Overview

In 1990, Congress passed the Coastal Zone Act Reauthorization Amendments (CZARA) to the Coastal Zone Management Act (CZMA). Section 6217 of the CZARA addresses nonpoint source pollution problems in coastal waters. The amendments require state programs such as the Illinois Coastal Management Program (ICMP), which are funded through CZMA, to develop programs to implement measures that will control nonpoint source pollution, or 'management measures'. The National Oceanic and Atmospheric Administration (NOAA) administers CZMA and CZARA.

As part of the federal Coastal Zone Management program, the Illinois Coastal Management Program (ICMP) is now developing the program to reduce pollution of the state's coastal waters from nonpoint sources. Nonpoint pollution stems from a wide range of dispersed sources that are challenging to manage, such as runoff from roads, construction sites, eroding banks and numerous other types of diffuse pollution.

NPS pollution management measures must conform to the federal rules developed under the CZARA. The Illinois Department of Natural Resources (IDNR) houses the ICMP and is the lead at the state level to implement the program. Section 6217 of the CZARA requires that the geographic scope of each coastal nonpoint pollution program must be sufficient to ensure implementation of management measures to "restore and protect coastal waters." NOAA, in consultation with the US Environmental Protection Agency (USEPA), is required under this federal law to review and approve each state's nonpoint source pollution program.

This document is intended to define the State of Illinois' Coastal Nonpoint Pollution Control Program (CNPCP) and describes how nonpoint source pollution (NPS) controls will be implemented in Illinois' coastal zone (defined in Figure 1-1). In Chapter 1, we describe the authority background for the program including the proposed geographic area in which it will operate; the existing regulatory authorities underlying the program; and partner agencies that support the program. In Chapters 2 through 7 we address each of the major sources of nonpoint source pollution, such as agriculture, urban sources, etc. Each chapter considers the nature of the impact of that source in the Illinois coastal area and identifies existing management measures in place to control that pollution source. Chapter 8 examines the coastal waters identified as impaired and whether additional management measures are needed. Chapter 9 reports the outcomes of our engagement process with key stakeholders. This process was charged with identifying gaps in the existing management measures and with proposing additional steps to meet those needs. Once this program is approved by NOAA and USEPA, ICMP will be responsible for developing an implementation plan laying out specifics for carrying out the proposed actions in this document, particularly in Chapter 9.

Figure 1-1 Coastal Zone Map showing the Illinois Coastal Zone Boundary

Chapter 1. Introduction & Program Components

1.1. Setting

1.1.1. Geography

The Illinois coast extends 63 miles (101 km) along the southern-most reach of the western shore of Lake Michigan (Figure 1-1). The glacial processes that shaped the Great Lakes Region created the three major landforms of the Illinois coast. These include the Zion beach-ridge plain extending from the Wisconsin border south to North Chicago; the bluff coast from North Chicago to Winnetka where Lake Michigan meets steep glacial moraines dissected by ravines; and the lower-lying Chicago Lakeplain that was once submerged under earlier stages of Lake Michigan. Near the western limits of Chicago is a low-lying area that was uniquely useful as a passage between the Great Lakes and the Mississippi River basins. This passage has since been developed as part of the Chicago Sanitary and Ship Canal and was a primary driver for economic development of the region in the 20th century. The development of this canal drastically altered the flow of water in Illinois' section of the Lake Michigan Basin, effectively shifting the flow of most of the Chicago River watershed and parts of the Calumet River watershed into the Mississippi River Basin.

Land use/land cover in Illinois' coastal zone in the 21st century is largely developed for various urban uses: residential, commercial, industrial and transportation, with a fair proportion set-aside for recreation and preserves. A very small portion of the coastal zone is used for forestry and agriculture. Table 1-1 summarizes land use/land cover for the coastal zone, as taken from 2005 Chicago Metropolitan Agency for Planning (CMAP) Land Use Data. The trend in land use in the coastal zone involves conversion of remaining cropland to residential, industrial, commercial and open space (parks, forest preserves). The 2005 data shows 1.78% agricultural land, but according to the USDA's National Agricultural Statistics Service, cropland constitutes less than 0.7% of the coastal zone today.

Table 1-1 Land Use in the Illinois Coastal Zone

Anderson level I summary

Land Cover	Acres	Percentage
Urban	37227.1	60.15%
Agriculture	1098.8	1.78%
Open Space	12115.2	19.58%
Forest/Grassland/Wetland	8268.6	13.36%
Water *	3193.0	5.16%

Anderson level II summary

Land Cover	Acres	Percentage
Urban: Residential	21178.2	34.22%
Urban: Commercial	2920.2	4.72%
Urban: Civic	3579.1	5.78%
Urban: Industrial	4477.5	7.23%

Urban: Infrastructure	5071.9	8.20%
Agriculture: Crops	881.1	1.42%
Agriculture: Nursery, Greenhouse, Orchard	173.3	0.28%
Agriculture: Equestrian	44.3	0.07%
Open Space: Recreation	4068.3	6.57%
Open Space: Golf course	2118.2	3.42%
Open Space: Conservation	5646.8	9.12%
Open Space: Corridors	277.8	0.45%
Open Space: Other	4.1	0.01%
Vacant Forest & Grassland, Wetland	4758.9	7.69%
Construction activity	508.9	0.82%
Other vacant (abandoned buildings and rubble lots)	3000.8	4.85%
Water: Rivers and canals	1453.4	2.35%
Water: Lakes and Reservoirs *	1739.5	2.81%

* Lake Michigan waters not included in the figures on this page

Data and classifications from 2005 CMAP Land Use Data, Lake Michigan omitted (as it was a coastline buffer and not inclusive of the entire state boundary).

The river and streams in the coastal zone, particularly in Cook County, have been dramatically altered for flood control, wastewater management, and transportation purposes. The Chicago Area Waterway System (CAWS) includes the North Shore Channel (NSC), North Branch Chicago River (NBCR), Main Branch Chicago River, South Branch Chicago River (SBCR), Little Calumet River, and the Grand Calumet River. These Inland Waterway corridors intercept the lakeshore coastal boundary at three locations: 1) in Wilmette along Sheridan Road near Wilmette Harbor; 2) in the Chicago downtown area where Michigan Avenue crosses the Chicago River; and 3) in the Calumet area in far southeast Chicago and in Burnham.

The Coastal Zone is divided into 16 subwatersheds known as 12 digit HUCs, standing for Hydrologic Unit Codes as defined by the U.S. Geologic Survey (Table 1-2, Figure 1-2[1]). These subwatersheds are not fully contained within the Coastal Zone Boundary for a variety of reasons. Several of them cross state lines and so are located partly in Wisconsin or Indiana. All of the subwatersheds in Cook County have had their flow modified due to the creation of the CAWS (noted earlier), and so the boundary reflects only limited segments of the subwatershed with direct influence on Lake Michigan.

[1] Figure 2 and all following map figures are included in Appendix A. The long, narrow shape of the Illinois coastal zone makes it difficult to legibly show maps containing fine detail on a single page. Maps including this level of detail are split into six standardized sections and are collected in an appendix to facilitate reading of the document.

Table 1-2 Acreage of each HUC12 watershed inside the Illinois Coastal Zone Boundary

HUC Code	12-Digit HUC Name	Area Inside Coastal Zone (Acres)	Total Area (Acres)	% Inside Coastal Zone
40400010603	Calumet River-Frontal Lake Michigan	9,509.75	30,664.58	31.0%
40400020501	Waukegan River-Frontal Lake Michigan	29,473.51	31,245.20	94.3%
40400020502	Diversey Harbor-Frontal Lake Michigan	7,962.73	14,977.72	53.2%
40400020503	Oakwoods Cemetery-Frontal Lake Michigan	2,547.28	9,508.19	26.8%
40602000000	Lake Michigan	1,007,196.13	14,372,457.83	7.0%
71200030101	Skokie River	113.16	19,322.20	0.6%
71200030104	North Shore Channel	779.02	14,675.25	5.3%
71200030105	Middle North Branch Chicago River	9.62	18,156.96	0.1%
71200030106	Lower Branch Chicago River	1,355.36	26,982.25	5.0%
71200030107	South Branch Chicago River-Chicago Sanitary and Ship Canal	2,517.81	58,651.84	4.3%
71200030403	Calumet Sag Channel	72.10	22,131.41	0.3%
71200030405	Little Calumet River	109.37	26,779.14	0.4%
71200030407	Grand Calumet River-Little Calumet River	5,881.86	17,178.99	34.2%
71200040104	Jerome Creek-Des Plaines River	360.48	17,782.49	2.0%
71200040301	Sterling Lake-Des Plaines River	446.80	14,857.35	3.0%
71200040302	Bull Creek-Des Plaines River	465.08	32,329.87	1.4%

Data from USDA/NRCS Watershed Boundary Dataset (WBD) HUC12

1.1.2. Precipitation

The average annual total precipitation in Cook County is about 38.65 inches, while in Lake County it is slightly less at 34.36 inches. In Cook County 26.4 inches, or about 68 percent of the total, usually falls in April through October. In Lake County, about 20.57 inches, or 60 percent of the total, usually falls in May through October. Thunderstorms occur on about 38 days each year in both Cook and Lake Counties, and most occur between April and September.

The average seasonal snowfall in Cook County is 32.6 inches. The average seasonal snowfall in Lake County is 37.4 inches. On average, in Cook County approximately 45 days per year have at least 1 inch of snow on the ground while in Lake County, 27 days per year have at least 1 inch of snow on the ground.

1.1.3. Geology

The geologic framework for the Illinois coast began more than 460 million years ago, as marine sediments were deposited that now comprise the regional bedrock of Silurian dolomite. Subsequent deposition of shales and sandstone, provided the more easily erodible strata into which rivers could erode major drainage networks. The valleys associated with some of these ancient rivers guided the pathway for a series of continental ice sheets that advanced, and withdrew, over the past two million

years. These multiple glacial episodes resulted in the erosion of the Lake Michigan basin as well as shaping and reshaping the bedrock surface.

The present landscape is the result of the most recent glacial event, the Wisconsin episode. Glacial ice was receding from the Illinois coastal area about 14,000 years B.P. (before present). After the ice withdrew there was wide fluctuation of water level in the Lake Michigan basin. At its extreme high, lake level was as much as 60 feet (18 m) higher than today, and at its extreme low lake level was as much as262 feet (80 m) lower than today. Not until about 2,500 years B.P. did lake level begin to fluctuate within the seasonal and long-term range that has persisted through historical time.

The geologic history of the coastal area that we see today primarily relates to events of the past 15,000years. This history can be divided into two components of glacial processes and coastal processes.

As glacial ice withdrew from northeastern Illinois, the resulting end moraines provided high ground that acted as a dam to retain a series of elevated water levels within the Lake Michigan basin. The name "Lake Chicago" refers to the lake that formed in the southern part of the Lake Michigan basin between the glacial ice and the end moraines. During these times, lake water drained westward through the Chicago Outlet Valley, which is the prominent Y-shaped erosional valley that cuts through the morainal uplands west of Chicago.

Over the past 5,000 years there were complex coastal changes as both wave-induced deposition and erosion, shaped and reshaped the shore. All of the landscape of the Calumet area was shaped during this time, as declining lake levels and sand deposition formed spits and beach ridges forming high ground between the area's lakes and wetlands. North of Chicago, coastal erosion was dominant along the bluff coast. The historical position of the bluff coast is tens to hundreds of feet landward of where its position was several hundred to a thousand years ago.

1.1.4. Soils

The surficial geology of the region is predominantly depositional moraines, outwash plains, valley trains, filled lake basins, river flood plains, and sand dunes. The dominant material in the Illinois coastal zone is a compact, gray, silty and clayey till. The till may contain discontinuous layers of sand and gravelly sand. This till was deposited by glacial ice during the most recent (Wisconsin) glacial episode. The till is exposed along the coastal bluffs, as well as the material first encountered beneath most of the soils in the area. It also occurs beneath the beach and nearshore sand.

Beach sediments along the Illinois coast are a mix of sand and gravel. The primary source was coastal bluff erosion. Due to a lack of significant sediment supply, many of the beaches along the Chicago lakeshore are constructed beaches, built with placed sand, mined from the lake bottom off the western Indiana coast. Beach renourishment continues in such areas as Illinois Beach State Park with the import of sand from inland sand pits in western Lake County.

1.1.5. Physical Shoreline

Coastal engineering has altered or influenced changes along nearly all 63 miles (101 km) of the Illinois coast. The only remaining shoreline segments free of any shore-protection structures are a three mile (5 km) reach in the South Unit of Illinois Beach State Park, and adjoining shore to the south, as well as a few isolated locations along the bluff.

The most extensive historical shoreline change along the Illinois coast has occurred along the Chicago shoreline. Other areas of major historical shoreline change along the Illinois coast are at the north and south ends of the Zion beach-ridge plain respectively, near North Point Marina and Waukegan Harbor, and the area at and near Lake Calumet.

Shoreline change along the Chicago lakeshore began in 1833 with the entrapment of littoral sand against the north jetty at the Chicago River mouth. By 1869, nearly 70 acres of sand had accumulated had north of the north jetty.

In the late 1800s, there was continued filling to make land in the vicinity of the Chicago River mouth primarily for rail and maritime commerce. There was also growing interest in making new land for lakeshore parks. Chicago has a unique history among coastal cities in the planning and execution of extensive projects to build new shore land and shape the urban shoreline for public use.

The building of a park-dominated shoreline required constructing a new shoreline further in the lake, armoring this shoreline to prevent erosion, and building harbors and beaches at select locations. More than 5.5 square miles (14 km^2) of Chicago's lakefront land resulted from the late 19th and early 20th century lakeshore construction. Nearly all of the fill material was sand or clay either mined from the lake bottom or from dune deposits along the Indiana shore. A second generation of lakeshore construction began in the 1990s. This was needed to replace the original generation of timber and stone shore protection with steel sheetpile and reinforced concrete.

North Point Marina is a state-owned and operated, 1500-slip marina on the Lake Michigan shore just south of the Illinois-Wisconsin state line. The marina was constructed between 1987-1989. It is built along a shoreline that has the most severe erosion recorded along the Illinois coast. Shoreline recession has occurred at a long-term average rate of about 10 feet (3 m) per year. Prior to the State of Illinois acquiring this land in the 1970s, private residential property occupied the area.

Contrasting with the net erosion at the north end of the Zion beach-ridge plain near North Point Marina is the net accretion near the south end of the sand plain in the vicinity of Waukegan Harbor. The USACE became involved in constructing a harbor at Waukegan in 1852 and completed a harbor project in the 1880s. The present harbor footprint results from expansion and reconstruction that occurred between 1902 and 1906 and additional improvements built between 1930 and 1932. In 1984, the municipal Waukegan Marina was constructed on the south side of the original harbor complex.

Lake Calumet and the surrounding Calumet area have had substantial shoreline, river line and wetland modification as the landscape of this area was shaped and reshaped for industry, commerce and port facilities. Filling on the perimeter of Lake Calumet has reduced the present (1997) lake area to about 52

percent of what existed in the late 1890s. Filling has occurred on the margins of Wolf Lake, and all of former nearby Hyde Lake has been filled. River engineering has straightened and repositioned segments of the Calumet River. Unlike much of the filling along the Chicago lakefront which used sand and clay, slag from steel mills was a major component in much of the filling in the Calumet area.

The lakeshore municipalities north of Chicago each have municipal parks, and beaches along the shore. Many also have waterworks facilities, several of which are adjacent to parkland. Limited usable land at the base of the bluffs resulted in lake filling for parks or public utilities. These are typically localized shoreline modifications that are no more than a few acres. The following describes the three largest lake fillings north of Chicago.

1.1.6. Chicago Area Waterway System (CAWS)

In the mid-to-late 1800s, the Chicago River served as the main sewer for the city. This contaminated water discharged to Lake Michigan, which was also the source of Chicago's potable water. The engineering solution to this water-quality issue was construction of the Chicago Sanitary and Ship Canal. Under the jurisdiction and management of the Sanitary District of Chicago (SDC), now known as the Metropolitan Water Reclamation District of Greater Chicago (MWRD), this project was completed in 1900. The resulting 28-mile canal links the South Branch Chicago River with the Des Plaines River, a tributary of the Illinois River and part of the Mississippi River basin. The canal provided for commercial river traffic as well as allowing gravity-driven reversed flow in the South Branch Chicago River, and the Main Branch away from Lake Michigan.

The 1900 river diversion had no influence on the dynamics of the North Branch of the Chicago River. Times of low flow on the North Branch limited the movement of sewage in that section of the river. In addition, there was a need to prevent sewage to the lake discharge from communities immediately north of Chicago. In 1910 the SDC completed the North Shore Channel. The channel intercepted combined sewer discharge from Evanston and Wilmette. A sluice gate separated lake and channel water while allowing lake water to be brought into the channel to improve southward flow.

During times when river level was above lake level, the flow direction along the Main Branch could revert to flowing toward the lake. This problem was addressed in the 1930s by building bulkheads and controlling works, in the vicinity of the Chicago River mouth to form a physical barrier between the river and the lake. The Chicago Lock was completed in 1938 to provide navigation to either side of this physical divide. Originally built by the SDC, the Chicago Lock is now operated by the United States Army Corps of Engineers (USACE).

The Calumet Sag (or Cal-Sag) Channel was completed in 1922, linking the Little Calumet River with the Chicago Sanitary and Ship Canal. Widening and other canal improvements occurred in 1965. This canal provides commercial navigation as well as diverting river flow of the Little Calumet River away from Lake Michigan. The physical barrier between Lake Michigan water, and water of the Little Calumet River, is the O'Brien Lock and Dam. The lock and dam, completed in 1965, is a facility of the USACE.

1.1.7. Brownfields

Brownfields are abandoned or under-used industrial and commercial properties with actual or perceived contamination and an active potential for redevelopment. Brownfields exist in most Illinois municipalities and may include former gasoline stations, former dry-cleaners, sites with underground storage tanks, and large manufacturing facilities, among others.

In Illinois, similar to other Great Lakes cities, manufacturing industries established operations on or near the lakes. As the economy shifted after World War II, many firms and businesses left the central city for the suburbs. Older and less efficient operations closed or relocated away from the waterfront, leaving brownfields in their wake. In the northern region of the Illinois coastal zone, manufacturing industries were prevalent in Waukegan, while in the southern portion of the coastal zone the Calumet region was a major manufacturing and steel producing area.

There is no accurate number or complete list of brownfields in Illinois. In 2001, the city of Chicago alone had approximately 2000 brownfield sites comprising an estimated 13 percent of total city land (Great Lakes Commission 2001). In Illinois, sites can be enrolled in a Site Remediation Program (SRP), the state's voluntary cleanup program. There are 740 sites with an "active" status (working towards a No Further Remediation letter) for Cook County and 63 sites for Lake County. In addition, there are 1,931 Leaking Underground Storage Units (LUST) sites in Cook County and 342 LUST sites in Lake County. Not all brownfields are enrolled in the SRP and therefore these numbers do not reflect the total number of brownfields in Lake and Cook counties.

On the federal level, USEPA maintains the National Priorities List (NPL) which lists national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the USEPA in determining which sites warrant further investigation. There are 18 sites listed on the NPL for coastal zone municipalities; one of the sites is located in North Chicago while remaining sites are located either in Chicago or Waukegan. These sites are primarily former manufacturing facilities and waste storage/disposal facilities. They are in various stages of cleanup performed by USEPA under the Superfund program.

1.1.8. Fisheries

Lake and Cook counties have at least 77 species of fish, 16 bivalves, and 12 large crustaceans. The Lake Michigan fish community has undergone many changes in community composition. Historically, lake trout were the top predator in Lake Michigan and supported one of the largest fishery harvest of the Great Lakes. Yellow perch abundance has fluctuated but late 1980s and early1990s were peak years of yellow perch harvest.

Non-native salmonids have become an integral part of the Lake Michigan fish community and the sport fishery. Pacific salmon and various trout species have been stocked in Lake Michigan since the late 1960s. The purpose of the Pacific salmon introduction was to control alewife population growth and to create a put-grow-take sport fishery. The alewife, a fish native to the Atlantic Ocean first discovered in Lake Michigan in 1949, drastically altered the Lake Michigan food web and negatively impacted native

planktivores. Salmonid stocking in Illinois currently accounts for approximately 7% of the lakewide stockings. The Illinois annual stocking plan, which was revised in 2013, includes 230,000 Chinook salmon, 300,000 coho salmon, 100,000 rainbow trout, and 100,000 brown trout. In addition, 120,000 lake trout are stocked in Illinois waters by U.S. Fish and Wildlife Service. Alewife, rainbow smelt, and bloater chubs are naturally reproducing species in the Lake and comprise most of the food for Lake Michigan salmonids. Naturally occurring populations of largemouth bass, smallmouth bass, sunfish, northern pike, yellow perch, and members of the catfish family exist in nearshore areas of Lake Michigan.

Lake trout were extirpated from Lake Michigan by the 1950s due to overharvest, habitat degradation, and predation by the invasive sea lamprey. Stocking of lake trout began in 1965. The purposes for stocking these fish are to re-establish self sustaining lake trout populations and provide sport fishing opportunities. Rehabilitation has involved control of sea lamprey, determination of appropriate strains of lake trout since the native strains were lost, and management of harvest and impairments to fish habitat.

Historically, yellow perch abundance in the Illinois waters of Lake Michigan has varied greatly. Years of high harvest levels in the past have been countered more recently by years of poor harvests and low population levels. The relatively recent additions of aquatic invasive species, including zebra and quagga mussels and round goby, to Lake Michigan have altered the environment in which yellow perch thrived in the past. Additionally, the Eurasian ruffe was detected in northern Lake Michigan in 2002; this invasive species has displaced yellow perch in other waters (e.g., Duluth Harbor, Lake Superior) where it has become established. These potential changes require that managers continue to monitor yellow perch population levels and assess protective measures to sustain the population.

Several sport and non-sport fish species inhabit Illinois harbors and nearshore areas of Lake Michigan in summer. Concurrent with the decline of the yellow perch fishery over the past decade, there has been an increasing demand for sportfishing opportunities in nearshore areas and an increased interest in the nearshore sport fishery, especially for black bass.

Many aquatic species have disappeared altogether from the area in recent decades, due to polluted water, development, competition from aggressive non-natives, and other factors. The Iowa darter, which inhabits vegetated lakes and pools of quiet streams, still occurs in the Lake Michigan basin. However, the species was once widespread across the northern half of Illinois, but now it is found only in extreme northern Illinois and in one location in central Illinois. The State-threatened banded killifish also exists in Lake Michigan near shore areas.

1.1.9. Population

The coast is the major physical feature of the greater Chicago metropolitan statistical area, which in the 2010 census had a population of nearly 9.5 million people (U.S. Census Bureau 2008). This is the third largest metropolitan area in the nation, and the most densely populated coastal area in the Great Lakes Region. No other coastal area in the Great Lakes has been urbanized and engineered to the same degree as the Illinois coast.

The Illinois coastline extends from Wisconsin to Indiana. The northern portion is in Lake County; the southern part is in Cook County. Together these two counties contain about 46 percent of the Illinois population (U.S. Census Bureau 2010). Chicago is the largest municipality in both population and shoreline length, (22 miles, 35 km) comprising about 35 percent of Illinois' coast.

1.2. Purpose and Approach

1.2.1. Purpose of Program

The purpose of Illinois' Coastal Nonpoint Pollution Control Program is to reduce, control and, to the extent that it is feasible, eliminate nonpoint source (NPS) pollution that is causing, or could potentially cause, harm to the water quality of Lake Michigan and its connected waters.

1.2.2. Definition of Nonpoint Source Pollution

Even though the term "nonpoint source pollution" can be technically defined, the concept can be confusing. A wide variety of human activities and land use practices are potential nonpoint sources of pollution, even when many such activities and practices take place away from water.

Nonpoint source pollution is defined under Section 319 of the Clean Water Act as follows: "Land management activity or land use activity that contributes or may contribute to ground and surface water pollution as a result of runoff, seepage or percolation, and that is not defined as a point source (in Section 115.01, Subd. 15). Nonpoint sources include, but are not limited to, rural and urban land management activities, land use activities and specialty land use activities such as transportation" (Section 115.03, Subd. 6).

1.2.3. Illinois' Approaches to Controlling Nonpoint Source Pollution

Chapters II through VII of this Coastal Nonpoint Program document discuss in detail Illinois' statutes, rules, programs, etc., for each of the 55 federally defined management measures. As a prelude to that detailed discussion, this section describes more broadly how Illinois approaches the management of its nonpoint source pollution.

In addition to the information presented below (in this section of this Coastal Nonpoint Program document) as to how Illinois manages land use, water, and water quality, additional information on each of the six federally defined nonpoint source categories may be found elsewhere, in one or more of the following documents:

- *State of Illinois Coastal Management Program Document and Final Environmental Impact Statement.* Both documents are available online: http://www.dnr.illinois.gov/cmp/Pages/documentation.aspx
- *Illinois Nonpoint Source Management Program.* Available online: http://www.epa.state.il.us/water/watershed/publications/nps-management-program/index.pdf

Legal authority to control nonpoint source pollution is primarily vested in three entities of the State of Illinois: the Illinois Department of Natural Resources (IDNR), the Illinois Environmental Protection Agency (IEPA), and the Pollution Control Board (IPCB). IDNR is the state agency responsible for

implementation of the CNPCP, in partnership with IEPA. IDNR's mission is to manage, protect, and sustain Illinois' natural and cultural resources, further the public's understanding and appreciation of those resources, and promote the education, science and public safety of our natural resources for present and future generations. As the state's primary agency for management and protection of natural resources, the IDNR has been given broad regulatory authority, and management responsibility, for the coastal zone.

The ICMP is implemented through existing state land and water resource authorities, within state and federal rules and regulations. The statutory authorities and enforceable policies are both comprehensive and specific in regulating land and water uses. The authorities vested within the IDNR and the IEPA comprise the foundation for addressing coastal resource management. These statutory authorities, together with other existing cooperative and coordinating linkages between the IDNR and the IEPA, provide the jurisdictional framework to ensure proper implementation of the ICMP policies.

1.2.3.1. Rivers Lakes and Streams Act

Within Illinois statutes formal linkages exist between IDNR and other state agencies, some of which specifically relate to coastal non-point source pollution. Among these, the Rivers Lakes and Streams Act (RLSA) (615 ILCS 5) is particularly important. The RLSA gives IDNR jurisdiction and supervision over all of Illinois's rivers and lakes wherein the State or the public have any rights or interests (615 ILCS 5/5). It is the express intention of this legislation that close cooperation shall exist between the IPCB, the IEPA, and the IDNR and that every resource of State government shall be applied to the proper preservation and utilization of the waters of Lake Michigan.

State agency and state-local coordination is cited under this statute. It requires IDNR, IEPA, and all state agencies to exercise their authorities to protect the waters of Lake Michigan, which is a primary goal of ICMP.

Section 5/14a of the Rivers Lakes and Streams Act reads as follows:

> "It is the express intention of this legislation that close cooperation shall exist between the Pollution Control Board, the Environmental Protection Agency, and the Department of Natural Resources and that every resource of State government shall be applied to the proper preservation and utilization of the waters of Lake Michigan.
>
> "The Environmental Protection Agency shall work in close cooperation with the City of Chicago and other affected units of government to: (1) terminate discharge of pollutional waste materials to Lake Michigan from vessels in both intra-state and inter-state navigation, and (2) abate domestic, industrial, and other pollution to assure that Lake Michigan beaches in Illinois are suitable for full body contact sports, meeting criteria of the Pollution Control Board."
>
> "The Environmental Protection Agency shall regularly conduct water quality and lake bed surveys to evaluate the ecology and the quality of water in Lake Michigan. Results of such surveys shall be made available, without charge, to all interested persons and agencies. It shall

be the responsibility of the Director of the Environmental Protection Agency to report biennially or at such other times as the Governor shall direct; such report shall provide hydrologic, biologic, and chemical data together with recommendations to the Governor and members of the General Assembly."

"The requirement for reporting to the General Assembly shall be satisfied by filing copies of the report with the Speaker, the Minority Leader and the Clerk of the House of Representatives and the President, the Minority Leader and the Secretary of the Senate and the Legislative Research Unit, as required by Section 3.1 of "An Act to revise the law in relation to the General Assembly", approved February 25, 1874, as amended, and filing such additional copies with the State Government Report Distribution Center for the General Assembly as is required under paragraph (t) of Section 7 of the State Library Act. In meeting the requirements of this Act, the Pollution Control Board, Environmental Protection Agency and Department of Natural Resources are authorized to be in direct contact with individuals, municipalities, public and private corporations and other organizations which are or may be contributing to the discharge of pollution to Lake Michigan."

The RLSA provides for a range of enforcement mechanisms enabling IDNR and IEPA to prevent potential causes of nonpoint source pollution. In particular, coordination between IDNR and the IEPA is specified through a joint permitting requirement for structures and fill in Lake Michigan to protect Lake Michigan waters and the lands and waters of the public trust. The Act states:

"It is unlawful to make any fill or deposit of rock, earth, sand, or other material, or any refuse matter of any kind or description or build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, causeway, harbor, or mooring facilities for watercraft, or build or commence the building of any other structure, or do any work of any kind whatsoever in any of the public bodies of water within the State of Illinois, without first submitting the plans, profiles, and specifications therefor, and such other data and information as may be required, to the Department of Natural Resources of the State and receiving a permit therefor signed by the Director of the Department and authenticated by the seal thereof. However, this requirement does not apply to duck blinds which comply with regulations of the Department of Natural Resources."

"However, except as provided in this Act, no permit shall be issued or renewed authorizing any fill or deposit of rock, earth, sand, or other material, or any refuse matter of any kind or description in Lake Michigan unless the Illinois Environmental Protection Agency makes a final determination pursuant to subsection (a) of Section 39 of the Environmental Protection Act, as now or hereafter amended, that the proposed dredging or deposit of material will not cause a violation of the Environmental Protection Act or Pollution Control Board regulations."

"Nothing herein shall be construed to authorize the discharge or other disposition of materials of any kind into Lake Michigan without first obtaining a joint permit from the Department of Natural Resources and the Illinois Environmental Protection Agency. Any person, corporation,

company, city or municipality, or other agency, who or which (1) discharges or disposes of any such materials into Lake Michigan without a permit or in violation of a permit, or (2) does any of the things prohibited by this Section shall be guilty of a Class A misdemeanor."

The RLSA also provides authority to IDNR for permitting any work of any kind (fill, deposit, dredging, building, etc.) in any public body of water in the State (615 ILCS §5/18). For any structure or fill in Lake Michigan, IDNR must evaluate the potential of the activity to result in bank or shoreline instability on other properties (17 Ill. Adm. Code 3704). If it is determined that the activity would likely cause shoreline erosion or other negative impacts, the applicant is required to submit the supplemental information about the measures to be provided in the project design, construction and operation which would minimize and/or mitigate those impacts. Construction projects in Illinois waterways, floodplains and wetlands often require both state and federal authorization. In furtherance of a coordinated permit review process, a Memorandum of Agreement was signed in 1982 to simplify the approval process for the applicants seeking project authorization from the U. S. Army Corps of Engineers, the IDNR Office of Water Resources, and the IEPA. This resulted in the use of a joint permit application.

Other enforcement mechanisms conferred by RLSA to IDNR include the ability to enter into agreements for the extraction of materials and minerals from the bed or below the bed of any public waters within the State (615 ILCS §5/18a, 18b, 18d); permitting requirements for construction in floodplains (615 ILCS §5/18f); and the authority to exercise administrative jurisdiction and control over the bed of Lake Michigan, which is held in trust by IDNR for the benefit of the People of the State of Illinois (615 ILCS §5/24).

The RLSA gives IDNR the power and authority to inquire into encroachments upon, wrongful invasion and private use of every stream, river, lake or other body of water in which the State of Illinois has any right or interests (615 ILCS §5/7). In conjunction with this authority, the department has the power to make and enforce such orders as will secure every stream, river, lake or other body of water, in which the State of Illinois has any right or interest against encroachment, wrongful seizure or private use (615 ILCS §5/7). Any attorney authorized by IDNR has the power to enforce the Act through necessary suits or actions (615 ILCS §5/25).

IDNR is authorized by the RLSA to carry out inspections of any dam within the State, and to establish standards and issue permits for the safe construction of new dams and the reconstruction, repair, operation and maintenance of all existing dams (615 ILCS §5/23a). This includes the power to compel the installation of fishways in dams wherever deemed necessary, and establish by rule minimum water levels for water behind dams on streams and rivers as necessary to preserve the fish and other aquatic life and to safeguard the health of the community.

1.2.3.2. Illinois Environmental Protection Act

IEPA's authority to control nonpoint source pollution is evident through its compliance with Section 319 of the Clean Water Act (CWA). One purpose of the CWA is the expeditious development and implementation of programs for the control of nonpoint sources of pollution (33 U.S.C. §1251(a)(7)). In this regard, the CWA requires that Illinois identify those laws or authorities which certify IEPA as the

state water pollution control agency responsible for developing and implementing the Nonpoint Source Management Program (33 U.S.C. §1329). Section 319 requires, among other things, the development of state management programs for controlling pollution to navigable waters from nonpoint sources.

IEPA's Nonpoint Source Management Program was initially approved by the USEPA on January 3, 1990, and it continues to meet the requirements for federal approval. Section 4(l) of the Illinois Environmental Protection Act ("Act") designates IEPA as the "water pollution control agency" for the state. 415 ILCS §5/4. IEPA is authorized under Section 4(l) to take necessary action to secure the benefits of the CWA and other federal acts, which includes the nonpoint source pollution programs and Section 6217 of the CZARA (415 ILCS §5/4(l)).

Other provisions of the Act provide additional authority for IEPA to act with respect to nonpoint source pollution measures. Section 12 broadly prohibits any actions that could cause water pollution in the state, and requires a permit from IEPA for construction capable of causing or contributing to water pollution (§415 ILCS 5/12). In addition, Section 4(k) of the act authorizes IEPA to "...accept, receive, and administer on behalf of the State any grants, gifts, loans, indirect cost reimbursements, or other funds made available to the State from any source for purposes of the Act or for air or water pollution control, public water supply, solid waste disposal, noise abatement, or other environmental protection activities, surveys, or programs" (415 ILCS §5/4(k)). This same provision gives IEPA authority to promulgate regulations and enter into contracts as necessary to carry out these functions. *Id*. Section 4(m) of the Act authorizes IEPA to engage in planning processes and activities and to develop plans in cooperation with units of local government, state agencies and officers, and other appropriate persons in connection with the jurisdiction or duties of each such unit, agency, officer, or person (415 ILCS §5/4(m)).

Similarly, the IPCB has broad legal authority pursuant to the Act to establish pollution control standards. Section 5 enables the IPCB to "determine, define and implement the environmental control standards applicable in the State of Illinois" and may adopt rules and regulations to that effect (415 ILCS §5/5(b)). Along the same lines, the Board has the authority to act for the State in regard to the adoption of standards for submission to the United States under any federal law respecting environmental protection (415 ILCS §5/5(c)). To enforce these standards the IPCB has authority to promulgate permit standards and any rules necessary to implement and participate in the National Pollutant Discharge Elimination System ("NPDES", 415 ILCS §5/13; 415 ILCS §5/27. Section 31 of the Act sets the basic framework for environmental compliance assurance and enforcement (415 ILCS §5/31), and IEPA can assess civil penalties for violations of NPDES requirements or state water quality standards (415 ILCS §5/42). IEPA also has authority related to any fill or deposit into Lake Michigan, as noted in subsection (a) of Section 39 of the Act, to ensure that proposed dredging or deposit of material will not violate the Act or IPCB regulations (415 ILCS §5/39).

IEPA is authorized to implement the "Site Remediation Program," which establishes the procedures "for the investigative and remedial activities at sites where there is a release, threatened release, or suspected release of hazardous substances, pesticides, or petroleum and for the review and approval of those activities" (415 ILCS 5/58.1(a)(1)).

1.2.3.3. Other Illinois Statutes Managing Nonpoint Pollution

In addition to the RLSA and the Illinois Environmental Protection Act, a range of other state legislation supports the ICMP and control of nonpoint pollution in Illinois.

- Illinois Endangered Species Protection Act (520 ILCS §10/11). Authorizes IDNR for the environmental consultation process for impacts to threatened and endangered species and natural areas.
- Illinois Natural Areas Preservation Act (525 ILCS 30/17). Also supports IDNR's authorization for the environmental consultation process for impacts to threatened and endangered species and natural areas.
- Flood Control Act of 1945 (615 ILCS §15/2). Authorizes IDNR to control flooding in Illinois. This includes, among other powers, the authority to examine, construct, control, or supervise all works for "the control of floods, the improvement of upland and bottom land drainage and the conservation of low water flows in the rivers and waters of Illinois, including the watersheds thereof, either independently or in cooperation with the United States government, State agencies, units of local government and school districts in connection with such work."
- Water Pollutant Discharge Act (415 ILCS §25/2415 ILCS §25/3). Prohibits the discharge of oil or other pollutants in quantities which exceed the standards adopted by the IPCB, directly or indirectly into the waters of any river, stream, watercourse, pond, or lake wholly or partly within the territorial boundaries of the State of Illinois.
- Lake Michigan Shoreline Act (615 ILCS §55/1) Enables the Office of Water Resources within IDNR to cooperate with appropriate federal, state, and local agencies to devise effective means or methods of preventing erosion of the shore of Lake Michigan. To that end, IDNR may enter into agreements with the proper agencies of the United States government, municipal corporations or political subdivisions of the State or any public or private corporation, organization or individual. Among other things, the agreements may provide for joint undertakings and contributions of funds or other resources to perform or accomplish any work agreed upon between the parties to such agreements.

  This Act provides the means or methods of preventing erosion along the shore of Lake Michigan and empowers the IDNR to enter into agreements to accomplish such.
- Marine Plastic Pollution Research and Control Act (33 U.S.C. §1901 *et seq*.). This federal law restricts the overboard discharge of garbage and makes it is illegal to dump plastic, paper, rags, glass, metal, crockery, etc. into any water body. The law is typically enforced by marine police, such as IDNR Conservation Police Officers, who may exercise their powers anywhere in the state (20 ILCS §805/805-535).
- Boat Registration and Safety Act (625 ILCS §45/2-1). IDNR Conservation Police Officers have a duty to enforce this act.

- Illinois Groundwater Protection Act (415 ILCS 55/4) (from ch. 111 ½. par. 7454) Sec. 4a. There shall be established within State government an interagency committee which shall be known as the Interagency Coordinating Committee on Groundwater. The Committee shall be composed of the Director, or his designee, of the following agencies:

- Illinois Environmental Protection Agency, who shall chair the Committee
- Illinois Department of Natural Resources
- Illinois Department of Public Health
- Office of Mines and Minerals within the DNR
- Office of the State Fire Marshall
- Office of Water Resources of the DNR
- Illinois Department of Agriculture
- Illinois Emergency Management Agency
- Illinois Department of Nuclear Safety
- Illinois Department of Commerce and Economic Opportunity

- Interagency Wetland Policy Act of 1989 (20 ILCS 830/2-1) (from ch.96 ½, par.9702-1) An Interagency Wetlands Committee, chaired by the Director of the Department of Natural Resources or his representative, is established. The Directors of the following agencies, or their respective representatives, shall serve as members of the Committee:
  - Capital Development Board
  - Department of Agriculture
  - Department of Commerce and Economic Opportunity
  - Environmental Protection Agency
  - Department of Transportation
  - Historic Preservation Agency

  The Interagency Wetlands Committee shall also include 2 additional persons with relevant expertise designated by the Director of the Department of Natural Resources. The IDNR offices carry out these responsibilities in conjunction with or with the advice and recommendations of various boards and commissions, as follows:

  - Council on Forestry Development
  - Illinois Endangered Species Protection Board
  - Illinois Geographic Information Council
  - Illinois Nature Preserves Commission
  - Illinois State Museum Board
  - Natural Resources Advisory Board
  - Oil and Gas Board
  - State Mining Board

- Executive Order 10-14 that established the Illinois Coastal Management Program within the Illinois Department of Natural Resources also formalized the linkages between state agencies.

  "…I hereby direct all state agencies to carry out their legally established duties consistently with this program and in a manner which promotes coordination among those agencies in achieving its goals and objectives…"

Certain municipal ordinances also play a major role in the prevention of coastal nonpoint pollution in Illinois in the State's two coastal counties and in the City of Chicago.

- Cook County Watershed Management Ordinance (55 ILCS §5/5-1062.1; 70 ILCS 2605/1 *et. seq.).* The Metropolitan water Reclamation District of Greater Chicago (MWRD) has the authority for administering this ordinance.
- Lake County Watershed Development Ordinance (55 ILCS §5.5-1062) The Lake County Stormwater Management Commission (SMC) is authorized for administering this ordinance and provides technical assistance to communities on stormwater issues.
- City of Chicago

1.2.4. Selected Illinois Statutes, Rules , Executive Orders and Permits