

The Wabash Border Natural Division

Characteristics

The Wabash Border Natural Division includes the bottomlands and the loess-covered uplands bordering the Wabash River and its major tributaries in southeastern Illinois. Lowland oak forests with beech, tuliptree and other species are characteristic of the eastern deciduous forest. The ravines and uplands were primarily forested throughout the Natural Division. Barrens were common in the southern part of the division. Grassland primarily existed as large scattered tracts in Wabash River bottoms and terraces. Cliffs are primarily sandstone exposures that are widely scattered, primarily in the southern half of the division along ravines of the larger Wabash tributaries.

The Wabash River drainage contains several distinctive fishes and mussels and once supported a large and diverse bottomland landscape supporting large forest tracts, wet prairies, sand barrens, wetlands, canebreaks, and oxbow lakes and meander scars. Cypress swamps occurred in the far southern end of the natural division.

Major Habitats & Challenges

Forests - invasion by exotic plants (especially garlic mustard, bush honeysuckle); increase in maples and mesophytic tree species accompanying decline in oak abundance and recruitment; fragmentation, loss of connectivity in riparian areas

Open Woodland/Savanna/Barren - scarcity, succession to closed forest, exotic species (especially autumn olive)

Grasslands - fragmentation (small tract size); exotic species (especially tall fescue, autumn olive); succession to shrubland/secondary growth; lack of management (burning, discing); termination of Conservation Reserve Program contracts; recreational mowing of idle acres; pesticide runoff

Wetlands (including wet prairie, canebreaks, mudflats, and meander scars) - drainage, levees and ditches, exotic species (e.g., reed canary grass and Phragmites), increased tilling of cropland

Lakes & Ponds - sedimentation and nutrient loading, drainage of oxbow and backwater lakes, pesticide runoff

Streams (including Wabash River) - sedimentation, channelization, impoundments, levees, hydrologic modification, low quality riparian buffers and lack of habitat connectivity along riparian zones

Primary Communities (scattered sandstone outcrops supporting relict northern plants) -

unknown

Opportunities

The Wabash Border Natural Division supports a high proportion of geographically restricted plants and animals more typical of the eastern deciduous forest (e.g., American beech, mussels, fishes, amphibians and reptiles). Landscape-scale management is facilitated by large public ownership in the Vermilion River Section of this Natural Division (Kickapoo State Park, Middle Fork State Fish and Wildlife Area, Woodyard State Natural Area, Forest Glen County Park, Kennekuk Cove County Park).

The Wabash River is the largest un-dammed river east of the Rocky Mountains and supports diverse fish and mussel communities. The Middle Fork Vermilion River is the only National Wild and Scenic River in Illinois. The bottomlands of the Wabash River provide one of the few locations for restoration of canebreaks on a biologically significant scale. Waterfowl and shorebird management areas can also be established along the Wabash River, in partnership with the State of Indiana.

State and federal programs (Environmental Quality incentives program, Landowner Incentives Program, Illinois Forestry Development Act, Conservation Reserve Program, Wetland Reserve Program) have high potential for improving existing habitat and establishing additional grassland, wetland and forest habitat on private lands in the natural division. Conservation partners exist in this natural division and future opportunities can build on their previous accomplishments. The Vermilion County Conservation District is an example of an active conservation group in this natural division.

Management Guidelines

Landscapes

Forest - Contiguous forest should be present along all lower order streams, ravines, and other areas of sloping topography. Forest blocks of at least 500 acres should be present in half the townships and 3-5 blocks of bottomland forest over 1,000 acres should be established. Prescribed burning and selective invasive species control should be initiated in oak-dominated stands to maintain and perpetuate oak dominance. Riparian forests should be at least 2 times as wide as the adjacent stream for all drainages. Forests should grade into open woodland or savanna habitats on adjacent uplands. Forested buffers and corridors should be maintained or created within 500 m of all ephemeral ponds. The objective is a net increase of 21,600 acres (including bottomland forest) by 2025.

Grassland - Grasslands in the Wabash Border Natural Division should be at least 80 acres in size. About 80-100 units should be in tracts 160 acres or larger and 20-30 units over 500 acres, both with less than 10% wooded or developed lands. Improve roadside grasslands on 300 acres per township. Enhance the quality of existing pastures and idle grasslands with fescue conversion, improved grazing practices, prescribed fire, soil disturbance and other

techniques. The objective is a net increase of 41,600 acres by 2025.

Open Woodland/Savanna/Barrens - Open woodland, savanna and barren focus areas should be at least 320 acres and consist of a minimum 30-40% savanna, barrens, or open woodland, 20% grassland, and 10% forest. Additionally, savanna, barrens, or open woodland habitats should be encouraged in all isolated woodlots under 15 acres in size. The objective is a net increase of 11,200 acres by 2025.

Wetland - Wetland complexes in the Wabash Border Natural Division should be at least 160 acres in size with 6-10 units 500-1,000 acres in size, and one complex >3,000 acres. Wabash River bottom wetlands should be approximately 40% wetland, wet prairie, and/or canebrake, and at least 10% gravel prairie, sand barrens, and open woodland. Other wetlands should be approximately 40% wetland with upland buffer equal to or greater than the wetland area. The objective is a net increase of 3,000 wetland and backwater acres (excluding bottomland forest) by 2025.

Streams - Restore up to 100% riparian land cover (twice the width of the stream and inclusive of the 100-year floodplain). Protect and enhance conditions of the coolwater streams.

Lakes & Ponds - Establish aquatic vegetation on 10-20% of the littoral zone on all impoundments.

Natural communities

Streams and rivers in the natural division have large numbers of rare and declining fish and mussels, many no longer found elsewhere in Illinois. Many of the fish communities associated with slack water habitats and aquatic vegetation are rare and/or declining. Species such as bowfin, gar species, warmouths, and orange-spotted sunfish have declined dramatically in population size. Large river backwaters and floodplains with southern species have bottomland forest, wetland, and canebrake restoration potential.

The eastern deciduous forests of North America reach their westmost extent in the Wabash River Natural Division. These forests, dominated by beech-maple-yellow poplar and associated animals, are of limited extent in Illinois and warrant restoration and management. Ephemeral woodland ponds host rare amphibians not found elsewhere in Illinois.

Sandstone cliffs include unique assemblages of relict northern plants.

Critical Species

Invertebrates: clubshell, rabbitsfoot, little spectacle case, wavy-rayed lampmussel, purple lilliput, rainbow, fat pocketbook, Indiana crayfish

Fishes: eastern sand darter, gravel chub, bluebreast darter, Iowa darter, harlequin darter, starhead topminnow, bigeye chub, redspotted sunfish, bantam sunfish, river redhorse,

river chub, bigeye shiner, blacknose shiner, weed shiner, northern madtom

Amphibians: Jefferson's salamander, silvery salamander, hellbender, four-toed salamander, mudpuppy, wood frog

Reptiles: river cooter, smooth softshell turtle, copperbelly watersnake, eastern ribbon snake, alligator snapping turtle

Birds: American black duck, red-shouldered hawk, interior least tern, northern harrier, least bittern, American bittern, loggerhead shrike, hooded merganser, osprey, king rail

Mammals: river otter, bobcat, Indiana bat, swamp rabbit, gray fox

Emphasis Game Species

largemouth bass, smallmouth bass, spotted bass, warmouth, yellow bass, green sunfish, bluegill, longear sunfish, redear sunfish, rock bass, white crappie, black crappie, blue catfish, channel catfish, flathead catfish, black bullhead, yellow bullhead, sauger, walleye, freshwater drum, northern bobwhite, wild turkey, American woodcock, ringneck pheasant (Vermilion River Section only), white-tailed deer, eastern cottontail, swamp rabbit, fox and gray squirrels

Nongame Indicator Species

Upland Forest - wood frog, red-backed salamander, Acadian flycatcher, wood thrush, red-shouldered hawk, Louisiana waterthrush

Bottomland Forest - brown creeper, barred owl, pileated woodpecker, northern parula, yellow-throated warbler, prothonotary warbler

Open Woodland, Savanna, Barren - eastern spadefoot toad, red-headed woodpecker, Carolina wren, blue-winged warbler, mockingbird, yellow-breasted chat, lark sparrow

Grasslands - eastern meadowlark

Wetlands (including wet prairie, canebreaks, mudflats, and meander scars) - black-necked stilt, swamp sparrow, sedge wren

Streams (including Wabash River) - Wabash-endemic crayfish, American eel, highfin carpsucker, blue sucker, banded pygmy sunfish, bluntnose darter, lake chubsucker, spottail darter, silver lamprey, ribbon shiner, ghost shiner, rosyface shiner, silverband shiner, pugnose minnow, mountain madtom, southern redbelly dace, paddlefish, blacknose dace, shovelnose sturgeon, central mudminnow, black redhorse, queen snake

Primary Communities - black rat snake (hibernacula)

Recreational Opportunities

Fishing (especially stream fishing), trapping, upland hunting, forest game hunting, waterfowl hunting, canoeing, wildlife watching

Educational/Interpretive

Beall Woods State Park & Natural Area, Vermilion County Conservation District, Eastern Illinois University, Indiana State University, Vincennes University, Robeson Hills Nature Preserve, New Harmony Historic Site (Indiana)

Natural Resource Commodities

Forest products (ginseng and seeds), commercial fishing, native plant seed collection, outdoor recreation/nature-based tourism

Conservation Opportunity Areas

Vermilion River (Middle Fork, North Fork and Salt Fork) & Little Vermilion River

Protected Lands - Kickapoo State Recreation Area, Middle Fork State Fish & Wildlife Area, Kennekuk Cove County Park, Woodyard State Natural Area, Fleirman's River Nature Preserve

Priority Resources - streams (National Wild & Scenic River), fishes, mussels, geographically restricted amphibians

Conservation Philosophy - Maintain and enhance Scenic River Corridor and buffer areas, utilize historic vegetation conditions as a guide for a mosaic of prairie, shrubland, savanna, and open woodland on sandy terraces and flat uplands, dry-mesic and mesic forest in ravines, emphasizing forest establishment and enhancement.

Objectives - assess streambank erosion and stabilization needs; protect and restore terrace wetlands and all seeps, maintain 3-5 forested tracts >200 acres; develop channel evolution model for river to help identify future management needs; enhance oak recruitment in existing wooded tracts; decrease amount of hard' habitat edges through burning, invasive species control, and planting.

Priority Actions - hydrologic analysis and plan (especially vis-a-vis streambanks and channel stability); restoration of degraded habitats using historical vegetation conditions as a guide; landowner contact for all rare resources in database; establish amphibian breeding habitat adjacent to existing woodlands, forests, and woodland/forest restorations; control/remove exotic species; reduce remove hard habitat edges; increase prescribed burning, especially in oak woodlands and forests; perform biotic inventories and establish monitoring protocols.

Partners - Illinois Nature Preserves Commission, National Park Service, Dynegy Midwest Generation; U.S. Department of Agriculture Natural Resource Conservation Service, Vermilion County Conservation District; Vermilion County Soil & Water Conservation District, Prairie Rivers Network, Volunteer Stewardship Network, canoe outfitters, Illinois Department of Natural Resources

Conservation Resources - Illinois Nature Preserves Commission Landowner Contact, U.S. Fish & Wildlife Service W-76-D; State Wildlife Grants, C2000, National Park Service

Research, Monitoring, and Evaluation - Illinois Natural History Survey, University of Illinois, Eastern Illinois University, Illinois State Water Survey, Illinois State Geological Survey, Critical Trends Assessment Program, Prairie Rivers Network

Wabash River & Floodplain & Backwater Ponds

Priority Resources - free-flowing river, bottomland forest, bottomland ponds, baldcypress communities, cane restoration, successional areas, shallow-water wetlands, mussels, fishes, river cooter, copperbelly watersnake, migratory waterfowl, shorebirds, interior least tern, cerulean warbler, red-shouldered hawk, brown creeper, prothonotary warbler

Key Actions - No coordinated conservation effort is underway at present in Illinois or with Indiana. A natural resources inventory of the area, including compilation of available data and field surveys, is essential.

Middle Little Wabash River

Priority Resources - Bottomland forest, wetlands, migratory waterfowl, cerulean warbler, red-shouldered hawk, copperbelly watersnake, brown creeper, prothonotary warbler

Key Actions - No coordinated conservation effort is underway at present. A natural resources inventory of the area, including compilation of available data and field surveys, is essential.

Contributors: Robert Szafoni, Paul Brewer, Dan Newhouse, Terry Esker, Trent Thomas