria on the northwest, only a small percentage of the area land is urban (4.5%). The river bisects a highly productive, agricultural landscape.

Since 1870, the three counties



Mackinaw River Area Population Trends

have undergone varying levels of population growth. While the area's population (with a median age of 32) now triples that of 1870, minorities make up only 3% of the total. The rate of high school completion is higher in the area than it is statewide, but per capita income is slightly lower than the state average. The poverty rate, though, is also lower.

The Mackinaw area is generally a healthy place to live (even though it has fewer hospital beds and doctors than the state average) with a mortality rate 11% below the statewide average. Infant mortality, premature births, and teenage birth rates are also below the state average.

The area supports a diverse economy of services, manufacturing, insurance, higher education, and agriculture. The major employer is State

Farm Insurance, with Caterpillar and Mitsubishi Motors running second and third. As in most of Illinois, manufacturing jobs have declined, while the service sector has flourished, although at lower pay scales.

Agriculture

The prairie soil performed new miracles in the Second World War... McLean County raised more corn than any other county in the United States.

—ROBERT P. HOWARD, ILLINOIS,
A HISTORY OF THE PRAIRIE STATE

The majority of land in the Mackinaw River Basin lies in the Grand Prairie Division, a division with rich and productive soils. These soils are mostly mollisols (those formed under grassland vegetation) with a silt-loam texture. As a result

The Area at a Glance

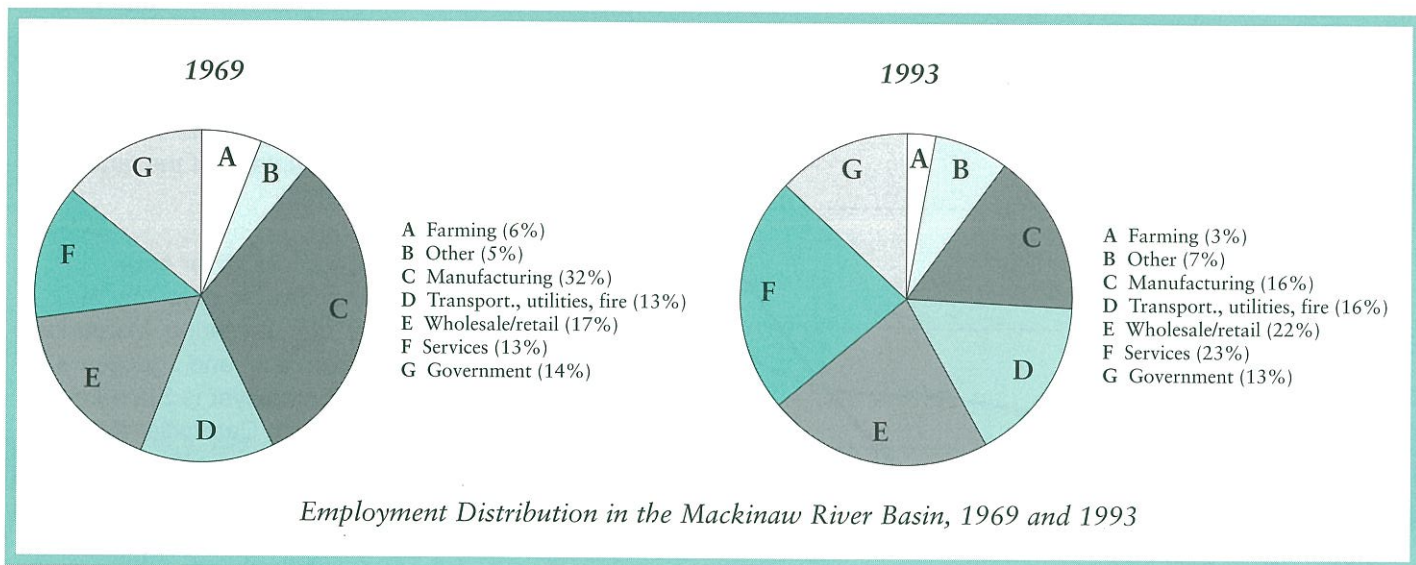
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△ The majority of land in the Mackinaw River Basin lies in the Grand Prairie Division, a division with rich and productive soils, mostly mollisols (those formed under grassland vegetation) with a silt-loam texture.

△ Eighty-six percent of the land is farmed in the three counties of McLean, Tazewell, and Woodford. McLean County has the largest amount of land in the state devoted to farming.

△ Corn and soybeans are the predominant crops, and all three counties produce yields above the state average. McLean County is the state leader in both corn and soybean production.



of their prairie lineage, they are dark, rich, friable, and extremely productive. With the development of the modern plow, the dryer prairie areas were quickly converted to cropland. The marshy wet prairies, however, still lay fallow and were used as forage for livestock. A. W. Herre (see side bar) describes his land near Delavan:

“This immense tract of land [the prairie] was so flat that it was too wet for the plow, and was used for grazing beef cattle.” Prior to leaving the area, he witnessed the demise of this wet prairie. “The destruction of the prairie flora and fauna began when a great machine started to eat its way through the prairie, leaving behind it a stream of water on which it floated. As the ‘Big Ditch’ was made...this drainage made it possible to plow the prairie for the first time.” Although pieces of the wet prairies managed to survive for a time, with the advent of tile drainage a few years later, the transformation of the prairie into cropland was complete.

Today this land, and most of the land in the basin, is part of one of the

state’s larger agricultural areas—eighty-six percent of the land is farmed in the three counties of McLean, Tazewell, and Woodford. McLean County has the largest amount of land in the state devoted to farming. With the abundant agricultural land, it is of little surprise that corn and soybeans are the predominant crops, and all three counties produce yields above the state average. McLean County is the state leader in both corn and soybean production. Raising livestock is only on a small scale when compared to corn and beans—the basin has 5.6% of the state’s hogs and 2.3% of its cattle. While farming may be ubiquitous in the Mackinaw River area, surprisingly, agriculture produces only 2% of the area’s earnings.

Outdoor Recreation

Some day, I’m going to fulfill a dream and float the Mackinaw for two or three days, fishing along the way. The canoeing is excellent when the water is high enough.

—JOHN HUSAR, 1991
OUTDOOR WRITER
FOR THE CHICAGO TRIBUNE

The Mackinaw River is the centerpiece for outdoor recreation in the basin and provides prime locations for fishing and canoeing. Along its length are three nature preserves and ten natural areas. They are like prize morels in the forest, spaced across the basin, but never occurring far from the river.

The Mackinaw River State Fish and Wildlife Area is the most significant state-operated outdoor recreation site. Located three miles northeast of the town of Mackinaw, the area encompasses 1,185 acres with hunting (deer, dove, and turkey) the primary activity. For canoers, this site is the only public access point on the Mackinaw River. The area also features trail hiking, trap shooting, and wildlife viewing.

In addition to the river and its tributaries, the basin also includes several man-made lakes. The largest two are Lake Bloomington and Evergreen Lake, and most allow boating, fishing, and other water-based recreation.

The fishing is said to be good on the river and a creel survey will likely yield catches of smallmouth, white and rock bass, channel catfish, and

The Mackinaw River is a prime spot for fishing and canoeing. (Photo courtesy The Nature Conservancy)



suckers. Many times it's just a lone fisherman and the great blue herons to point the way to the fish.

Vegetation History

Unfading are my memories of that waving rippling sea of lavender when the 'wild sweet William' a species of Phlox two to three feet in height, was in full flower. It stretched away in the distance farther than the eye could reach, while I sat entranced in the rear end of the wagon bed as we jogged slowly on to Delavan.

—A. W. HERRE, 1940

Prairie, with its luxuriant grasses and multihued wildflowers, dominated the level and gently rolling landscape of the Mackinaw. Herre recalls “The prairie grasses grew to a moderate height as a rule, but here and there became very rank. I remember one low place in the prairie not far from the cabin where the grass was of phenomenal luxuriance, so that a man on horseback became invisible when only 25 to 30 yards away.” From these prairies sprang the deep and fertile soils that today make the area an agricultural mecca.

Timber was found along the

slopes and bottomlands of the river and in isolated groves where protection had been found from the prairie fires. At least a quarter of the landscape was wet. Patrick Kennedy describes the mouth of the Mackinaw as a large marshland with numerous small islands. Herre recalls several wet areas, “Here and there the prairie was sprinkled with more or less circular permanent water holes or pools, locally called buffalo-wallows. Around their edges grew a dense ring of sedges, cat-tails and tall saw grass . . . Every spring and fall the prairie was covered with water, so that the whole country side was a great lake . . . Wagon traffic came to a complete stop, and men could only get around on horseback, zig-zagging about along the low sand ridges.”

Habitat losses in the Mackinaw River Basin have exceeded the rates for the state as a whole. Prairie accounted for 90%, 68%, and 70% of the presettlement landscape of McLean, Tazewell, and Woodford, respectively. Today, 1.5 acres of high quality hill prairie are still around (.0002% of the Mackinaw Basin)—

The Area at a Glance

△ While farming may be ubiquitous in the Mackinaw River area, surprisingly, agriculture produces only 2% of the area's earnings.

△ The Mackinaw River is the centerpiece for outdoor recreation in the basin and provides prime locations for fishing and canoeing. Along its length are three nature preserves and ten natural areas.

△ Mehl's Bluff Nature Preserve contains some of the highest bluffs along the Mackinaw River, and a good quality closed-canopy ravine forest, along with creek, seep, and eroding bluff communities.

△ Ridgetop Hill Prairie is a high quality glacial drift hill prairie on the Mackinaw River in Woodford County. It is one of the best remaining examples of prairie in central Illinois.

Heart-leaf Plantain

The heart-leaf plantain was first described in the United States in 1773 by William Bartram, an early botanical explorer. He discovered it growing in Georgia and described the plant as a “great species of *Plantago*...of incredible magnitude.” The heart-leaf plantain, *Plantago cordata*, is associated with shaded, gravel-bottomed, clean water streams. The gravel is usually dolomite bedrock or limestone; optimum habitat is a gravel bar maintained under moderate stream erosion cycles. In the 1880s the plant was fairly widespread and common in the Great Lakes region of the United States. By the early 1900s, however, it began to decline throughout most of its range. With the exception of Illinois and Missouri, most mid-western populations of *Plantago cordata* have been extirpated. It originally occurred in twenty-four counties in Illinois, but presently, less than ten locations in six counties are known for this state endangered plant.

Although the winter phase (a rosette of small leaves) may resemble the invasive and weedy common or buckthorn plantains, the scourge of well-groomed lawns, by summer any resemblance is gone. During the warm summer, *Plantago cordata* has deep green, somewhat heart-shaped leaves that may reach a width of six to eight inches. These broad leaves aid in the gathering of sunlight, since the streams it prefers are often in shady woodlands. Its long, thick, cord-like roots are able to penetrate and cling to rocks and anchor the

plant in the streambed. A slender leafless flower stalk bears small flowers near its tip when the plant blooms in March and April. *Plantago* is wind-pollinated and produces few seeds. The seeds that are produced are quite large and have no dormant period. Both of these characteristics aid in its rapid establishment under low light conditions in a shifting stream bed. The seeds are attached to a spongy placenta that is very buoyant and rapidly disperses the seed if it falls into the water. When seeds come into contact with water, the seed coat

around them swells, forcing the seed away from the placenta. They can still float and are covered with a sticky substance that allows them to adhere to any object they contact in the water. The seeds germinate in 6-14 days, even while still floating in the water; but they cannot germinate under water.

Plantago seeds are adapted for water dispersal and are able to reestablish themselves in

the same stream system, but they have no means for crossing land to other stream systems.

Plantago cordata has declined throughout most of its range, primarily in response to destruction or alteration of its gravel-bed stream habitat. The draining, ditching, damming and rerouting of streams, the clearing of woodlands for fields, pastures, and housing developments, and in agricultural watersheds, chemical runoff, accelerated stream erosion, and bank slumping, have all added to *Plantago*'s mortality.



The state-endangered heart-leaf plantain



Through a softening haze, an aerial view of farmland and Panther Creek, one of the major tributaries of the Mackinaw River

the only representative of the prairie ecosystem. These hill prairies, which occur as openings within a forested landscape, are found on loess and glacial drift and are recognized as significant ecological resources. They comprise 6% of the glacial drift hill prairies in Illinois. Wetlands have also largely disappeared and occupy only 0.3% of the basin. Forest has also decreased, but much of the riparian zone throughout the basin remains as at least a narrow, forested strip. This forested buffer, which tends to stabilize the river's banks, is considered a primary reason for the relatively good health of the Mackinaw.

“The Little Things That Run The World”

Flora Approximately 268 plant species occur in the basin. A. W. Herre describes, “Two kinds of lady’s slipper grew within a few yards of the cabin, the common little yellow lady’s slipper being abundant, while the

large white one was rare. Bluebells grew everywhere, while a showy flower called “flies” by the pioneers, but which I learned in later years was Dutchmen’s breeches was very abundant.” Yellow lady’s slippers, although now rare, still delight those lucky few who find them. The white lady’s slipper, however, has disappeared, but both Virginia bluebells and Dutchmen’s breeches still dot the springtime forest floor.

Three threatened and endangered (T&E) plants are found along the Mackinaw. The spreading sedge, a threatened species, is a distinctive species that can be found on forested slopes or ravine crests where calcareous and gravelly glacial till are near the surface. The Mackinaw basin is also the only central Illinois location for the state endangered heart-leaf plantain (see side bar). The tall sunflower, another endangered species, is a recent find and is listed as occurring in a floodplain forest along the river.

The Area at a Glance

△ The Mackinaw River State Fish and Wildlife Area provides the only public access point on the Mackinaw River. The area also features trail hiking, trap shooting, and wildlife viewing.

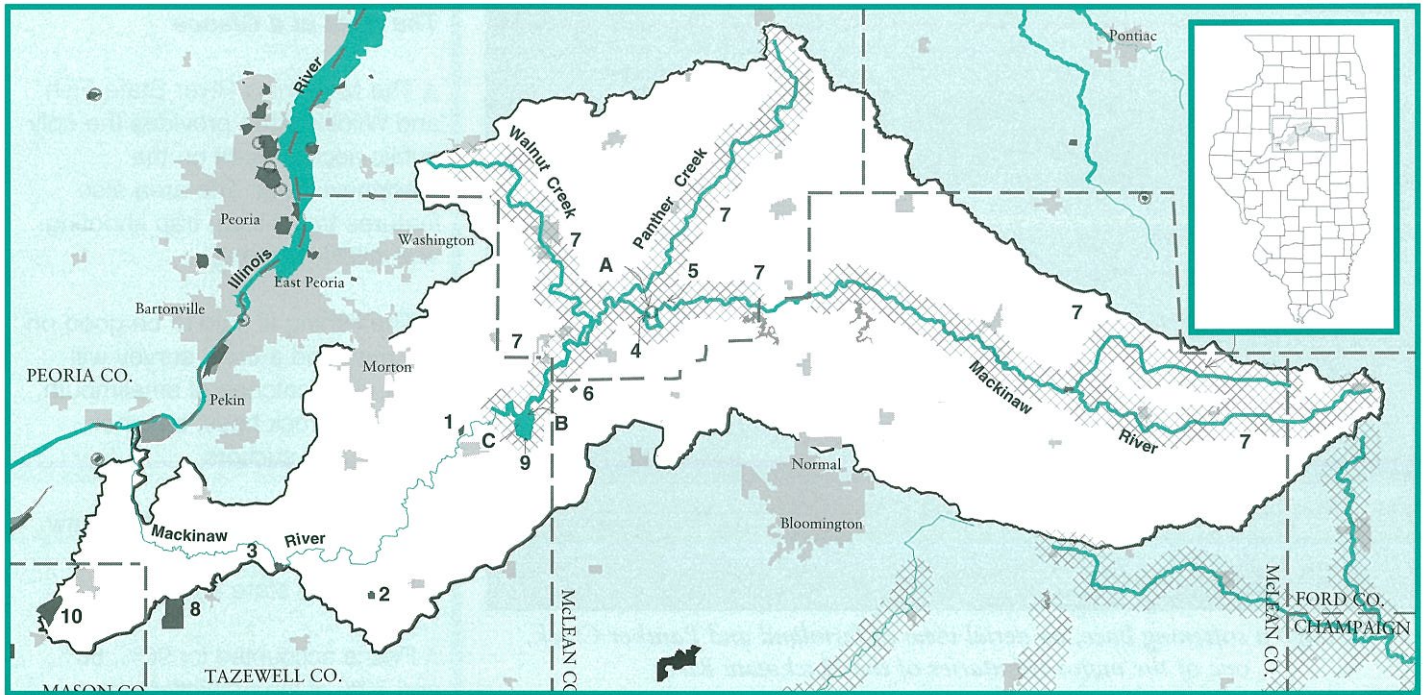
△ The fishing is said to be good on the river and a creel survey will likely yield catches of smallmouth, white and rock bass, channel catfish, and suckers.

△ Habitat losses in the Mackinaw River Basin have exceeded the rates for the state as a whole.

△ Prairie accounted for 90%, 68%, and 70% of the presettlement landscape of McLean, Tazewell, and Woodford, respectively. Today, 1.5 acres of high quality hill prairie are still around (.0002% of the Mackinaw Basin)—the only representative of the prairie ecosystem.

△ The hill prairies, which occur as openings within a forested landscape, are found on loess and glacial drift and are recognized as significant ecological resources. They comprise 6% of the glacial drift hill prairies in Illinois.

△ Wetlands have largely disappeared and occupy only 0.3% of the basin.



Illinois Natural Area Inventory Sites (INAI), Illinois Nature Preserves (INP) and Biologically Significant Streams (BSS)

KEY TO NUMBERED INAI SITES

- 1 Log Cabin Hill Prairie
- 2 Indian Hill Woods
- 3 McCoy Woods
- 4 Ridgetop Hill Prairie
- 5 Mackinaw River Hill Prairie
- 6 Danvers Geological Area
- 7 Mackinaw River System
- 8 Green Valley Site
- 9 Parklands Site
- 10 Sparks Ponds

KEY TO NUMBERED INP SITES

- A Ridgetop Hill Prairie
- B Mehl's Bluf
- C Parkland

KEY TO BIOLOGICALLY SIGNIFICANT STREAM (BSS) SEGMENTS IN THE MACKINAW RIVER BASIN



Site Description	Length (Miles)
Panther Creek, Rte. 24 to Mackinaw River	24.3
Walnut Creek, Eureka to Mackinaw River	21.2
Unnamed, Mackinaw Twp, Tazewell County	2.6
Henline Creek	16.2
Mackinaw River at Colfax	7.2
Mackinaw River, Alloway Creek to McClean County line	28.5
Mackinaw River, upstream of Money Creek	36.4
TOTAL MILES	136.4

Birds The species list for the basin is a typical list for central Illinois. At least 264 of the 299 species that regularly occur in the state can be found here. The wild turkey, once extirpated from the state, has been re-established and is abundant enough to support a hunting season. Four T&E species raise their young here—the long-eared owl and short-eared owl, listed as

endangered, and the veery and logger-head shrike, listed as threatened. In addition, the basin is an ideal place for migrating birds that pass through on their way north to breed or south to overwinter.

Mammals Forty-five of the state's 62 mammal species are known from or are likely to occur in the basin; none

are on T&E lists. The Mackinaw Basin is one of the sites where the river otter is being reintroduced. River otters may once have been common in Illinois, but they began to disappear in the mid-1800s, and by 1900 they were no longer important to the fur trade. Unregulated trapping contributed to their decline, but loss of riparian habitat, stream channeliza-

*Yellow lady's slippers,
although rare,
still delight those lucky
few who find them.*



tion, siltation, and water pollution have been more serious contributors. In 1994, the Department of Natural Resources began a reintroduction program in selected Illinois watersheds that possessed suitable otter habitat. During April, 1996, 28 river otters (13 male, 15 female) were released in the Mackinaw River Basin. Now, during summer and fall, otters may once again be occasionally sighted, although surveys must be conducted to evaluate their success and current distribution. Other mammals commonly found in the basin include the ubiquitous white-tailed deer, raccoon, opossum, groundhog, and pocket gopher.

Amphibians & Reptiles Thirteen amphibian and 25 reptile species occur here, representing 29% of the amphibians and 45% of the reptiles

found in Illinois. Three state T&E species occur in the basin: The threatened Illinois chorus frog, the western hognose snake, and the endangered Illinois mud turtle. These three species are limited to the sand areas in the southwest corner of the basin. A. W. Herre notes, "The first summer was also remarkable for the number of snakes visible. There were many bull snakes and 'blue racers' or black-snakes from seven to eight feet long. As I grew older I learned to know and dread the common water snake, *Natrix sipedon*, which was called the 'water moccasin' and reputed to be the same as the venomous water moccasin of the southern states. Specimens up to eight feet in length were common along the Mackinaw. It was not until I had studied zoology in high school that I learned our water moccasin was perfectly harmless." No venomous

The Area at a Glance

△ Forest has decreased, but much of the riparian zone throughout the basin remains as at least a narrow, forested strip. This forested buffer, which tends to stabilize the river's banks, is considered a primary reason for the relatively good health of the Mackinaw.

△ Approximately 268 plant species occur in the basin; three are threatened and endangered (T&E) plants.

△ The Mackinaw basin is the only central Illinois location for the state endangered heart-leaf plantain. The tall sunflower, another endangered species, is a recent find and is listed as occurring in a floodplain forest along the river.

△ At least 264 of the 299 species of birds that regularly occur in the state can be found here. Of the 264, 134 breed or formerly bred in the basin.

△ The wild turkey, once extirpated from the state, has been re-established and is abundant enough to support a hunting season.

△ Four T&E species raise their young here—the long-eared owl, short-eared owl, veery, and loggerhead shrike.

The Mackinaw River Partnership

The Mackinaw River has a history of people who care. In the 1950s, the Mackinaw Valley Improvement Association was formed to deal with the problems on the river, and was composed of “persons interested in the proper use, improvement, and development of the Mackinaw River and the properties adjacent thereto or affected by the Mackinaw River Basin.”

During 1993, The Nature Conservancy saw the watershed as “a once-in-a-century opportunity.” At the same time, the Illinois Environmental Protection Agency also saw great value in the river. Both organizations viewed the Mackinaw River as a hands-on opportunity to learn lessons from the river that could be applied to other prairie streams in the Midwest. These two organizations soon joined forces to form a partnership to protect the river.

The Conservancy realizes that the Mackinaw is not a public body of water, but a “stream of state”, owned by riparian landholders. They organized the Mackinaw River Partnership around that premise: a grass roots organization designed to find common ground on river management, pool resources, garner new ideas, and gather energy to preserve, protect, and restore the river for the benefit of all. Over one hundred landowners and operators from Tazewell, McLean, and Woodford counties are involved in this partnership, as well as interested state, federal, and local agencies. Jim McMahon, project director, states, “The idea is that no one man or farm can deal with the river in isolation from his or her neighbors. This process is one of community in which each of us involved must recognize the impacts of our actions on those others who live downstream, or upstream, from us.”

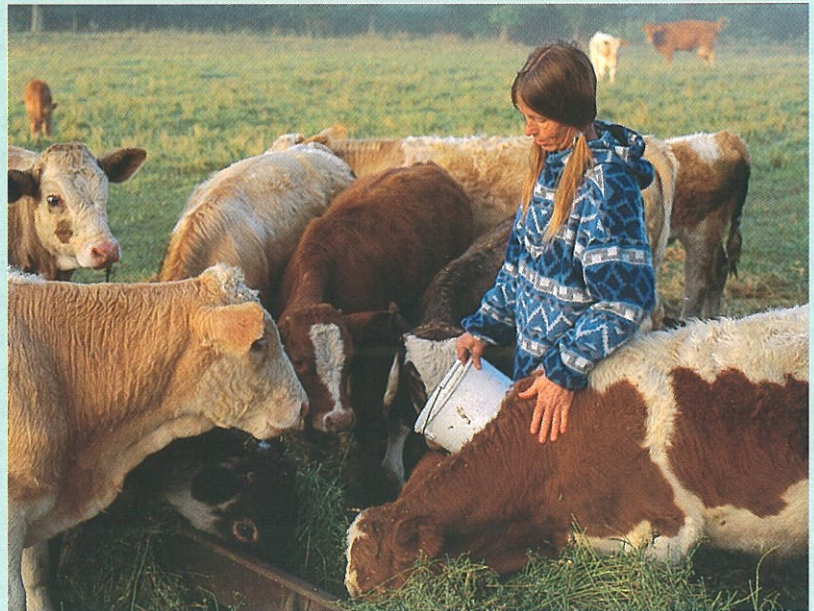
The mission of the partnership is to “preserve and enhance the natural resources of the Mackinaw River through education, good management practices, and voluntary cooperation while respecting property owner rights.” The final product, developed in cooperation with landowners and other interested parties and completed in February, 1997, is a comprehensive watershed protection plan.

Sally Breese is a life-long resident of the basin. Her ancestors settled along the river during the 1830s in the area south of

Lexington. She still lives on the family Centennial Farm. Sally views the Mackinaw River Partnership as an important voice for farmers and landowners concerning river issues that affect them directly. She says, “Awareness is important, and we need good representation of our concerns. The agencies involved with the Partnership are good resources for helping us accomplish our goals.”

To develop a watershed management plan, a 30-member team was formed. Half the team are farmers; the other half are business and civic leaders. To formulate their plan, the team studied scientific information provided by aquatic ecologists, geomorphologists, and hydrologists. They have learned how the river works and what its current condition is. And perhaps most important, they are listening to the concerns of citizens in the basin. The plan contains the team’s recommendations on what policies and measures are needed for the long-term protection of the river and its watershed.

The Mackinaw River Partnership is a unique opportunity for agriculture, government, private organizations, and citizens to learn how the Mackinaw works, meet their neighbors up and down stream, and to have a voice in shaping the future of their river.



ROBERT REBER

Sally Breese, whose family settled in the area in the 1830s, feels that the Mackinaw River Partnership is an important voice for farmers and landowners alike.

Catalpa grows along the river banks.



snakes now occur in the basin, although at one time the eastern massasauga was common. It has been extirpated from the area, mostly due to the draining of prairie wetlands.

Aquatic Biota The river and its tributaries supported a diverse array of aquatic species: 66 species of fishes, 31 species of mussels, and 9 species of large crustaceans. Even though some of these no longer occur in the basin, the aquatic biota is in better condition than in many other regions of Illinois. The state endangered blacknose shiner, however, has been extirpated from the basin; it was last observed in 1880. Of the 31 species of mussels reported for the area, only 24 species

have been found alive since 1980. One threatened mussel species, the spike, and two endangered species, the slippershell and the rainbow, are presumed extirpated from the basin because only old, weathered, dead shells have been collected.

Problems along the River

Mackinaw River System—Rating good to excellent. Problems are siltation, dredging, and agricultural pollution.

—PHILLIP SMITH
ILLINOIS STREAMS, 1971

Although the Mackinaw is called “one of the finest river systems in Illinois,” it is not without its problems.

There was a time when the Mackinaw ran clean, fresh, and pure.

The Area at a Glance

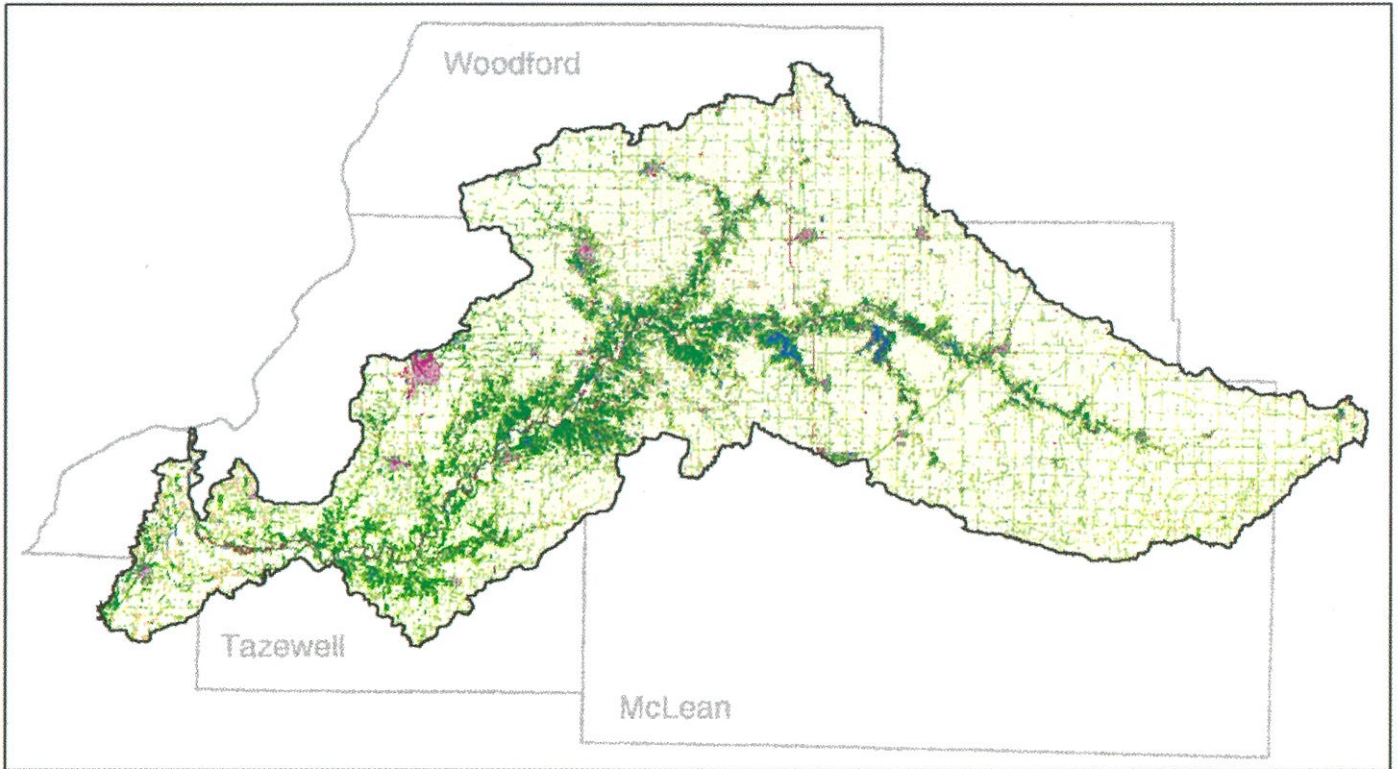
△ Forty-five of the state’s 62 mammal species are known from or are likely to occur in the basin; none are on T&E lists. Mammals commonly found in the basin include the white-tailed deer, raccoon, opossum, groundhog, and pocket gopher.

△ The Mackinaw Basin is one of the sites where the river otter is being reintroduced. During April, 1996, 28 river otters (13 male, 15 female) were released. Now, during summer and fall, otters may once again be occasionally sighted.

△ Thirteen amphibian and 25 reptile species occur here, representing 29% of the amphibians and 45% of the reptiles found in Illinois.

△ Three state T&E species occur in the basin—the threatened Illinois chorus frog, the western hognose snake, and the endangered Illinois mud turtle. All three are limited to the sand areas in the southwest corner of the basin.

MACKINAW RIVER BASIN LAND COVER



- | | |
|------------------------|-------------------|
| County Boundaries | Basin Boundary |
| Urban - High Density | Open Wooded |
| Urban - Medium Density | Coniferous |
| Urban - Low Density | Open Water |
| Row Crops | Shallow Marsh |
| Small Grains | Deep Marsh |
| Orchards | Bottomland Forest |
| Urban Grass | Swamp |
| Rural Grass | Shallow Water |
| Deciduous | Barren |

0 Scale 20 Km





The river in flood near Panther Creek

Times have changed, though, and while the river remains relatively healthy, scientists, landowners, and concerned citizens have identified several problem areas: flooding, urban development, pollution, sedimentation, bank erosion, water quality, habitat loss, channelization, and unstable channels. All of these daunting problems are not unique to the Mackinaw, but play a role in the degradation of all rivers. Each is not a separate entity, but is related to one or more of the other concerns. In fact, most can be combined into four main categories: flooding, pollution, sedimentation, and habitat loss.

Flooding Even though the term “flood” evokes scenes of devastation and destruction in the human mind, it is a natural process associated with all rivers. Major flooding on the Mackinaw can occur during any season of the year, although spring flooding is most common.

The major factors that influence the flooding and baseflow levels (the

normal amount of water in the river for a given season) in streams are the prevailing climatic conditions and landuse patterns. Over the last 30 years, the Mackinaw River basin has experienced a significant increase in precipitation, which has caused a general increase in both average streamflow and flood frequency. The peak period of flooding occurred from 1979 to 1987, and though the frequency of flooding has decreased somewhat in more recent years, it still remains above the long-term norm. Flooding and base flow increases are also the consequence of how the land is used. Over the past 150 years the basin’s wetlands, prairies, and forests have been converted into urban and agricultural landscapes. Both have reduced the water storage and retention abilities in the basin, thus increasing flood potential.

Urban settings increase runoff and quickly move water into the river through ditches and tributaries. Similarly, the capacity of water to

The Area at a Glance

△ No venomous snakes now occur in the basin, although at one time the eastern massasauga was common. It has been extirpated from the area, mostly due to the draining of prairie wetlands.

△ Although the Mackinaw River remains relatively healthy, there are several problem areas: flooding, urban development, pollution, sedimentation, bank erosion, water quality, habitat loss, channelization, and unstable channels.

△ Over the last 30 years, the Mackinaw River basin has experienced a significant increase in precipitation, which has caused a general increase in both average streamflow and flood frequency.

△ With the conversion of the basin’s wetlands, prairies, and forests into urban and agricultural landscapes, water storage and retention abilities in the basin have been reduced, thus increasing flood potential.

△ Pollution has led to a decline in the aquatic life of the Mackinaw since the 1950s, particularly in the mussels and fishes of the lower drainage. Clean water inhabitants such as the slippershell and spike have been replaced by species (white heelsplitter and three ridge) that are tolerant of lower water quality.

The adaptable raccoon (right) is found in great numbers in the Mackinaw area, as it is in most areas of the state.

On the other hand, there has been a decline in the aquatic life since the 1950s, particularly in the mussels (below) and fishes of the lower drainage.



infiltrate the soil is lessened by intense cultivation, increasing the rate of flow into tributaries, and ultimately, the river.

Pollution Like excess water, much of the Mackinaw River's pollutants stem from urban areas and agricultural practices. Pollutants can be divided

into two categories: point and nonpoint sources. Point sources include sewage treatment plants, home sites and subdivisions, and factories. Nonpoint sources include chemicals and fertilizers placed on agricultural fields, pastures, golf courses, and suburban areas that have no discernible outlets to the river.

While human waste is treated in the larger towns to reduce fecal coliform bacteria levels, excess nutrients are still released into creeks and streams where they encourage the growth and ultimate dominance of undesirable plants and animals. Some smaller towns have no waste treat-

ment facilities and some or all of this material may end up in the river. Fecal bacterial counts have been high in some reaches of the river and generally exceed IEPA standards for water quality. Nonpoint sources of pollutants are somewhat more difficult to document and include nutrients that come from row crops and livestock pastures. Fortunately, pesticides and herbicides do not yet appear to be major pollutants in the basin.

The pollution found in the river, from whatever source, has led to a decline in the aquatic life of the Mackinaw since the 1950s, particularly in the mussels and fishes of the lower drainage. For example, scientists have noted a change in the mussel fauna at the Route 29 bridge. Clean water inhabitants such as the



The hognose snake, one of Illinois' T&E species

slippershell and spike have been replaced by species (white heelsplitter and three ridge) that are tolerant of lower water quality.

Sedimentation The major problem in the Mackinaw River is not carcinogenic heavy metals, PCBs, or other such noxious compounds, but, quite simply, soil. While there is little proof that sedimentation was not a problem before European settlement, indirect evidence suggests that the problem is much worse today than during any time in recorded history. Compared to the other major tributaries of the Illinois River, the Mackinaw River basin has one of the highest sediment yield rates in the Illinois River basin. Like too much water in the river, excess sediment results from increased erosion due to urban and agricultural land use patterns. Urban landscapes increase the velocity of runoff during storms and these surges cause high levels of soil erosion.

The agricultural landscape is also far from blameless. On flat

uplands, most streams have been ditched and the fields tilled to promote drainage of the land. In early times, these lands were nearly impossible to farm. Now the water speeds off areas where it was once retained and causes head cutting (erosion toward the head of the stream), bank instability, and sedimentation.

Along the upper and middle reaches of the Mackinaw, the channels are very stable, due in part to its riparian zone (tree-lined banks). The lower reaches, however, are not as stable and contribute to increased sedimentation. Vegetation can create stable banks, provided it is wide enough to be effective (a single line of trees is not sufficient). Natural vegetation deflects water from the bank, absorbs energy from the moving water, and results in a slower flow.

Habitat Loss: Nearly one-fourth of the fishes and mussels that once occurred in the Mackinaw live there no more. While this decline may not be as dramatic as the demise of the

The Area at a Glance

△ The major problem in the Mackinaw River is soil. The Mackinaw River basin has one of the highest sediment yield rates in the Illinois River basin.

△ Nearly one-fourth of the fishes and mussels that once occurred in the Mackinaw live there no more.

△ Habitat degradation is a problem. Many woodlands in the basin now have a ground cover of undesirable species like buckbrush, common snakeroot, brambles, and garlic mustard.

△ The Mackinaw River Partnership is working to: find common ground on river management, pool resources and garner new ideas, to preserve, protect, and restore the river for the benefit of all.

passenger pigeon or the bison, it is significant and is the direct result of habitat loss. The draining of wetlands and removal of areas of clear, slow water (resulting from sedimentation, channelization, increased water velocity) has caused the golden shiner and the brown bullhead to disappear. Unstable bottom conditions, also caused by sedimentation, have extirpated certain species of mussels. This loss of habitat has been highest in smaller tributaries that pass through upland areas. Other extreme activities, such as channelization, eliminate habitats altogether; the removal of trees along the banks increases water temperature, an added stress on the organisms, and may cause the stream to dry up during the summer.

The direct loss of habitat is only part of this complex problem. The loss of habitat often results in habitat fragmentation (the breaking up of continuous habitats into smaller, less stable pieces). Notable terrestrial examples of problems caused by fragmentation include increased songbird nest parasitism by cowbirds, interruption of migration patterns, and, ultimately, loss of songbird species diversity.

Habitat degradation is yet another problem, and part of the solution is to remove the factor causing the problem, e.g., grazing, from the sensitive area. The effects of overgrazing in woodlands can be long-term, and many woodlands in the basin still show past grazing effects. The palatable and often showy species of herbs, such as trilliums, ferns, orchids, and bellflowers, are gone. The unpalatable species (those that are thorn-bearing or have bristly fruits) are left to flourish. Many woodlands in the basin now have a ground cover of undesirable species like buckbrush, common snakeroot, brambles, and garlic mustard.

The absence of fire in many forests also contributes indirectly to habitat loss. Fire absence has resulted in changes in forest structure, composition, and diversity. The invasion of sugar maples into the oak-hickory forests of the basin is related to fire absence. With the loss of these oak woodlands, the plant and wildlife species that depend upon them are also gone.

Problems and Solutions

A popular local radio call-in program in the basin during the mid 1960s was called Problems and Solutions—people with problems were assisted by people with solutions. It was the old pioneer ethic of helping your neighbors in action.

Today, a similar scenario is underway along the Mackinaw River. Michael Reuter of The Nature Conservancy explains, “Once we identified the Mackinaw River as an important place to protect, we set out to find the support we needed from the landowners. We then met with the Illinois EPA and found they were headed in the same direction. It’s been a tremendous partnership ever since.”

A.W. Herre lamented of the region, “What a pity that some of it could not have been preserved, so that those born later might enjoy its beauty also.” Although the original acreages of prairie, forest, and wetlands will likely never be returned to the basin, perhaps the blacknose shiner and the spike and rainbow mussels may someday find their way back into the river. ♻️

A.W. HERRE, a botanist at Stanford University, spent part of his boyhood on a farm near Delavan. “From the end of spring in 1873, until the late summer of 1878, it was [his] privilege to see and enjoy the life of a great tract of virgin prairie.” The family lived in a log cabin “at the edge of a small grove, sixty or eighty acres in area, which was said to be the only grove on the whole prairie.” Through his eyes we begin to “see” a landscape that is relegated to the written memories of those fortunate to have experienced it firsthand. Herre’s writings are woven into this manuscript only for that purpose. Herre published his description, “An Early Illinois Prairie,” in the 1940 edition of *American Botanist*. He concludes with: “moderns may look on this article as only the iridescent childish romance of an old man.” We look at it today as a window into the not-so-distant past of the Mackinaw River basin.

(continued from inside front cover)

In addition to coordinating IDNR programs with those of Ecosystem Partnerships, the Ecosystems Program:

- provides technical assistance to the partnerships, such as resource management plans for use by participating landowners;
- assesses resources in the area encompassed by each Ecosystem Partnership, collecting data that the local partners themselves may use to set project priorities and design projects, and supplying scientific support to ecosystem partners, including on-going monitoring of Ecosystem Partnership areas;
- funds site-specific ecosystem projects recommended by each partnership. Such projects may involve habitat protection and improvement, technical assistance, and research and education, including projects that seek to expand the relationships between natural resources, economic development, and recreation.

To provide focus for the program, IDNR developed and published the *Inventory of Ecologically Resource-Rich Areas in Illinois*; detailed regional assessments are being completed for resource-rich areas in which a public-private partnership is formed.

The Mackinaw River Basin: An Inventory of the Region's Resources is based on one of these assessments, the *Mackinaw River Area Assessment*. The assessment was compiled by staff of IDNR's Division of Energy and Environmental Assessment, Office of Realty and Environmental Planning; the Illinois State Museum, the Illinois Natural History, State Geological, and State Water Surveys of IDNR's Office of Research and Scientific Analysis; and Ecological Services of Urbana, Illinois.

The *Mackinaw River Area Assessment* and all other CTAP and Ecosystems Program documents are available from the IDNR Clearinghouse at (217)782-7498 or TDD (217)782-9175. Many are also available on the EcoForum Bulletin Board at (800)528-5486 or (217)782-8447. Documents also are available on the World Wide Web at

<http://dnr.state.il.us/ctap/ctaphome.htm>. and
<http://dnr.state.il.us/c2000/manage/partner.htm>

For more information about CTAP, call (217)524-0500 or e-mail at ctap2@dnrmail.state.il.us; for information on the Ecosystems Program, call (217)782-7940 or e-mail at ecoprgr@dnrmail.state.il.us.

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