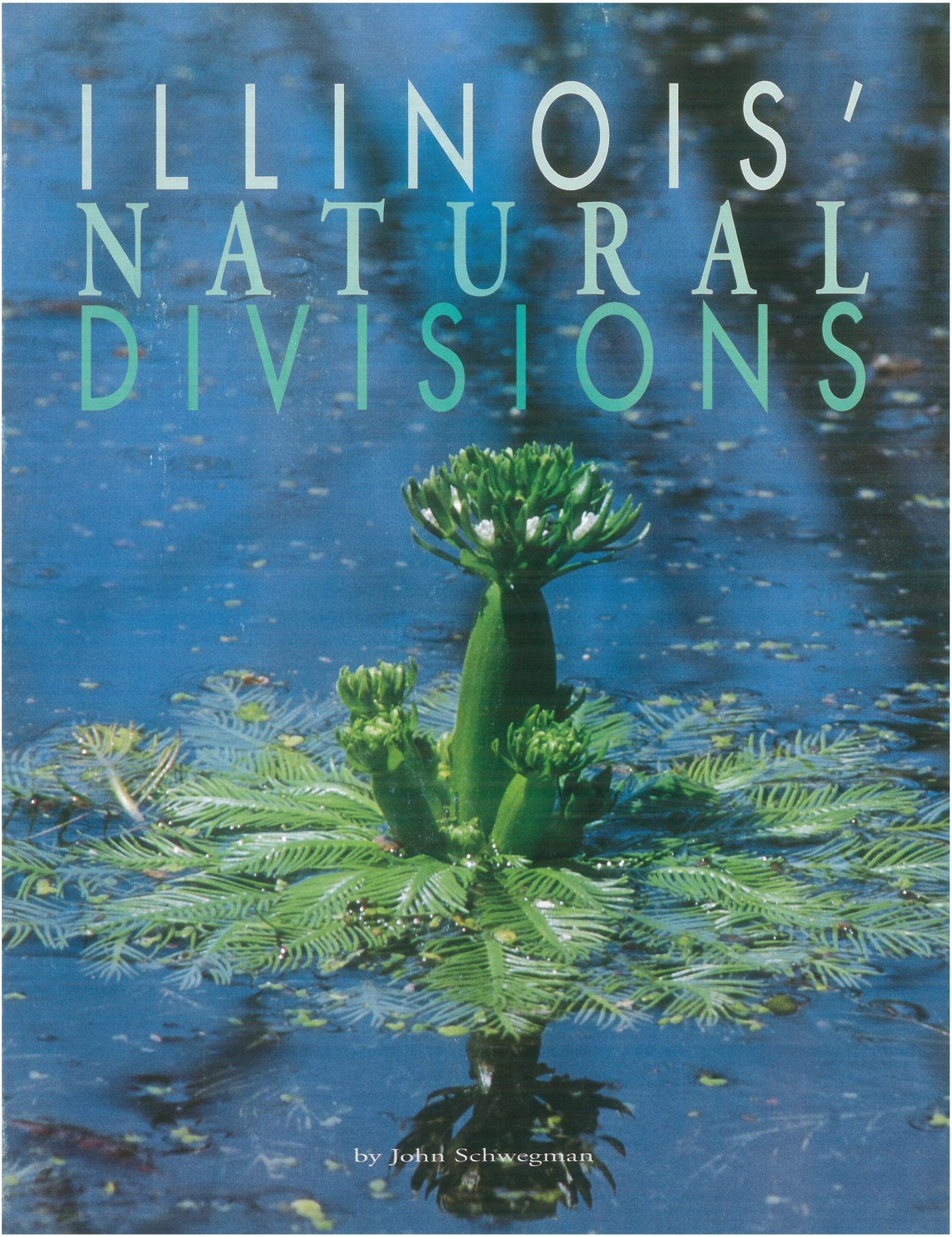
ILLINOIS' NATURAL DIVISIONS



by John Schwegman

Photo previous page: American featherfoil

Photo this page: Sand prairie

Photo previous page: Michael R. Jeffords

John Schwegman

Natural divisions are geographic regions of a larger entity like a state or continent. A division contains similar landscapes, climates, and substrate features like bedrock and soils that support similar vegetation and wildlife over the division's area. Natural divisions help conservationists classify land for purposes like protecting natural diversity.

A more casual observer's appreciation of the natural world is enhanced by an awareness of the divisions, which help us recognize and understand different natural landscapes.

Landforms are critical features in defining natural divisions. Most of Illinois is flat, but rugged lands near entrenched rivers and in areas missed by Ice Age glaciers add distinctive diversity to Illinois' landscape and help define some divisions.

Differences in bedrock type, such as limestone and sandstone, are also important. Limestone gives rise to caves and supports distinctive alkaline-tolerant plants. Sandstone favors more acid-tolerant plants. Soil type is also important to natural division delineation. Soils developed in silty material called loess predominate over most of Illinois, but some loess particles are very small, giving rise to clay soils that restrict plant growth and support distinctive vegetation and wildlife. Soils developed from sand, gravel, and peat also occur in Illinois and help indicate natural divisions.

The predominant vegetation of a region also plays an important role in defining natural divisions. Vast prairielands, oak–hickory forests, beech–maple forests, cypress swamps, and tamarack bogs all help delineate some natural divisions.

The distribution of individual plant and animal species is important, too. Many southern lowland plants like baldcypress grow only in southern Illinois and up the Wabash River, while northern plants like white pine and paper birch occur on ridges and cliffs in northern Illinois.

Animals of limited range in Illinois that help define the natural divisions have low mobility and restricted habitat requirements. Amphibians, reptiles, and fishes are likely division indicators. For example, western animals like the plains hognose snake survive well in the dry habitats of the Sand Areas Division but are excluded from surrounding divisions. Silt-tolerant fishes like the plains minnow and sturgeon chub live in the Mississippi River below the mouth of the muddy Missouri River and help separate this region into a separate division from the clearer upper Mississippi.

Illinois was one of the first states to have its natural divisions defined when botanist Arthur Vestal used this method to develop his "Preliminary Vegetation Map of Illinois" in 1931. This and other earlier works were expanded into a comprehensive delineation and description of the natural divisions of Illinois by myself and others in 1973.

In the last 24 years, Illinois' natural division classification has guided development of our state's nature preserve system. The Illinois Natural Areas Inventory and the Illinois Natural Areas Plan, both milestones in the preservation effort, used the natural divisions to classify recognized areas and prioritize them for preservation.

Fourteen natural divisions are recognized in Illinois. On the following pages I'll describe their unique characteristics and suggest public areas that showcase features of each division.

John Schwegman is a plant conservation manager for the Illinois Department of Natural Resources, Division of Natural Heritage in Springfield.

The Wisconsin Driftless Division

The Wisconsin Driftless Division is Illinois' portion of a larger area in Wisconsin, Iowa, and Minnesota that was missed by the Ice Age glaciers that completely surrounded it at one time or another. Its rugged topography of ridges and mounds of dolomitic limestone contrasts sharply with surrounding divisions. Mostly forested before settlement, this division is noted for unique plant life associated with cliffs along interior streams and its Mississippi River bluffs.

The white bark of northern paper birch is distinctive along the Mississippi bluffs at Mississippi Palisades State Park. Hike the Sentinel Trail here in early May to view the unique jeweled shooting star.

At Apple River Canyon State Park, walk the Primrose Trail in May for a view of the tiny, rare birds-eye primrose, not found elsewhere in Illinois. From most any trail you can view northern plants like white pine and Canada yew. These evergreens are especially noticeable in winter.

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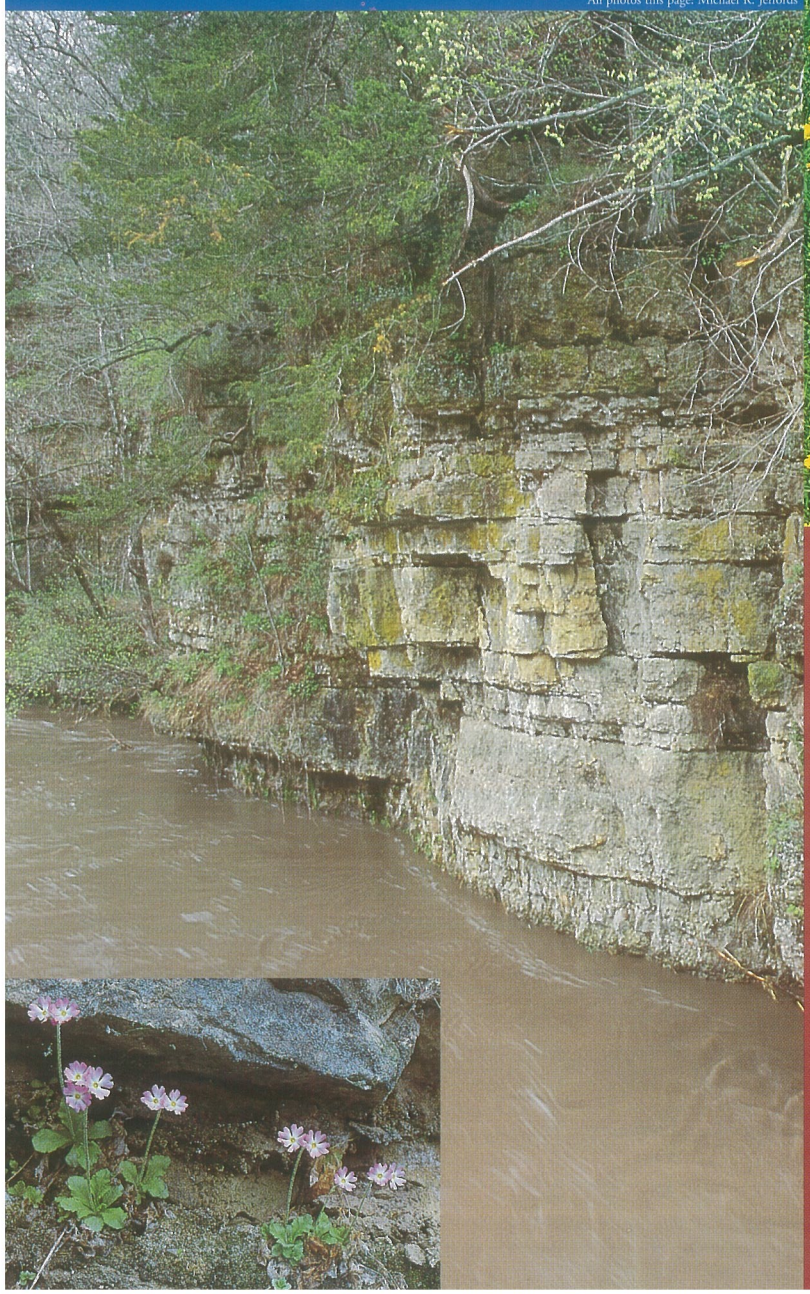

The Rock River Hill Country Division

The Rock River Hill Country Division is rolling glaciated land that once supported a mixture of forest and prairie. Sandstone outcrop areas near the Rock River support distinctive northern plant species, but much of the area is underlain with limestone.

Castle Rock State Park near Oregon is a good place to view the sandstone environment and the Rock River. Climb to the top of Castle Rock for a view of both. Nearby White Pine Forest State Park is an easily accessible example of the limestone environments. Of special note are the white pines along the bluff tops. The Nature Conservancy's Nachusa Grasslands, north of Franklin Grove, is the best place to view the once common grasslands of this rolling landscape.

The Northeastern Morainal Division

The Northeastern Morainal Division is a region of deep glacial deposits that are piled into high forested ridges with intervening low, wet areas and natural lakes. This diverse division also includes the bed of extinct glacial Lake Chicago and the shore environments along Lake Michigan.

Moraine Hills State Park near McHenry and the nearby Volo Bog Nature Preserve (see Vol. 5, No. 1 of *The Illinois Steward*) offer exceptional views of the diversity of lakes, bogs, marshes, and forests typical of the division. Moraine Hills is one of the few Illinois locations where relatively small "kettle holes" left by melting ice blocks can be viewed.

Visit Illinois Beach State Park and Nature Preserve to view the Great Lakes beach and dunes environments. Walk the Dead River Trail to see prairie, oak savanna, dunes, and beach. This is one of Illinois' richest wildflower areas at any time during the growing season.

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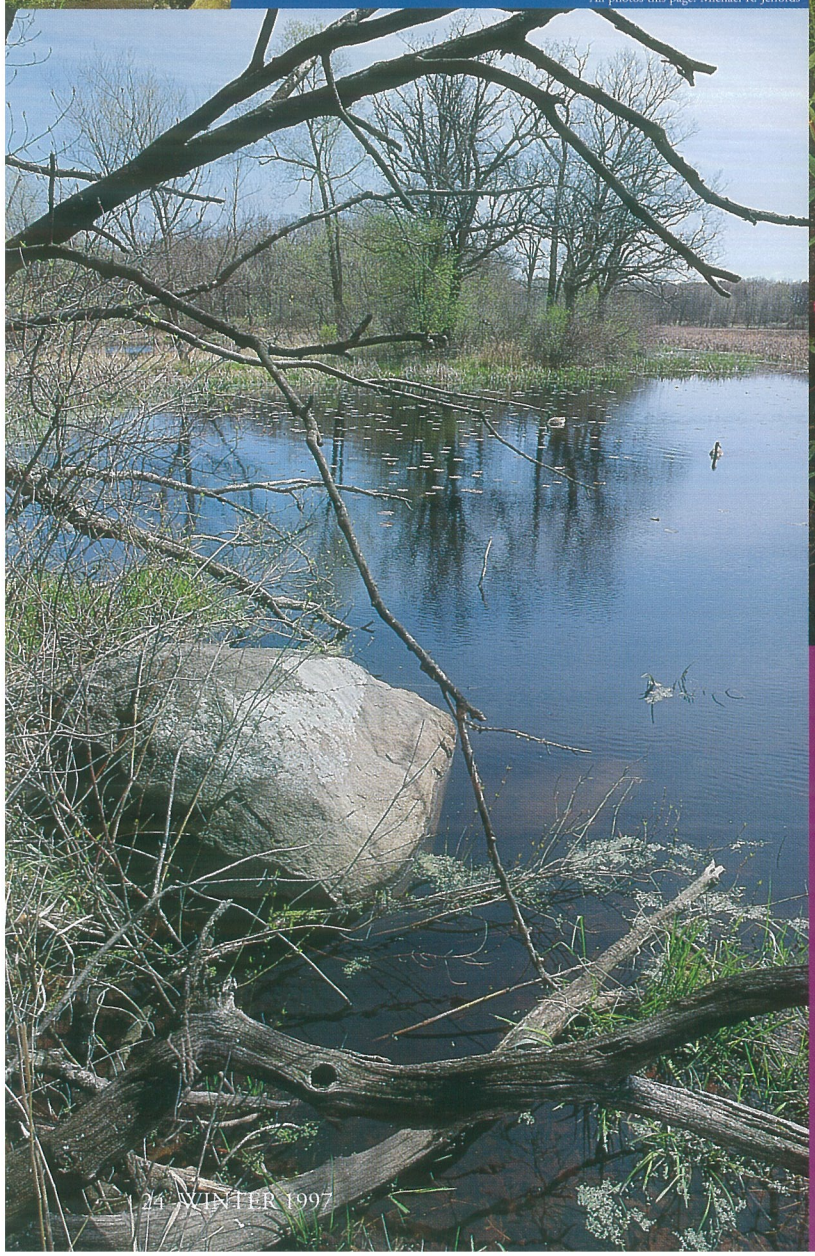

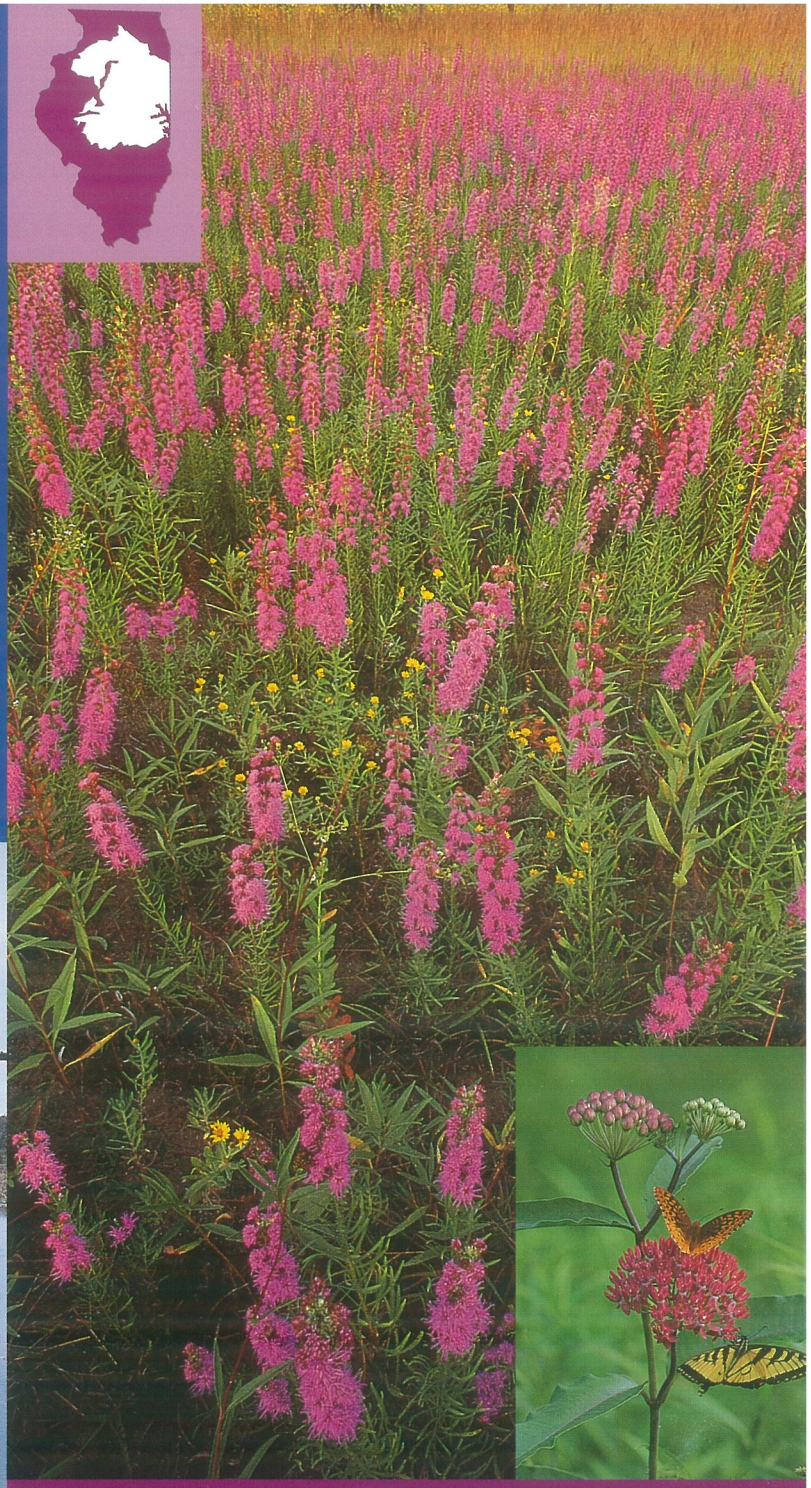

The Grand Prairie Division

The Grand Prairie Division is the largest of our natural divisions and occupies the flat terrain in central and northern Illinois. Prairie dominated the vegetation here. Forests were the exception and were often present only as individually named groves. Most of the prairie has been plowed and converted to cropland, but a vast example survives at Goose Lake Prairie State Park near Morris. August and September are ideal times to visit this prairie.

Funks Grove, southwest of Bloomington, is an outstanding example of a Grand Prairie forest. While largely privately owned, the grove is open to public visitation and is exceptional for its large trees and display of bluebell wildflowers in the spring.

The Upper Mississippi River and Illinois River Bottomlands Division

The Upper Mississippi River and Illinois River Bottomlands Division includes these major rivers and their floodplains. Alluvial forests, prairies, rivers, and lakes make up the division's environments.

Good examples of these natural communities along the Illinois River can be seen at Marshall Conservation Area near Lacon and Anderson Lake Conservation Area in Fulton County. Along the Mississippi, visit Red's Landing in Calhoun County. Visits during the spring and fall bird migrations offer excellent wildlife viewing, especially for waterfowl.

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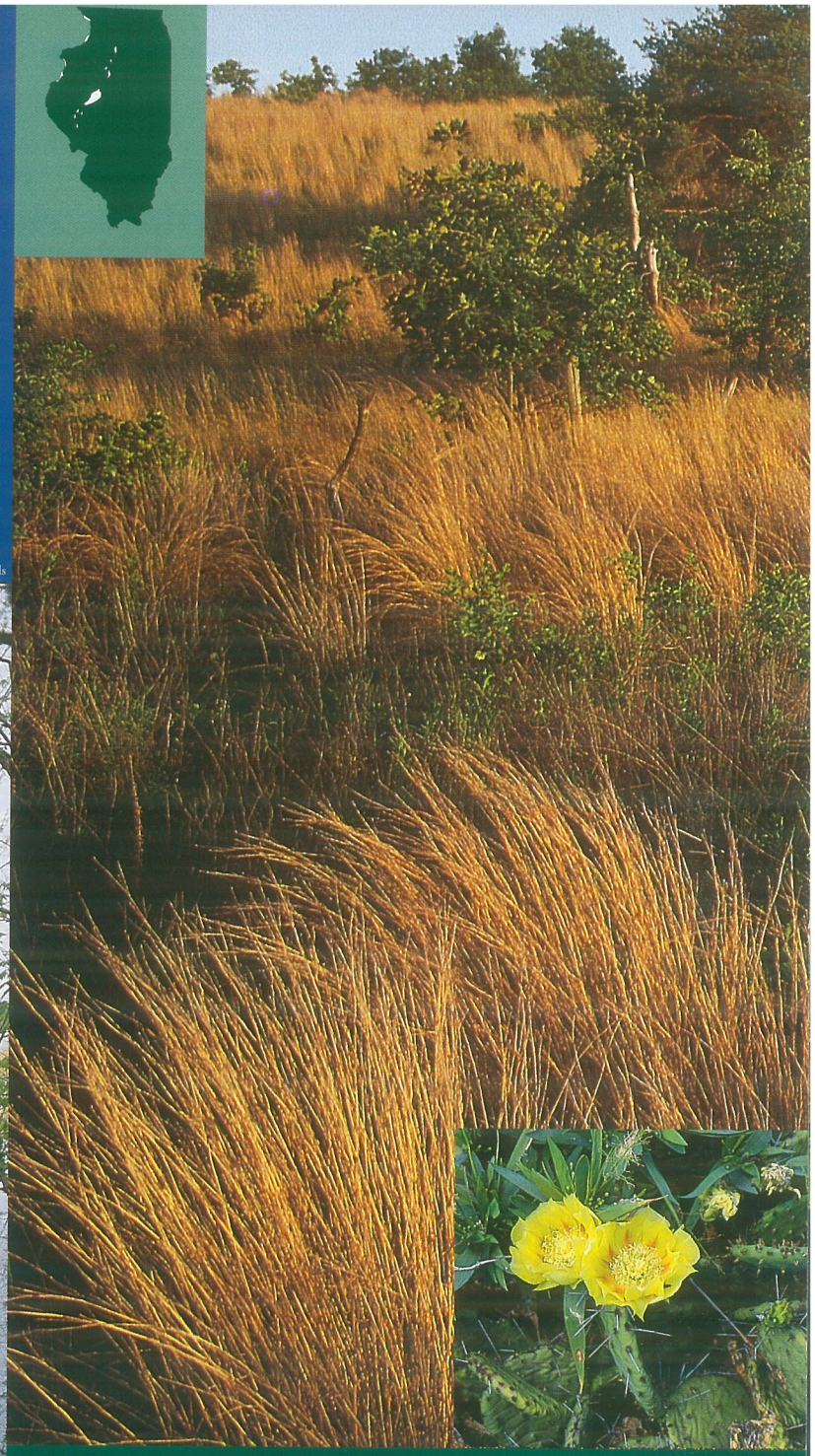
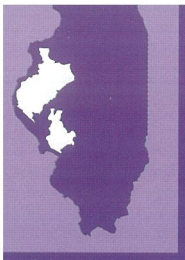


The Illinois River and Mississippi River Sand Areas Division

The Illinois River and Mississippi River Sand Areas Division consists of the major sand deposits along these rivers. Desert-like, dry sand prairie and dunes and scrubby oak forests are the dominant land-based communities. Ponds and moist prairies are also present.

Sand Prairie-Scrub Oak Nature Preserve east of Bath in Mason County is the best place to observe the Illinois River part of this division. Hike from the parking lot on the east side of the preserve. On the Mississippi, visit Big River State Forest near Oquawka during the cactus flowering in June or when blazing stars and sunflowers are at their peak in September.



The Western Forest–Prairie Division

The Western Forest–Prairie Division is a land of deep, forested ravines with intervening flat prairie openings. Bedrock outcroppings of sandstone, shale, and limestone are common in some locations.

Siloam Springs State Park near Quincy is a good example of this division. Walk the Crabapple Creek Loop Trail for a view of forests, rocky bluffs, stream environments, and rolling prairie. The forests are best in early spring, while the prairie is most colorful in late August and September.

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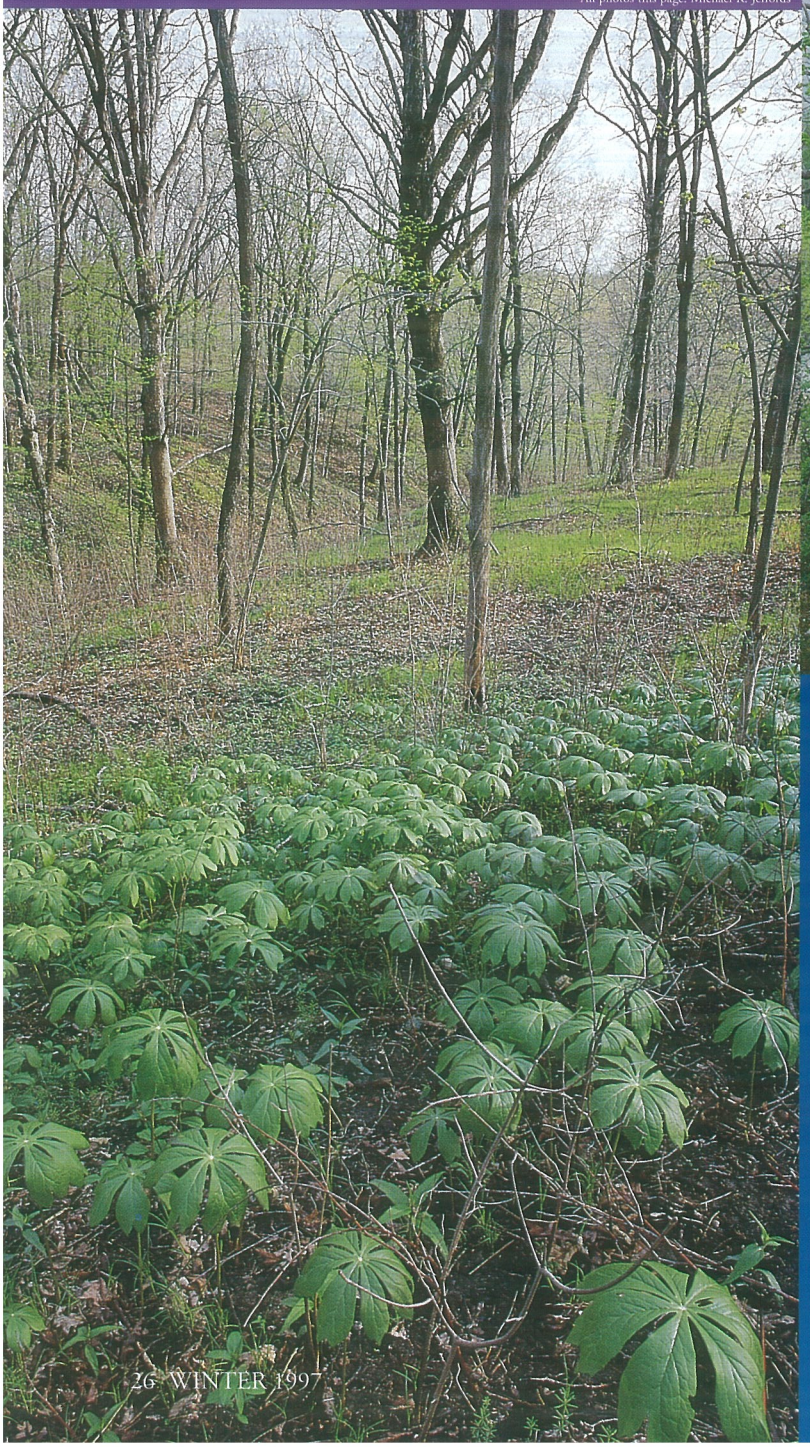
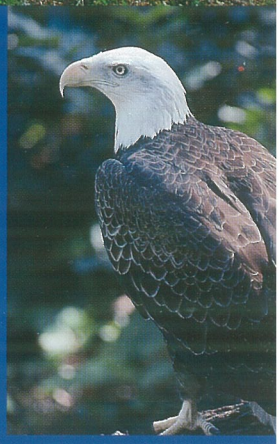


The Middle Mississippi Border Division



The Middle Mississippi Border Division includes the rough river blufflands along the Mississippi and the lower Illinois River valleys of western Illinois.

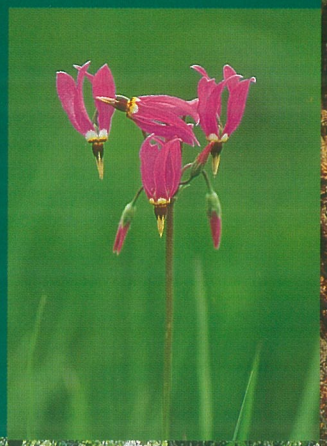
Bedrock cliffs and outcrops of limestone are common in the river bluffs, with local areas of sandstone. Mid-height grasslands called hill prairie are common atop south- and west-facing bluffs. Oak–hickory forests predominate in the ravines and cooler north- and east-facing slopes.

Pere Marquette State Park offers an exceptional showcase of this division. Hike the trail to McAndrews Peak for hill prairies and ridgetop forests. Several ravines are accessible for views of the mesic forest community.

The Southern Till Plain Division

The Southern Till Plain Division covers a large area of relatively flat terrain in south-central Illinois. It has a predominance of clay soils, which support a mixture of prairie and forest vegetation. Distinctive "flatwoods" forests dominated by post oak and pin oak with an understory that includes some prairie plants are an important feature of this division. Oak–hickory forests grow in the shallow ravines, with tallgrass prairie on some uplands.

The best views of these prairies are in the railroad prairies along Route 37 between Kinmundy and Mason. August and September are best for prairie plant viewing. Forests of this division are visible at many state properties, such as Ramsey Lake State Park near Ramsey and Washington County Conservation Area near Nashville. The Posen Woods Nature Preserve at the latter area is a good example of flatwoods.



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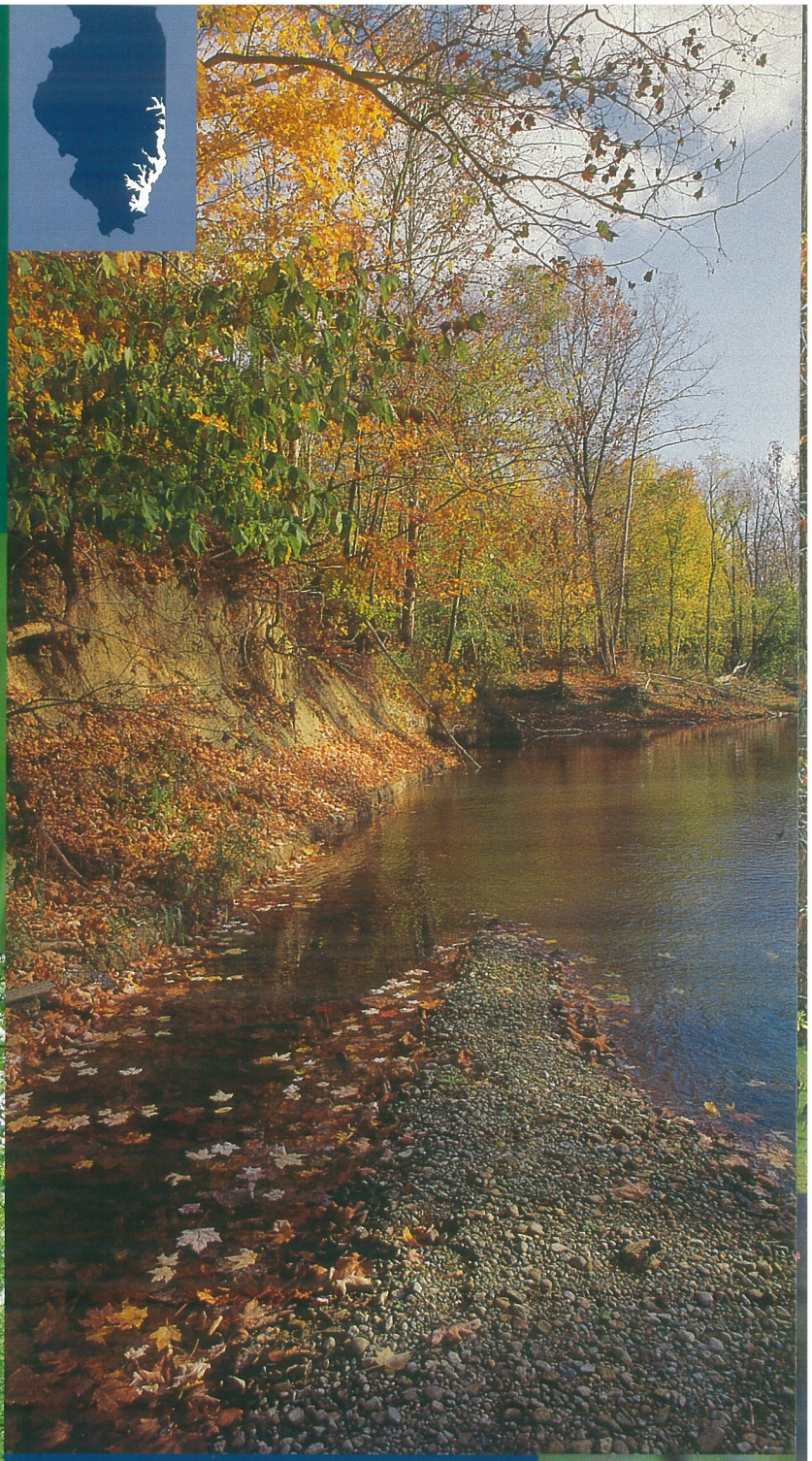

The Wabash Border Division

The Wabash Border Division is unique in supporting southern lowland vegetation. This division boasts sweet gum and swamp cottonwood trees in bottomlands along its major streams and eastern trees like beech and tulip trees in its upland forests.

Beall Woods Nature Preserve near Mt.Carmel contains outstanding examples of these lowland forests, with giant oaks and a diversity of other trees. It also has beech and tulip trees in its uplands, as do Kickapoo State Park and Forest Glen County Preserve near Danville.

The Ozark Division

The Ozark Division is that part of the Ozark uplift lying east of the Mississippi River along the southwestern fringe of Illinois. It is characterized by steep bluffs, forests, and hill prairies supporting numerous plants and animals characteristic of the Ozarks. It is host to Illinois' only populations of scorpions and shortleaf pine trees.

Fults Hill Prairie Nature Preserve near Fults in Monroe County is an ideal place to see such Ozark plants as Missouri brown-eyed Susan and wooly buckthorn in the prairies and on the cliffs. The Forest Service's Pine Hills area in northwestern Union County is perhaps the richest natural area in Illinois and is a classic example of this division. Unique plants here include shortleaf pine and wild azalea. Drive the ridgetop road for scenic overlooks and to see azaleas in late April and early May.

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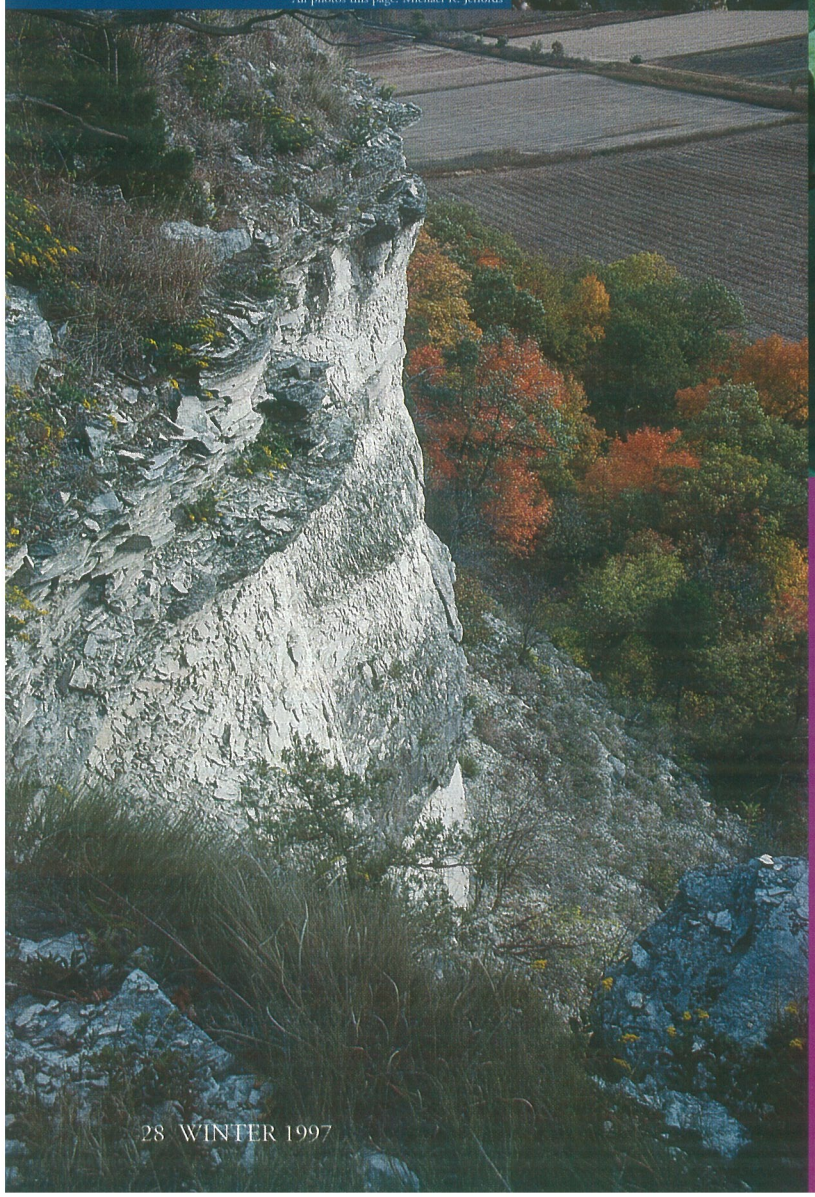
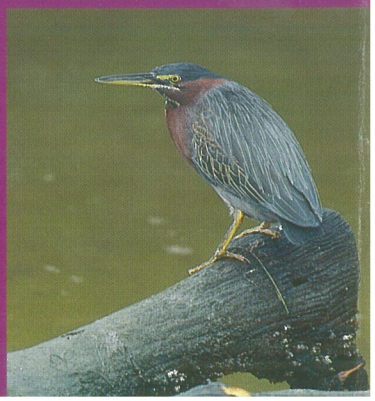
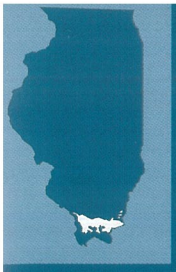


The Lower Mississippi River Bottomlands Division

The lower Mississippi River Bottomlands Division includes forests, wetlands, rivers, and lakes of the lowlands along the Mississippi from Alton to Thebes. Kidd Lake Marsh adjacent to Fults Hill Prairie Nature Preserve is a good example of this division's marsh environment. The LaRue Swamp adjacent to Pine Hills is the outstanding wetland in the division. LaRue Swamp is best seen from the Forest Service road between the pine hills and the swamp.





The Shawnee Hills Division

The Shawnee Hills Division consists of Illinois' portion of the unglaciated Interior Low Plateau province of southeastern North America. Both sandstone and limestone underlie the area, which was originally forested except for small rocky glades.

Outstanding places to visit in this division are the Forest Service's Bell Smith Springs Recreation Area near Eddyville in Pope County (see page 2 in this issue) and Giant City State Park near Makanda in Jackson County. These areas are scenic any time, but are best for wildflowers in late April. Walk the Fern Rocks Nature Trail at Giant City and any of the trails at Bell Smith Springs.

Limestone glades of the Shawnee Hills can be seen at Wildcat Bluff and Cave Creek Glade within the Cache River State Natural Area south of Vienna in Johnson County.

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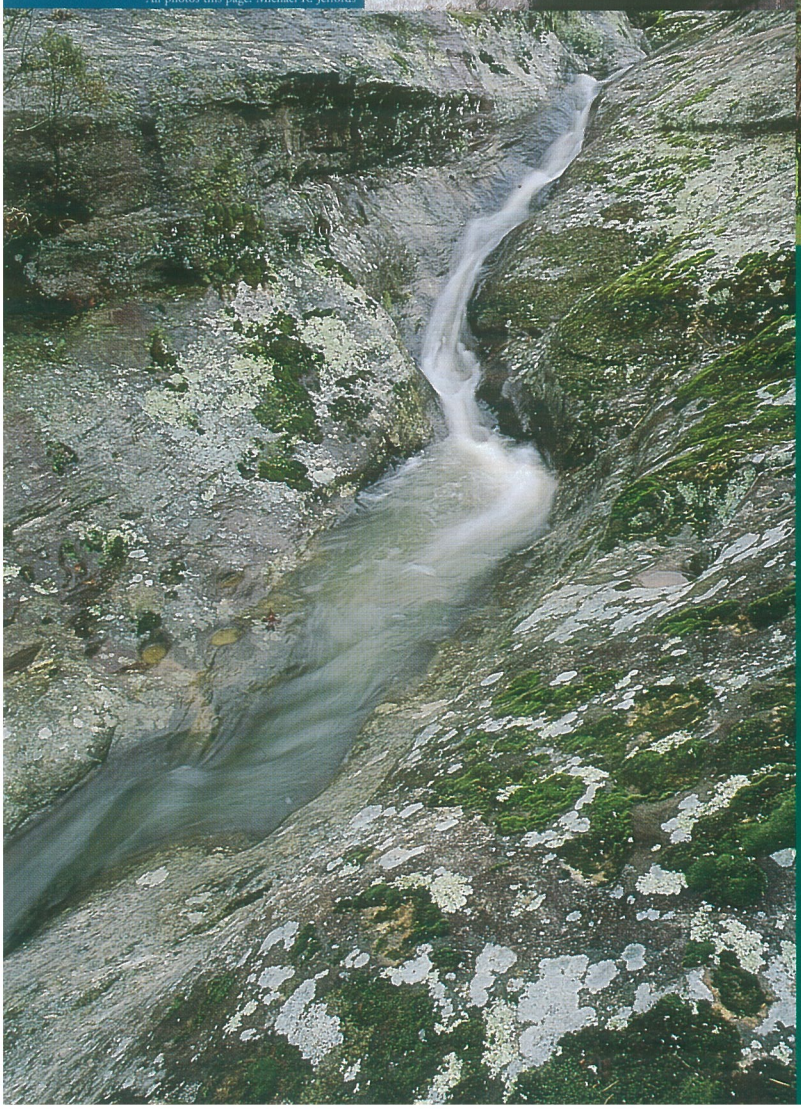

Illinois' Coastal Plain Division

Illinois' Coastal Plain Division occupies both uplands and lowlands at the southern tip of the state. The uplands are composed of rolling hills of gravel, clay, and sand, with a coating of loess. The lowlands have both loamy and clay soils.

Except for some prairie-like barrens on the uplands, the division was originally forested. Swamps of baldcypress and water tupelo and diverse hardwood forests are distinctive features of the lowlands.

The best place to view the division's lowland habitat is Heron Pond Nature Preserve south of Vienna. Walk the Todd Fink Trail to Heron Pond Swamp and enter the swamp on the floating boardwalk. Notice the swamp rose bushes and other plants growing on the trees and floating logs. Listen for the wavering whistle of the bird-voiced treefrog. Several examples of the upland forests and barrens exist, but none are easily accessible.