

The Northeastern Morainal Natural Division

Characteristics

The Northeastern Morainal Natural Division contains a landscape of the most recently glaciated portion of Illinois within the counties of Boone, DeKalb, DuPage, Kane, Lake, McHenry, Will, and Winnebago. Four distinct Sections within in the Division are recognized due to variations in topography, soil, glacial activity, flora and fauna. Drainage is poorly developed in some areas, thus abundant marshes, natural lakes, and bogs are distinctive features. Other areas have well-drained glacial outwash soils with seeps, fens, and springs. The Chicago lake plain and ancient beach ridge, bluff and panne communities provide unique critical habitat found only in the Northeastern Morainal Natural Division in Illinois. Higher gradient streams flow over gravel, cobble, and bedrock, providing good substrate for habitat and more stable stream bed characteristics compared to than many older' regions of Illinois with loess-dominated soils. Stable, rocky substrate, combined with significant ground water flow in some areas provides unique coolwater conditions for excellent gamefish populations and diverse non-game communities.

With such diverse wetlands, prairie, forest, savanna, lakes, and streams, the Northeastern Morainal Natural Division hosts the greatest biodiversity in Illinois. Along with the largest human population, northeastern Illinois also has the most extensive acreage of protected natural areas, which offer excellent active and passive recreational opportunities. Like most areas of the State, natural land cover has been extensively altered, although urbanization is considerably more extensive than elsewhere and expansion of development continues to be a major threat.

Major Habitats & Challenges

Forest - Including open woodlands and savannas, there are currently less than 270,000 acres of forest in the natural division, from a historical 765,000 acres. Fragmentation/edge effect from developments, too little oak regeneration due to lack of fire and other factors, lack of other timber management improvements, sugar maple infestation, buckthorn, other woody exotics, exotic insect pests (European ash borer, gypsy moth, Dutch elm disease), excessive deer browse, other nuisance animals such as feral cats, raccoons, cowbirds, drainage diversion and flood water.

Open Woodland/Savanna - fragmentation, lack of fire, past over-grazing, buckthorn and other woody exotic invasion, no seed bank, lack of mature, cavity-producing timber, excessive deer browse.

Grassland - Less than 245,000 acres remain. Fragmentation, dominance by exotic and invasive species, woody species invasion or natural succession to forest, nuisance animals including feral and domesticated cats.

Wetland - Historically, more than 568,000 acres occurred, but less than 72,000 acres at present. Drainage issues, including de-watering, impounding water too long, urban run-off, increased salinity, nutrient overload, filling, sedimentation, exotic species including reed canary grass, phragmites, purple loosestrife, carp and mute swans, and nuisance native animals such as beaver and Canada goose.

Lakes and Ponds - Lake County has 10,000 acres of large glacial lakes including Fox Chain, Loon, Deep, Diamond, Bangs, Lake Zurich, Timber, Turner, Little Silver, Long, and others. Sediment and shoreline erosion from heavy boating, invasive exotics (e.g., curlyleaf pondweed, water milfoil, zebra mussel), increased turbidity from agricultural and urban runoff and pollutants, loss of vegetative habitat due to excessive removal treatments of submersed aquatic vegetation, municipal wastewater discharge, road salt for de-icing, storm-water discharge and impermeable surfaces severely impacting water quality, nutrient input and eutrophication, isolation from wetland habitat by berms and spillways, dams, and shoreline development (i.e., riparian vegetation removal and seawall construction).

Streams - urbanization may be the most critical challenge to stream communities: increased point and non point sources pollution causing exacerbated nutrient levels, increased stream flow from higher impervious surface coverage, elevated water temperatures, increased demand for surface water, and dams.

Beach, Dune, Panne - ongoing battle with accelerated shoreline degradation and lack of sand nourishment, invasive and exotic species, hydrological alterations, nuisance beaver.

Challenges for All Community Types - Urbanization has numerous impacts, some irreversible, on all habitat types in the Northeastern Morainal Natural Division: altered hydrology, impervious surface, land clearing, filling; light, noise and air pollution, dams, runoff, siltation, nuisance-invasive plant and animal species, and others.

Opportunities

The Northeastern Morainal Natural Division has many sizable, potentially good quality habitats protected by public and private landowners. Landscape-scale management is facilitated by seven Forest Preserve Districts, two Conservation Districts, and the Illinois Department of Natural Resources. These landowners alone own over 183,900 acres of open space and fish and wildlife habitat. Three federal facilities, Fermilab, Argonne, and Fort Sheridan, contain an additional 8,500 acres of significant habitat. Much of the public land is concentrated around stream corridors, wetland, and lakes. Over 20,500 acres of public and private land within in the natural division are managed as Illinois Nature Preserves or Land and Water Reserves. Many partnerships with a multitude of public and private conservation organizations and institutions exist in the Northeastern Morainal Natural Division. Restoration and management goals for all major habitat types are being targeted by these partners.

Funding used by partners for terrestrial and aquatic habitat protection, acquisition and

restoration include federal (e.g., State Wildlife Grant Program, U.S. Army Corps of Engineers Material Services Fines and mitigation requirements, various U.S. Fish & Wildlife Service funds), state (e.g., OpenLand Trust, C-2000, Illinois Environmental Protection Agency 319 Nonpoint Source Pollution fund, Clean Energy Foundation) and local (Open Space Referendum) sources. Private resources come from organizations including Pheasants Forever, Ducks Unlimited, National Wild Turkey Federation, Smallmouth Bass Alliance, Illinois Muskie Alliance, Walleye Unlimited, and BASS.

Management Guidelines

Landscapes

Restoration and management of large, contiguous tracts of land will become more difficult as urbanization continues. New landscape-scaled projects are still possible in Boone, McHenry, Lake, Kane and DeKalb counties. Existing large areas throughout the natural division will benefit from on-going and planned restoration and management.

Forests: Increase by 8,000 acres. Restore and manage 20 sites >500 acres, 4-5 sites 800-1000 acres, and 100% of all remaining flatwoods

Savannas: Increase by 12,000 acres. Restore and manage 15-20 existing sites to >200 acres and 10 sites to >500 acres

Grasslands: Increase by 20,000 acres. Restore and manage 10-12 sites with >65% grass cover and >500 acres. Grassland complexes >3,000 acres should maintain at least 65% grassland cover. Restore and manage 100% of remaining dolomite and gravel prairie types

Wetlands: Increase by 1,500 acres. Restore and manage 15 sites of >1,000-acre complexes with several 50- to 100-acre wetlands community types including fens, panne, seeps/springs, and sedge meadow

Glacial lakes: Most glacial lakes are not protected. They are owned by an organization other than the State, Nature Preserve, or County. Many glacial lakes have homeowners associations making management decisions because of Illinois Water Law

Natural communities

Beach, dune, swale, panne, sand and other savannas, sand prairie, fen, forested fen, cattail marsh, cool water streams, gravel prairies, bog, graminoid fen, calcareous floating mat, seeps/springs, dolomite prairie, sedge meadow, glacial lakes, northern and sand flatwoods, vernal ponds

Critical Species

Insects: hoary elfin, swamp metalmark, Karner blue, elfin skimmer dragonfly, Hine's emerald dragonfly, silver-bordered fritillary, silvery checkerspot

Mussels: creek heelspitter rainbow, black sandshell, salamander mussel, slippershell, spike, and purple wartyback

Fish: Iowa darter, banded killifish, pugnose shiner, blacknose shiner, blackchin shiner, starhead topminnow, longnose sucker, lake sturgeon, lake chubsucker (indicator species), bowfin, brook trout (extirpated)

Amphibians: blue-spotted salamander, plains leopard frog, smooth green snake, Blanchard's cricket frog (Illinois Beach), wood frog.

Reptiles: Kirtland's snake, eastern massasauga, bull snake, western ribbon snake, spotted turtle, Blanding's turtle

Birds: Henslow's sparrow, bobolink, upland sandpiper, loggerhead shrike, American bittern, least bittern, Swainson's hawk, black-crowned night-heron, piping plover, black tern, northern harrier, yellow rail, black rail, common moorhen, sandhill crane, Wilson's phalarope, Forster's tern, common tern, greater yellowlegs, black-billed cuckoo, northern flicker, red-headed woodpecker, yellow-headed blackbird

Mammals: Franklin's ground-squirrel

Emphasis Game Species

White-tailed deer, gray and fox squirrel, eastern cottontail, beaver, wild turkey, resident and migratory waterfowl (especially Canada goose, mallard, wood duck), smallmouth bass, walleye, northern pike, muskellunge (native to Fox Chain system), yellow perch, flathead catfish, brown trout (reproducing in some streams)

Nongame Indicator Species

Forest - spotted salamander, wood frog, spring peeper, tiger salamander, barred owl, wood thrush, hairy woodpecker, gray squirrel, little brown bat

Open Woodland/Savanna - wood frog, six-lined racerunner, Cooper's hawk, red-headed woodpecker, eastern kingbird, Baltimore oriole, eastern bluebird, red bat, flying squirrel, fox squirrel, white-footed mouse

Grasslands - Plains garter snake, smooth green snake, bobolink, eastern meadowlark, Henslow's sparrow, meadow vole

Wetlands - marsh wren, northern leopard frog, common snapping turtle, sandhill crane, sora, yellow-headed blackbird, king rail, Virginia rail, pied-billed grebe, great egret, great blue heron, muskrat, meadow jumping mouse

Glacial Lakes - lake chubsucker, grass pickerel, warmouth, bowfin, blackstripe topminnow

Streams - American brook lamprey, American eel, stoneroller, suckermouth minnow, brassy minnow, creek chubsucker, lake chubsucker, freckled madtom, trout-perch, starhead topminnow, bluntnose darter, least darter, southern redbelly dace, speckled chub, pugnose minnow, slender madtom, mottled sculpin, rainbow darter

Beach & Panne/Dune - plant-host specific insect species, Olympia marblewing, Blanchard's cricket frog, eastern tiger salamander, meadow vole, meadow jumping mouse, least weasel, migratory shorebirds and raptors

Recreational Opportunities

Opportunities for recreation are outstanding due to the extensive acreage of publicly owned lands and the numerous programs offered by State, Regional, County and municipal Forest Preserve and Park District, including: birdwatching, guided nature hikes, canoe outings, river clean ups, stewardship opportunities, other passive wildlife and plant observations, "citizen scientists" data collection and restoration opportunities, biking, cross country skiing, canoeing, kayaking, and nature photography. Although hunting is limited in many areas, waterfowl hunting, trapping and deer hunting is excellent in some counties.

Angling opportunities are outstanding, with Lake Michigan, Chain-O-Lakes, other State Lakes, and the numerous Park and Forest Preserve District waters. One particularly good opportunity is larger river angling for smallmouth bass, walleye, sauger, channel catfish, flathead catfish, and white bass. Due to extensive public holdings and easy access along the major rivers wading and bank fishing opportunities are excellent.

Educational/Interpretive

Illinois Department of Natural Resources sites with Interpreters: Volo Bog, Illinois Beach State Park, Tri-County State Park; Chicago Urban fishing program, and Urban Fishing Program

Forest Preserve Districts and County Conservation Districts: Cook, DuPage, Lake, Kane, Will, McHenry, Boone, DeKalb, and Winnebago Counties all have interpretive facilities, various special events (National Public Lands Day), volunteer programs, and some have wildlife rehabilitation centers.

Museums, Zoos, Botanical Gardens, Universities: Field Museum of Natural History, Chicago Academy of Science, Shedd Aquarium, Brookfield Zoo, Lincoln Park Zoo, Chicago Botanic Garden, Morton Arboretum: all participate in research, have special events and have volunteer opportunities

City of Chicago and a multitude of Park Districts sponsor major events and provide urban volunteer projects in environmental stewardship.

Natural Resource Commodities

Guided waterfowl hunting, especially for Canada geese

Conservation Opportunity Areas

Crow's Foot Marsh - Coon Creek - Kishwaukee River

In 2002, The Boone County and the McHenry County Conservation Districts formed a partnership with the Illinois Department of Natural Resources to develop a conservation initiative aimed at preserving and enhancing habitat along the high quality Kishwaukee River and its tributary, Coon Creek. Initial effort is focused on conservation of open space - farms, wildlife habitat, and water resources through easements, incentive based programs or acquisition with willing participants or sellers. The feasibility study looked at a total area of about 16,500 acres. The study area includes portions of both the Kishwaukee River watershed and the Coon Creek watershed. The Kishwaukee River watershed has been identified as a "Unique Aquatic Resource" or class "A" stream. This area includes habitat for at least four state threatened species of birds and six endangered species of birds.

Funding: Illinois Clean Energy Community Foundation to conduct a feasibility study, Open Land Trust, Boone and McHenry County Conservation District, Natural Resources Conservation Service

Illinois Beach - Chiwaukee Prairie

The Chiwaukee Prairie Preservation Fund established a 40-year partnership to preserve and restore Chiwaukee Prairie in southeast Wisconsin. Partners include the Village of Pleasant Prairie, University of Wisconsin-Parkside, The Nature Conservancy - Wisconsin and the Wisconsin Department of Natural Resources. Potential exists for a larger agreement to manage critical beach, dune, swale habitat across state lines with Illinois Department of Natural Resources at Illinois Beach State Park and Lake County Forest Preserve District at Spring Bluff and Lyons Woods Nature Preserves. The District Restoration Ecologist has initiated contact with the Wisconsin partners. Reintroductions of rare insects and management of federally endangered species exist.

Lake-McHenry County Wetland Complex

Protected lands - Redwing Slough, Black Crown-Marsh, Chain O' Lakes, Moraine Hills, Volo Bog, Marl Flat, Sun Lake, Nippersink, Grant Woods, Gavin Bog & Prairie Wauconda Bog Nature Preserve, Broberg Marsh, Airstrip Marsh, Schreiber Lake Bog, Bangs Lake, Fairfield Road South Marsh, Fourth Lake Nature Preserve, Rollins Savanna and McDonald Woods Marsh.

Priority resources - several rare wetland types, including fens and bogs, rare wetland and grassland species – some not found elsewhere in Illinois; several hundred recently-protected acres are slated for wetland, prairie and savanna restoration.

Partners - Illinois Department of Natural Resources, Forest Preserve District of Lake County, McHenry County Conservation District.

Upper Des Plaines River Corridor

Protected lands: Van Patten Woods, Wadsworth Savanna Nature Preserve, Wetlands Demonstration Site, Gurnee Woods

Priority resources – Des Plaines River, wetland, sedge meadow, and savanna habitat; several threatened/endangered species, migratory birds

Conservation opportunities – Large areas are available for wetland, savanna, sedge meadow and floodplain forest restoration occur within this complex.

Contributors: Maggie Cole, Jim Anderson (Lake County Forest Preserve District), Ed Collins (McHenry County Conservation District), Roy Domazlicky, Tom Gargrave, Frank Jakubizek, Dan Kane (Boone County Conservation District) Dan Kirk, Dan Ludwig, Chris Mulvaney (Chicago Wilderness), Erik Neidy (Forest Preserve District of DuPage County), Deb Nelson, Steve Pescitelli, David Robson (Will County Forest Preserve District), Kim Roman, Vic Santucci, Wayne Vanderploug (Forest Preserve District of Cook County)