Illinois Coastal Management Program

DRAFT Section 309 Assessment and Strategy

2016-2020

Prepared by:

Illinois Coastal Management Program

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Introduction

The U.S. Congress passed the Coastal Zone Management Act (CZMA) in 1972. The goal of the Act is to preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone. This Act, administered by the National Oceanic and Atmospheric Administration (NOAA), provides for the management of the nation's coastal resources, including the Great Lakes.

The CZMA outlines the National Coastal Zone Management Program (NCZMP), which comprehensively addresses the nation's coastal issues through a voluntary partnership between the federal government and coastal and Great Lakes states and territories. There are 34 coastal states and island territories that participate in the National Coastal Zone Management Program. The NCZMP outlines basic requirements that the states must follow and gives states the flexibility to design unique programs that best address their coastal challenges and regulations. The program provides the basis for protecting, restoring, and responsibly developing our nation's diverse coastal communities and resources and by leveraging both federal and state expertise and resources, the program strengthens the capabilities of each to address coastal issues.

The State of Illinois joined the NCZMP on January 31, 2012, establishing the Illinois Coastal Management Program (ICMP). The Illinois Department of Natural Resources (IDNR) is the lead agency administering the ICMP and coordinating with a network of other state agencies to ensure program compliance.

Section 309 Process

Section 309 of the CZMA established a voluntary grants program to encourage states and territories to strengthen and improve their federally approved coastal management programs in one or more of nine areas. These "enhancement areas" include:

- Wetlands
- Coastal hazards
- Public access
- Marine debris
- Cumulative and secondary impacts
- Special area management plans
- Great Lakes resources
- Energy and government facility siting
- Aquaculture

Every five years, states and territories are encouraged to conduct self-assessments of their coastal management programs (Section 309 assessment) to determine problems and opportunities within each of the nine enhancement areas. Assessment and strategy development follows a process outlined in NOAA's guidance document, *Coastal Zone Management Act, Section 309 Program Guidance, 2016 to 2020 Enhancement Cycle*. Submittal of a comprehensive Section 309 plan and approval of the plan by

NOAA will make ICMP eligible to receive Section 309 funds to implement strategies for the 2016-2020 fiscal years.

Section 309 assessment process is broken down into a high-level Phase I evaluation performed for all nine enhancement areas, and an in-depth Phase II assessment and strategy development performed for high priority areas identified through the Phase I process. The Phase I and Phase II assessment was completed by the ICMP staff using templates and resources provided by NOAA. Key stakeholder input and ICMP knowledge of the issue are also reflected in the assessment. Where feasible, ICMP attempted to analyze data for the resources located within the Coastal Zone boundary. If that level of detail was not available, data was analyzed at the county level (Cook and Lake Counties) and the extent of analysis has been noted in the assessment tables.

As part of the Phase I assessment, ICMP assigned a priority level to the nine enhancement areas as presented in the below table. Enhancement areas ranked as "High Priority" were then further assessed during the Phase II evaluation process. Following the Phase II assessment, ICMP developed strategies to address high priority issues identified in the assessments.

Enhancement Area	Phase I Priority
Wetlands	Medium
Coastal hazards	High
Public access	High
Marine debris	Medium
Cumulative and secondary impacts	Medium
Special area management plans	Medium
Great Lakes resources	Medium
Energy and government facility siting	High
Aquaculture	Low

This is the first time that ICMP is performing a Section 309 assessment. Questions related to changes since the last assessment are not applicable to ICMP and have been noted as such. However, ICMP staff did request a legal review of changes that occurred in the past three years to statutes, regulations, and programs for the management characterization section of each enhancement area. This was done to gain a better understanding of the changes to programs and regulations that could affect ICMP in the future. Notable changes are indicated on each enhancement area template.

Summary of Recent Section 309 Activities

This is the first Section 309 strategy and assessment performed by ICMP. As such, there are no previous Section 309 activities to summarize.

Stakeholder Input

ICMP organized two stakeholder meetings in order to gather input on Phase I priorities. The first meeting took place on October 31, 2014 and engaged members of the ICMP's Technical Advisory Group (TAC). Participants included:

- Tom Heavisides, IDNR – Office of Land Management
- Nancy Holm, Illinois Sustainable Technology Center
- Dan Injerd, IDNR – Office of Water Resources
- Geoff Levin, Illinois Natural History Survey
- Chris Rollins, IDNR – Office of Land Management
- Vic Santucci, IDNR – Office of Resource Conservation
- Amy Walkenbach, Illinois Environmental Protection Agency

The second meeting was held on November 3, 2014 with ICMP's Coastal Advisory Group (CAG). Participants included:

- Joel Brammeier, Alliance for the Great Lakes
- Pat Dipersio, Village of Winthrop Harbor
- Bob Dornicker, Evanston Park & Recreation District
- Carrie Haberstich, Village of Skokie
- Angela Larsen, Lake Michigan Ecosystem Partnership
- Tim Loftus, Chicago Metropolitan Agency for Planning
- Debbie Maurer, Lake County Forest Preserve District
- Joe McRae, Evanston Park & Recreation District
- Mike Prusila, Lake County Stormwater Management Commission
- Ernest Roberts, Robinson Engineering, Calumet City
- Steve Saunders, Village of Winnetka
- Joseph Schuessler, Metropolitan Water Reclamation District
- Chris Stachewicz, Village of Lincolnwood
- Rick Stumpf, Park District of Highland Park
- Michelle Uting, Forest Preserves of Cook County

During these meetings, ICMP shared their preliminary Phase I analysis with TAC and CAG members and solicited input on the issues and preliminary ranking of enhancement areas. Input from TAC and CAG members was very beneficial for determining final priority levels and has been incorporated into the assessment. A summary of stakeholder input is provided for each enhancement area as part of Phase I templates. ICMP solicited further input from other IDNR divisions as well as other agencies to aid in Phase II analysis and to develop strategies.

As part of the process, this draft will be made available for public comments for a period of at least 30 calendar days. Once the comment period is over the document will be updated, as practical, based on the comments received and the comments will be incorporated into an Appendix.

Phase I Assessments

Wetlands

Section 309 Enhancement Objective: Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands. §309(a)(1)

Note: For the purposes of the Wetlands Assessment, wetlands are "those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." [33 CFR 328.3(b)]. See also pg. 17 of the CZMA Performance Measurement Guidance[3] for a more in-depth discussion of what should be considered a wetland.

Resource Characterization:

1. Using provided reports from NOAA's Land Cover Atlas or high-resolution C-CAP data (Pacific and Caribbean Islands only), please indicate the extent, status, and trends of wetlands in the state's coastal counties. You can provide additional or alternative information or use graphs or other visual to help illustrate or replace the table entirely if better data are available.

Coastal Wetlands Status and Trends in the Coastal Zone					
Wetlands	**Total acres 2001**	**Total acres 2006**	**Total acres 2011**	**Change 2001-2011**	**Change 2006-2011**
Emergent herbaceous	2,658.29	2,796.17	2,853.11	7.33 %	2.04 %
Woody	2,180.81	1,995.55	1,967.31	-9.79 %	1.42 %
Total wetlands	4,839.09	4,791.72	4,820.41	- 0.39 %	0.60 %

ICMP is using a modified table to present data for wetlands within the Coastal Zone boundary. NOAA-provided data supplies county-wide information, most of which is not applicable to the Coastal Zone due to the limited extent of the ICMP boundary as compared to the total size of the counties (the land-based portion of the ICMP boundary covers approximately 6.9% of land in Cook and Lake Counties).

The National Land Cover Database was used to obtain information for the wetland status and trends table for the coastal zone. The database offers historical snapshots that provide changes in wetlands over time. Wetland types included in the calculations include only emergent herbaceous wetlands and woody wetlands - open water is not included. Please note – the starting point for the National Land Cover Database is 2001 instead of 1996 originally indicated in the NOAA template table.

County-wide, there was a 2.36% decrease in wetlands in Cook County from 1996 to 2010 and a 0.45% increase in wetlands in Lake County in the same time period.

How Wetlands Are Changing		
Land Cover Type	**Area of Wetlands Transformed to Another Type of Land Cover between 2001-2011 (Acres)**	**Area of Wetlands Transformed to Another Type of Land Cover between 2006-2011 (Acres)**
Development	161.24	20.68
Agriculture	2.22	0.44
Barren Land	12.23	9.79
Water	26.24	26.24

Modifications from the original NOAA table – changes are presented for a time period 2001-2011 instead of 1996-2011. Data presented in acres instead of square miles.

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of coastal wetlands since the last assessment to augment the national data sets.

Based on information compiled as part of the Illinois Coastal Nonpoint Pollution Control Program (ICNPCP), fifty-four percent of wetlands and riparian acreage in the Illinois coastal zone is in protected status, i.e. owned by a park district, forest preserve, IDNR, etc. (ICNPCP, 2014). Unlike the Section 309 wetlands data, wetland calculations used in the ICNPCP include open water; therefore the data is not directly comparable between these two documents. However, the ICNPCP number shows that a large percentage of wetlands are owned by land-holding organizations.

Management Characterization:

1. Indicate if there have been any significant changes at the state or territory level (positive or negative) that could impact the future protection, restoration, enhancement, or creation of coastal wetlands since the last assessment.

Management Category	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	N/A
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

This is the first Section 309 assessment that the ICMP is conducting. The ICMP became established three years ago (January 2012) and therefore ICMP staff reviewed changes to statutes, regulations, policies,

and agency programs that have been implemented in the last three years. Notable programs and developments are mentioned below.

Millennium Reserve

This initiative has increased the overall focus on the environment in the Calumet region, including protection and restoration of wetlands. The initiative is considered a significant positive change that focuses resources and attention on the region.

Illinois Wildlife Action Plan

The Wildlife Action Plan established the Wetlands Campaign. The Campaign works throughout the state but it focuses on priority regions, currently none of which are in the coastal zone. The Illinois Department of Natural Resources (IDNR) is considering developing a Lake Michigan Conservation Opportunity Area as part of the Illinois Wildlife Action Plan. The IWAP, including the Wetlands Campaign, is currently undergoing a revision that will be completed in 2015.

Natural Resources Restoration Trust Fund, Public Act 98-1010 (added at 30 ILCS 105/5.855)

This change amended the State Finance Act to create the Natural Resources Restoration Trust Fund. The Trust receives deposits of moneys from settlements for damage to natural resources and deposited funds can be used by IDNR for the investigation, assessment, restoration or replacement of injured or damaged natural resources. The Natural Resources Trust Fund was already in existence when this Act was passed but had never been officially established in the State Finance Act. No new funds were appropriated into the Trust. The outcome of the Act was to codify current practice, giving IDNR explicit statutory authority to use funds deposited in the Natural Resources Restoration Trust Fund. Funds from the Natural Resources Restoration Trust Fund have been used for wetland restoration programs, and could be used for wetlands in the Coastal Zone.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	
Medium	**X**
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Wetlands were ranked as a medium priority for Section 309 work. Historically, there has been an extensive wetland loss across the coastal area and there is a need to restore wetlands that are left in the Coastal Zone. However, a significant percentage of wetland acreage is already in a protected status and under management.

Stakeholders who were engaged through the Technical Advisory Committee (TAC) and the Coastal Advisory Group (CAG) were generally in agreement that wetlands are a high priority. TAC members emphasized the opportunities to refine data about coastal area wetlands, indicating there is a need for better data identifying remaining wetlands and determining their quality or degree of degradation. In the context of other Section 309 priorities, stakeholders supported the idea from staff to incorporate opportunities for enhancing and expanding coastal wetlands as part of the Coastal Hazards strategy in relation to stormwater issues. Although wetlands were ranked as medium priority for this assessment,

ICMP has been involved in wetland restoration through Section 306 and 306A funds and plans to continue supporting other land management agencies in their wetland restoration work through those means.

Coastal Hazards

Section 309 Enhancement Objective: Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change. §309(a)(2)

Note: For purposes of the Hazards Assessment, coastal hazards include the following traditional hazards and those identified in the CZMA: flooding; coastal storms (including associated storm surge); geological hazards (e.g., tsunamis, earthquakes); shoreline erosion (including bluff and dune erosion); sea level rise; Great Lake level change; land subsidence; and saltwater intrusion.

Resource Characterization:

1. **Flooding:** Using data from *NOAA's State of the Coast* "Population in the Floodplain" viewer and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure, indicate how many people were located within the state's coastal floodplain as of 2010 and how that has changed since 2000. You may to use other information or graphs or other visuals to help illustrate.

Population in the Coastal Floodplain			
	Population in 2000	**Population in 2010**	**Change 2000-2010**
Number of people in coastal floodplain	232,238	248,709	6.62%
Number of people in coastal counties	6,021,097	5,898,137	-2.04%
Percentage of people in coastal counties in coastal floodplain	3.86%	4.22%	0.36%

Questions 2 and 3 are not applicable to the Illinois Coastal Management Program.

4. **Other Coastal Hazards:** In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The state's multi-hazard mitigation plan is a good additional resource to support these responses.

Type of Hazard	General Level of Risk (H, M, L)
Flooding (riverine, stormwater)	High
Coastal storms (including storm surge)	High
Geological hazards (e.g., tsunamis, earthquakes)	Low
Shoreline erosion	High (in Lake County)
Great Lake level change	Medium
Land subsidence	Low

5. If available, briefly list and summarize the results of any additional data or reports on the level of risk and vulnerability to coastal hazards within your state since the last assessment.

County-wide hazard mitigation plans were reviewed to gather more information and also to further understand the general level of risk for various hazards included in the above table.

Lake County Hazard Mitigation Plan indicates that the most prevalent natural hazards in Lake County are flooding, winter storms, and tornadoes. Seiche events impact Lake County and the Chicago area approximately once a year, with water levels rising 2 to 3 feet during such an event. The potential of bank erosion in Lake County is relatively high due to the number of steep slopes, streams, and channels in the Lake Michigan watersheds. There has been no recorded history, however, of landslides in Lake County.

The Cook County Hazard Mitigation Plan indicates that in the past seven years, there have been three presidential disaster declarations for severe storms; one for snow; and one for flooding. Flood damage is increasing in the Chicago River – North Branch watershed. Main reasons for increased urban flooding are urbanization of upland areas and increased rate and volume of stormwater runoff. Cook County experiences episodes of river flooding almost every year, and flooding can occur in any season. Large floods that can cause property damage typically occur every three to seven years. Portions of the County annually experience nuisance flooding related to drainage issues.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred that could impact the CMP's ability to prevent or significantly reduce coastal hazards risk since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these that address:			
elimination of development/redevelopment in high-hazard areas	Yes	Yes	N/A
management of development/redevelopment in other hazard areas	Yes	Yes	N/A
climate change impacts, including sea level rise or Great Lake level change	Yes	Yes	N/A
Hazards planning programs or initiatives that address:			
hazard mitigation	Yes	Yes	N/A
climate change impacts, including sea level rise or Great Lake level change	Yes	Yes	N/A
Hazards mapping or modeling programs or initiatives for:			
sea level rise or Great Lake level change	Yes	Yes	N/A
other hazards	Yes	Yes	N/A

2. Briefly state how "high-hazard areas" are defined in your coastal zone.

The ICMP's Program Document does not contain a definition or designation of "high-hazard areas" for the Coastal Zone. The document identifies Areas of Particular Concern (APC) which have important coastal-related values or characteristics, or may face pressures which require detailed attention beyond the general planning and regulatory system. Designation of APCs entails considerations of hazards under Section 923.21(7) as follows:

Areas where, if development were permitted, it might be subject to significant hazard due to storms, slides, floods, erosion, settlement, salt water intrusion, and sea level rise;

Hazard areas are addressed as part of the APC Category for "Areas that protect, maintain or replenish coastal lands and significant resources subject to storms, floods, erosion, and settlement, including floodplains, wetlands, sand dunes, natural areas, offshore sand deposits, recreational areas, ports, lakefronts, marinas, public utilities, roads, infrastructure, and historic structures."

Hazards identified as part of this APC include erosion occurring on the coastal shoreline, in the ravine systems, and in the Waukegan River. APCs also include the Illinois Beach State Park and North Point Marina, including the Dead River and Kellogg Creek watersheds.

3. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

A legal review found no statutory, regulatory, policy, or case law changes relating to the elimination of development in high-hazard areas, the management/ redevelopment in other hazard areas. However, IDNR promoted a law change creating a task force to study urban flooding and proposed a rule change aimed at water conservation in Lake Michigan.

<u>Urban Flooding Awareness Act, Public Act 98-858 (adding 315 ILCS 35/1-99)</u>

The Act requires IDNR, in collaboration with various other governmental and non-governmental entities, to conduct an urban flooding study and produce a report containing recommendations on issues of urban flooding. The study will evaluate trends in flood frequency and severity, the impact of climate change, policies, technologies, strategies for minimizing damages, and other related issues. The likely outcome is that findings and recommendations will help decision makers generate policies and regulations mitigating the impacts of urban flooding.

<u>Proposed Amendments to 17 Ill. Adm. Code 3730, Allocation of Water from Lake Michigan</u>

The proposed rule change would require individuals and entities with permits to use water from Lake Michigan to limit "non-revenue water" (or the difference between the net amount of water pumped annually and the water billed for) to 12% by 2015 and 10% by 2019. It also adds new permit conditions to require current water conservation practices. The proposed amendment has not been

approved yet – expected approval date is beginning of 2015. This change was not driven by 309. As proposed, the likely outcome of this rule is to update IDNR's water conservation requirements to reflect current best management practices and technologies.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	**x**
Medium	_____
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

ICMP staff considered both coastal erosion and flooding issues in designating this enhancement area as a high priority for the program. TAC and CAG members agreed with the high priority designation. Some TAC members suggested that coastal erosion was a much higher priority for ICMP to deal with than flooding. TAC members pointed out that compared to flooding, erosion is a long-standing issue, especially at Illinois Beach State Park, and it has never been resolved for longer-term management. Currently there is a pressing need for resources and attention on this issue. It is solidly situated in ICMP's mission, and no one else is focused on it sufficiently. In comparison, there are numerous agencies focusing on the flooding issue. The resources ICMP can bring to coastal flooding are thought to be unlikely to make as much of an impact as on the erosion problems.

CAG members noted that this enhancement area could support the ravine adaptation projects underway, including efforts to reduce impervious surfaces. The recent storm on October 31, 2014 was a reminder of vulnerability of coastal infrastructure such as Lake Shore Drive. Strategies for increasing resilience of coastal infrastructure should be a priority. Also, there is optimism that strategies for reducing stormwater impacts are feasible in the coastal area.

Public Access

Section 309 Enhancement Objective: Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value. §309(a)(3)

Resource Characterization:

1. Use the table below to provide data on public access availability within the coastal zone.

Public Access Status and Trends			
Type of Access	**Current Number**	**Change or Trend Since Last Assessment**	**Cite data source**
Beach access sites	63	N/A	ICMP Program Document
Shoreline (other than beach) access sites	Not measured	N/A	N/A
Recreational boat (power or non-motorized) access site	32	N/A	ICMP Program Document
Number of designated scenic vistas or overlook points	0	N/A	N/A
Number of fishing access points (i.e. piers, jetties)	32 harbors and marinas, 2 inland lakes	N/A	ICMP Program Document
Coastal Trails/Boardwalks	109.46 miles	N/A	Cook and Lake Counties GIS data
Number of parkland/open space sites	235 sites	N/A	Cook and Lake Counties GIS data
Acres of parkland/open space	10,345 acres	N/A	Cook and Lake Counties GIS data
Other – dive sites	84 shipwrecks	N/A	GIS data

2. Briefly characterize the demand for coastal public access and the process for periodically assessing demand. Include a statement on the projected population increase for your coastal counties.

The population within the state's coastal shoreline counties is projected to increase by 2 percent between 2010 and 2020, thus increasing demand on the resources and increasing demand for access.

Overall there has been an increase in the amount of trails in the Coastal Zone, and this trend is expected to continue as some trails (for example, around Wolf Lake; Cal-Sag Trail) are in various stages of development. Based on the 2015 draft Statewide Comprehensive Outdoor Recreation Plan, the 2014 Illinois Outdoor Recreation Survey found that more than three-quarters of Illinoisans believe there should be more public access to lakes, rivers, and streams. The survey is state-wide but generally there is a growing demand for water trail access (lake and inland waters) and additional facilities for paddlers in the Coastal Zone, as based on ICMP staff's discussions with partners and other stakeholder groups.

Emerging issues related to public access include public vs. private rights, such as the right to walk on a private beach or to land a kayak there.

3. If available, briefly list and summarize the results of any additional data or reports on the status or trends for coastal public access since the last assessment.

Last state-wide inventory of recreational facilities was performed by IDNR in 2014. The inventory was used to provide information for the Statewide Comprehensive Outdoor Recreation Plan (SCORP). The SCORP is prepared as a 5-year document and is required to maintain Illinois' eligibility to participate in the federal Land and Water Conservation Fund program. The current draft SCORP was developed for the 2015-2019 time period and it provides a broad overview of the entire state, without specific focus on the Coastal Zone. There are no comprehensive local plans that provide a good overview of public access in the Coastal Zone. Various types of public access information can be found on websites for local parks districts, Enjoy Illinois website, etc.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could impact the future provision of public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Yes	Yes	N/A
Operation/maintenance of existing facilities	Yes	Yes	N/A
Acquisition/enhancement programs	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;

b. Specify if they were 309 or other CZM-driven changes; and
c. Characterize the outcomes or likely future outcomes of the changes.

This is the first Section 309 assessment that the ICMP is conducting. Notable programs and changes that occurred in the past 3 years are mentioned below.

IDNR Sustainability Act, Public Act 97-1136 (amending 20 ILCS 801/20-15 and 805)

This Act authorized IDNR to charge new user fees for many of its services and a $2 surcharge on all vehicle licenses. The Act also gives IDNR authority to change an entrance fee to non-resident state parks visitors. This change was not 309 driven. The likely outcome is IDNR will have a more consistent funding source to finance and maintain costal management zone conservation projects, especially those in Illinois Beach State Park. IDNR has projected an additional $30-33 million per year in revenue much of which must be used for maintenance of state parks and for IDNR's general operating budget.

Recreational Use of Land and Water Areas Act, Public Act 98-522 (amending 745 ILCS 65)

This act extended liability protections to landowners who allow the public to freely access their property for conservation and recreational activities. The Act creates a significant incentive for private landowners, land trusts, corporations, and public agencies to provide more land for outdoor recreation and restoration activities. Previously, protections only existed for hunting and recreational shooting. This change was not 309 driven. This change will lower the insurance costs for landowners who allow public access, thereby removing a significant barrier to public access on private land. Some of the private lands impacted are in the coastal zone, such as the 77-acre Openlands Lakeshore Preserve near Highland Park, Illinois.

3. Indicate if your state or territory has a publically available public access guide. How current is the publication and how frequently it is updated?

IDNR provides printed resources and also maintains information on recreational opportunities on the agency's website. Resources include maps, guides, and general information. There is no comprehensive guide that compiles all the information on coastal resources in one publication.

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	Yes	Yes	Yes – Chicago Water Walk app for Chicago lakefront
Web address (if applicable)		http://www.dnr.illinois.gov/recreation/Pages/default.asp	http://chicagowaterwalk.org/index.html
Date of last update	Various	2014	2013
Frequency of update	As needed	As needed	New app - no updates

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	**X**
Medium	
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

ICMP staff considered this enhancement area as a potential high priority for examining access along the North Shore as well as researching issues of public trust with the lakebed that have been prominent recently. Public access is also a major focus currently in the Millennium Reserve. There has been progress there lately on the Cal-Sag Trail and Burnham Greenway and developing access to a potential land acquisition at Lake Calumet. Lake County communities have expressed interest in improving connections between modes of transportation and public access sites as well as connections between types of recreation, such as land and water trails.

TAC members offered a range of opinions. There was some question expressed about how strong the desire is for increased access in the North Shore, noting that existing access is largely structured in a way making it difficult for non-residents to use public recreation sites. There was a suggestion that ICMP might first survey North Shore municipal governments to determine their interest in increasing access and/or public ownership. An alternative view suggested that there are real opportunities for expanding access both in the North Shore and in parts of the far southern coastal area, including both water trails and fishing opportunities. CAG members noted that some communities are looking for ways to get more information on local coastal recreational opportunities into their schools.

Marine Debris

Section 309 Enhancement Objective: Reducing marine debris entering the nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris. §309(a)(4)

Resource Characterization:

1. In the table below, characterize the existing status and trends of marine debris in the state's coastal zone based on the best available data.

	Existing Status and Trends of Marine Debris in Coastal Zone		
Source of Marine Debris	**Significance of Source** (H, M, L, unknown)	**Type of Impact** (aesthetic, resource damage, user conflicts, other)	**Change Since 2008/2009** (↑, ↓, –, unknown)
Land-based			
Beach/shore litter	Medium	Aesthetic, wildlife impacts	About the same
Dumping	Low	Aesthetic, wildlife impacts	About the same
Storm drains and runoff	Medium	Aesthetic, resource damage	About the same
Fishing (e.g., fishing line, gear)	Low	Aesthetic, wildlife impacts	About the same
Great Lake-based			
Fishing (e.g., derelict fishing gear)	Low	Aesthetic, wildlife impacts	About the same
Derelict vessels	Low	Aesthetic	About the same
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	Unknown		
Hurricane/Storm	Low	Aesthetic, resource damage	About the same
Tsunami	N/A		

Assessment is based on evaluation of 2013/2014 debris data from Alliance for the Great Lakes – Adopt-a-Beach program. As part of Adopt-a-Beach, volunteers collect litter and record litter type and amount. Predominant litter collected on Illinois beaches includes cigarettes and plastic objects (such as food containers, beverage bottles). Bigger items such as tires and appliances are recorded only occasionally and in low numbers. Since ICMP has not conducted a Section 309 assessment previously, we looked at Adopt-a-Beach data for 2008/2009 to evaluate changes over time. Overall the types and amount of litter collected has remained unchanged.

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from marine debris in the coastal zone since the last assessment.

No additional data.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) for how marine debris is managed in the coastal zone.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Marine debris statutes, regulations, policies, or case law interpreting these	No	NA	N/A
Marine debris removal programs	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes and likely future outcomes of the changes.

Illinois Clean Marina Program

ICMP and partners developed the Illinois Clean Marina Initiative which is a voluntary, incentive-based program that encourages marina operators and recreational boaters to protect coastal water quality by engaging in environmentally sound operating and maintenance procedures. The program promotes operation and maintenance practices that prevent pollution and marine debris from entering coastal waterways. This initiative was a direct result of the Illinois CZM program.

Microbead-free Waters, Public Act 98-638 (amending 415 ILCS 5/52.5)

Small plastic microbeads used in personal care products have been found in Lake Michigan and pose a threat to the State's environment. This act will ban the manufacture and sale of products using non-biodegradable plastic microbeads and will be implemented incrementally between 2017 and 2019. The likely outcome it to significantly reduce the amount of plastic deposited into Lake Michigan and other Illinois waterways in the future. This statutory change was not driven by 309 or the CZM program, but is beneficial to the coastal zone management program as it addresses the issue of microplastics, which are harmful to the ecosystem.

People ex rel. Madigan v. J.T. Einoder, Inc. 2013 IL App (1st) 113498

In 2004, the legislature amended section 42(e) of the Illinois Environmental Protection Act to allow the State to request a mandatory injunction as a remedy for violation of the Environmental Protection Act. The trial court granted the State a mandatory injunction requiring the defendant to remove an unpermitted landfill, even though defendant's conduct related to the landfill ceased before the amendment of section 42(e) became effective. The First District upheld the mandatory injunction, finding the 2004 amendment applied retroactively. The likely outcome is a clarification that the State can ask for mandatory injunction to enforce any violations of the Environmental Protection Act, regardless of when the violation occurred.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	
Medium	**X**
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Marine debris was identified as a medium priority as there are no significant sources of debris identified in the Coastal Zone and there are partner organizations (primarily Alliance for the Great Lakes) that organize clean-up events. ICMP staff discussed possibilities for involvement and value added to existing programs by focusing on marine debris prevention and education.

TAC members pointed out the recent interest in microplastics and the food chain. There was overall agreement that this is an important issue, but it is one that functions at a higher geographic scale across Lake Michigan and the Great Lakes than what ICMP can readily impact. CAG members generally supported keeping this as a medium priority. Members noted that NOAA has an increasing interest in debris in the Great Lakes, and that in the future we could pursue this issue in relation to habitat restoration.

Cumulative and Secondary Impacts

Section 309 Enhancement Objective: Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. §309(a)(5)

Resource Characterization:

1. Using National Ocean Economics Program Data on population and housing, please indicate the change in population and housing units in the state's coastal counties between 2012 and 2007. You may wish to add additional trend comparisons to look at longer time horizons as well (data available back to 1970), but at a minimum, please show change over the most recent five year period (2012-2007) to approximate current assessment period.

Trends in Coastal Population and Housing Units (within Illinois Coastal Zone)				
Year	**Population**		**Housing**	
	Total (# of people)	% Change (compared to 2000)	Total (# of housing units)	% Change (compared to 2000)
2007	5,991,867	-0.49	2,408,345	3.72%
2012	5,898,959	-2.03	2,438,759	5.03%

American Survey US Census Data was used to obtain information specific to the Coastal Zone. The % change was compared to the year 2000 instead of 2002 due to limited availability of data for 2002.

2. Using provided reports from NOAA's Land Cover Atlas or high-resolution C-CAP data (Pacific and Caribbean Islands only), please indicate the status and trends for various land uses in the state's coastal counties between 2006 and 2011. You may use other information and include graphs and figures, as appropriate, to help illustrate the information.

Distribution of Land Cover Types in Coastal Counties (Lake and Cook Counties)		
Land Cover Type	**Land Area Coverage in 2011 (Acres)**	**Gain/Loss Since 2006 (Acres)**
Developed, High Intensity	97,088.32	2,435.89
Developed, Low Intensity	193,455.18	3,469.58
Developed, Open Space	295,776.90	334.48
Grassland	106,730.92	2,011.34
Scrub/Shrub	30,576.64	-3,131.77
Barren Land	4,947.84	-2,267.54
Open Water	3,847.43	-7.12
Agriculture	27,573.42	-52.93

Distribution of Land Cover Types in Coastal Counties (Lake and Cook Counties)		
Land Cover Type	**Land Area Coverage in 2011 (Acres)**	**Gain/Loss Since 2006 (Acres)**
Forested	41,741.10	-2,710.77
Woody Wetland	66,915.54	633.16
Emergent Wetland	35,731.98	-667.85

3. Using provided reports from NOAA's Land Cover Atlas, please indicate the status and trends for developed areas in the state's coastal counties between 2006 and 2011 in the two tables below. You may use other information and include graphs and figures, as appropriate, to help illustrate the information.

Development Status and Trends for Coastal Counties (Lake and Cook Counties)			
	2006	**2011**	**Percent Net Change**
Percent land area developed	74.93%	75.83%	0.90%
Percent impervious surface area	74.93%	75.85%	0.92%

How Land Use is Changing in Coastal Counties	
Land Cover Type	**Areas Lost to Development Between 2006-2011 (Acres)**
Barren Land	467.70
Emergent Wetland	161.24
Woody Wetland	594.46
Open Water	135.66
Agriculture	2676.97
Scrub/Shrub	98.97
Grassland	2654.28
Forested	1488.93

4. Using data from NOAA's State of the Coast "Shoreline Type" viewer, indicate the percent of shoreline that falls into each shoreline type. You may provide other information or use graphs or other visuals to help illustrate.

Shoreline types along Lake Michigan in the Illinois Coastal Zone	
Surveyed Shoreline Type	**Percent of Shoreline**
Artificial	48.55%
Barrier Beach	16.25%
Sand beach/dunes	13.91%
High bluff and beach	21.29%

NOAA's State of the Coast data was not available for Illinois. GIS analysis was performed for categories most closely comparable to those in the original NOAA table. The original categories and their equivalents used in the above table are as follows: Armored = Artificial; Beaches = Barrier Beach; Flats = Sand beach/dunes; Rocky – no equivalent; Vegetated = High Bluff and Beach.

5. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the cumulative and secondary impacts of coastal growth and development, such as water quality and habitat fragmentation, since the last assessment to augment the national data sets.

No additional data.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state-level changes (positive or negative) in the development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources, since the last assessment.

Management Category	**Employed by State** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Guidance documents	Yes	Yes	N/A
Management plans (including Special Area Management Plans)	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Metropolitan Water Reclamation District, Public Act 98-652 (amending 70 ILCS 2605/7h)

The Metropolitan Water Reclamation District of Greater Chicago, which is responsible for stormwater management in Cook County, may purchase real property from a willing seller in a voluntary transaction in furtherance of regional and local stormwater management activities. The Reclamation District could previously acquire land by eminent domain but is now specifically allowed to purchase land. This change was not 309 driven. The change gives the Reclamation District more options to acquire property for stormwater management.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	
Medium	**X**
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

This enhancement area was ranked medium by ICMP as the Illinois coast is already heavily developed and the potential for new development is limited. There was some speculation by the TAC that this topic could be important for the coastal area, especially due to extensive shoreline armoring and sand entrapment issues linked to in-lake structures. Some skepticism was expressed about methods for researching this problem, and there was not a consensus to elevate the topic.

CAG members generally supported keeping this as a medium priority. There is widespread acknowledgement that the Illinois coast suffers from significant secondary impacts, such as the extensive armoring of the shoreline. However, that topic could also be addressed in the coastal hazards enhancement area.

Special Area Management Plans

Section 309 Enhancement Objective: Preparing and implementing special area management plans for important coastal areas. §309(a)(6)

The Coastal Zone Management Act defines a Special Area Management Plan (SAMP) as "a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making."

Resource Characterization:

1. In the table below, identify geographic areas in the coastal zone subject to use conflicts that may be able to be addressed through a special area management plan (SAMP). This can include areas that are already covered by a SAMP but where new issues or conflicts have emerged that are not addressed through the current SAMP.

Opportunities for New or Updated Special Area Management Plans	
Geographic Area	**Major issues**
Northern coastline including Waukegan, North Chicago, and Illinois Beach State Park	Erosion, invasive species, new land use
William Powers State Recreation Area and Lake Calumet	Invasive species, restoration needs including hydrology and flow regime
Millennium Reserve	Need for funding, coordination of projects

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of SAMPs since the last assessment.

Illinois Beach State Park and William Powers State Recreation Area are the only state-owned properties located within the Illinois Coastal Zone boundary. ICMP has been involved with various habitat projects at both locations, and currently ICMP is coordinating development of work plans for both sites. At Illinois Beach, ICMP has also been involved in coordination related to obtaining sand for the feeder beach. ICMP is also supporting planning efforts for multiple communities along the northern coastline, with most of the plans currently in development. Land acquisition of Lake Calumet is currently being pursued. If acquired, ICMP will work with the IDNR staff to determine ICMP's role in managing the property.

Millennium Reserve is an initiative that brings together communities, government, and businesses to focus on common goals of revitalizing economy and ecology and building strong communities in the Calumet Region. The northern portion of the Millennium Reserve is located within the Coastal Zone. The Millennium Reserve Steering Committee Report identifies priorities for the initiative. Natural resources priorities include providing access to Lake Calumet and developing a conservation compact to coordinate stewardship and conservation activities at ecologically important sites.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could help prepare and implement SAMPs in the coastal zone.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
SAMP policies, or case law interpreting these	Yes	Yes	N/A
SAMP plans	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

See IDNR Sustainability Act, Public Act 97-1136 (discussed in Public Access section of this document). This change could positively impact Illinois Beach State Park and William Powers State Recreation Area, which are located within the costal management zone.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium **X**
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

This enhancement area was ranked medium by ICMP as various planning efforts are currently ongoing. CAG members supported keeping this as a medium priority. There was some question expressed by TAC

members whether planning should be important for Millennium Reserve. Staff felt that there is a greater priority for implementation projects in Millennium Reserve, but that planning could be a priority in future 309 Enhancement rounds.

Great Lakes Resources

Section 309 Enhancement Objective: Planning for the use of Great Lakes resources. §309(a)(7)

Resource Characterization:

1. Understanding the ocean and Great Lakes economy can help improve management of the resources it depends on. Using Economics: National Ocean Watch (ENOW), indicate the status of the ocean and Great Lakes economy as of 2010, as well as the change since 2005, in the tables below. Include graphs and figures, as appropriate, to help illustrate the information.

Status of Great Lakes Economy for Coastal Counties (2010)				
	Establishments (# of Establishments)	**Employment** (# of Jobs)	**Wages** (Millions of Dollars)	**GDP** (Millions of Dollars)
Living Resources	66	563	$16.9	$49
Marine Construction	113	411	$26.6	$48.4
Ship & Boat Building	20	819	$35.5	$67.1
Marine Transportation	335	19,658	$1,000	$2,000
Offshore Mineral Extraction	38	392	$29.4	$81.4
Tourism & Recreation	2,058	61,552	$1,600	$3,800
All Ocean Sectors	2,630	83,397	$2,700	$6,100

Change in Great Lakes Economy for Coastal Counties (2005-2010)				
	Establishments (% change)	**Employment** (% change)	**Wages** (% change)	**GDP** (% change)
Living Resources	3.03%	-3.60%	0.00%	21.29%
Marine Construction	-22.12%	-40.09%	-13.64%	-18.24%
Ship & Boat Building	-20.00%	-36.76%	-35.12%	-53.82%
Marine Transportation	9.12%	-10.54%	7.97%	25.00%
Offshore Mineral Extraction	0.00%	-44.55%	-40.24%	-37.53%
Tourism & Recreation	9.00%	0.36%	12.50%	15.15%
All Ocean Sectors	6.91%	-3.67%	8.00%	15.09%

2. In the table below, characterize how the threats to and use conflicts over Great Lakes resources in the state's or territory's coastal zone have changed since the last assessment.

This is the first time that ICMP is conducting Section 309 assessment, therefore ICMP has no comparison data.

3. For the Great Lakes resources and uses in Table 2 (above) that had an increase in threat to the resource or increased use conflict in the state's or territory's coastal zone since the last assessment, characterize the major contributors to that increase.

This is the first time that ICMP is conducting Section 309 assessment, therefore ICMP has no comparison data.

4. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of Great Lakes resources or threats to those resources since the last assessment to augment the national data sets.

No data.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if any significant state- or territory- level changes (positive or negative) in the management of Great Lakes resources have occurred since the last assessment?

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Yes	Yes	N/A
Regional comprehensive ocean/Great Lakes management plans	Yes	Yes	N/A
State comprehensive ocean/Great Lakes management plans	No	N/A	N/A
Single-sector management plans	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

The Rivers, Lakes, and Streams Act, Public Act 98-78 (amending 615 ILCS 5/14(a))
The EPA is now required to report biennially to the Governor and members of the General Assembly on the hydrologic, biologic, and chemical data and recommendations related to the water quality and ecology in Lake Michigan. Previously, the EPA was required to submit the report annually. This change was not 309 driven. The EPA is now required to provide more frequent water quality data to policy makers. Coastal management zone projects can also benefit from more frequent data from the EPA on the water quality in Lake Michigan.

Fish and Aquatic Life Code, Public Act 98-771 (amending 515 ILCS 5/1-20)
This change expanded the definition of "aquatic life" to include mollusks, crustaceans, algae, aquatic plants, aquatic invertebrates and any other aquatic animals or plants that are identified in rules by the Department of Natural Resources. The previous definition was limited, making it difficult to exclude the introduction of some kinds of invasive species. This change was not driven by 309. This broader definition allows IDNR to limit the introduction of all types of invasive species.

Release of Aquatic Life, Public Act 98-1044 (amending 515 ILCS 5/10-100)
This Act makes it a Class B misdemeanor to release any aquatic life into the wild without first securing permission from the Illinois Department of Natural Resources (IDNR). The previous law made releasing aquatic life without a permit a petty offense. The bill's anticipated outcome is to address invasive species by deterring individuals from releasing aquatic life into the wild without permission from IDNR.

3. Indicate if your state or territory has a comprehensive ocean or Great Lakes management plan.

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	No*	Yes - Lake Michigan Lakewide Action and Management Plan (2008 update)
Under development (Y/N)		
Web address (if available)		http://www.epa.gov/glnpo/michigan.html
Area covered by plan		Lake Michigan basin

*****Although there is no state plan, the state is directly involved in development and implementation of Lakewide Action and Management Plan (LAMP).

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	
Medium	**X**
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

This topic was ranked as a medium priority by ICMP as most of the issues are broader in scope and outside of ICMP's direct influence. CAG members supported keeping this as a medium priority. TAC members noted some interesting topics that could be worth investigation. These included decreased productivity in Lake Michigan related to dreissenid mussel populations; potential role for artificial reefs; and the potential for aquatic species restoration. They also identified the potential for improving habitat value of coastal structures (jetties, armoring, etc.), which could be incorporated into strategies for managing erosion issues at Illinois Beach. Overall there was consensus that the issue area is a medium priority, especially compared to other issue areas.

Energy and Government Facility Siting

Section 309 Enhancement Objective: Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance. §309(a)(8)33

Resource Characterization:

1. In the table below, characterize the status and trends of different types of energy facilities and activities in the state's or territory's coastal zone based on best available data. If available, identify the approximate number of facilities by type. The MarineCadastre.gov may be helpful in locating many types of energy facilities in the coastal zone.

Status and trends in energy facilities and activities in the coastal zone				
Type of Energy Facility/Activity	**Exists in Coastal Zone**		**Proposed in Coastal Zone**	
	(# or Y/N)	Change Since Last Assessment	(# or Y/N)	Change Since Last Assessment
Energy Transport				
Pipelines	Yes	N/A	No	N/A
Electrical grid (transmission cables)	Yes	N/A	Unknown	N/A
Ports	Yes - 2	N/A	No	N/A
Liquid natural gas	Yes	N/A	Unknown	N/A
Other – petcoke transport	Yes	N/A		N/A
Energy Facilities				
Oil and gas	Yes - 3	N/A	No	N/A
Coal	Yes - 1	N/A	No	N/A
Nuclear	No	N/A	No	N/A
Wind	No	N/A	No*	N/A
Wave	No	N/A	No	N/A
Current	No	N/A	No	N/A
Hydropower	No	N/A	No	N/A
Ocean thermal energy conversion	NA	N/A	NA	N/A
Solar	No	N/A	Unknown	N/A
Biomass	Yes	N/A	Unknown	N/A

Coal facilities – In 2014, NRG Energy acquired the Midwest Generation power plant in Waukegan. Updated emission controls are being installed at the plant and according to an official with a parent company, the site will remain a coal-powered operation for the foreseeable future. Environmental groups have been advocating for the plant to be shut down or converted to a gas facility.

Nuclear energy facilities – There are no active facilities. The Zion Nuclear Power Plant was shut down in 1998. The facility still contains used nuclear fuel that was placed in the plant's onsite spent fuel pool. Decommissioning of the plant started in 2010 and includes dismantling the plant and removing material and parts to its Utah waste facility. Spent fuel will be placed in dry storage casks onsite at the Zion facility.

*Wind facilities - A 10-turbine wind farm four miles off Evanston's shoreline was proposed as part of the city's climate action plan. This proposal is in early stages of planning and there are no developers at this point.

2. If available, briefly list and summarize the results of any additional state- or territory-specific information, data, or reports on the status and trends for energy facilities and activities of greater than local significance in the coastal zone since the last assessment.

No additional information.

3. Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance in the state's coastal zone since the last assessment.

The Great Lakes Naval Station is located in North Chicago. The facility is primarily used for training and contains 1,153 buildings situated on 1,628 acres and has 50 miles (80 km) of roadway to provide access to the base's facilities. There is also a boat harbor for use by Navy personnel. There are no expected changes to the status and activities at the Naval Station.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) that could facilitate or impede energy and government facility siting and activities have occurred since the last assessment.

Management Category	**Employed by State or Territory** (Y or N)	**CMP Provides Assistance to Locals that Employ** (Y or N)	**Significant Changes Since Last Assessment** (Y or N)
Statutes, regulations, policies, or case law interpreting these	Yes	Yes	N/A
State comprehensive siting plans or procedures	Yes	Yes	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Lake Michigan Wind Energy Act, Public Act 98-447 (20 ILCS 896/1-99)

The Lake Michigan Wind Energy Act authorized IDNR to adopt rules to grant permits for assessment, construction and operation leases for off-shore wind facilities. This Act allows the city to utilize wind energy, a large renewable energy resource positioned close to a metropolitan population center. This change was not 309 driven. In the future one outcome could be less reliance on power plants in the coastal zone that utilize fossil fuels. Also, off-shore wind energy presents ecosystem, aesthetic, and resource management concerns which might be considered in the Costal Management plans.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	**X**
Medium	
Low	

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

This was ranked as a high priority due to IDNR's responsibility to provide input on wind energy siting in Lake Michigan under the Lake Michigan Wind Energy Act, and the potential interest in development of off-shore wind energy in Evanston.

Although ICMP staff had focused their analysis on wind energy, the TAC suggested also considering petcoke siting criteria, noting the push to classify petcoke as an energy source. There is a data gap in independent research on petcoke impacts. Petcoke is further connected to coastal issues because the IDNR has issued a permit to use Lake Michigan water as a dust reducer at the Calumet petcoke sites.

TAC members offered differing opinions on prioritizing this topic. In favor, members noted the timeliness and the value of gathering mapping data both for the petcoke sites and for numerous lakebed layers relevant to wind energy (pipelines, shipping routes etc.) Others emphasized the challenge of a controversial topic like petcoke and the current low interest in wind energy as reasons to focus our resources elsewhere. CAG members questioned whether ICMP would be able to make a significant difference on the wind and petcoke issues, suggesting that resources are likely to come from other areas because of the many stakeholders and interests.

Aquaculture

Section 309 Enhancement Objective: Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable states to formulate, administer, and implement strategic plans for marine aquaculture. §309(a)(9)

Resource Characterization:

1. In the table below, characterize the existing status and trends of aquaculture facilities in the state's coastal zone based on the best available data.

Type of Facility/Activity	Status and trends of aquaculture facilities and activities		
	# of Facilities	Approximate Economic Value	Change Since Last Assessment
Bait shop	1	Unknown	NA

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from aquaculture activities in the coastal zone since the last assessment.

Data for aquaculture facilities was obtained based on IDNR records for aquaculture permits. There is currently one aquaculture permit holder in Lake County and 11 in Cook County. Out of those, only one is located within the Coastal Zone. The single permit holder is a bait shop at Montrose Avenue Beach in Chicago. The data may be incomplete (other bait shops exist but may not have a permit). Additional research did not indicate any large-scale aquaculture facilities in the coastal zone.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any state- or territory-level changes (positive or negative) that could facilitate or impede the siting of public or private aquaculture facilities in the coastal zone.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture comprehensive siting plans or procedures	Yes	No	N/A
Other aquaculture statutes, regulations, policies, or case law interpreting these	Yes	No	N/A

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

The Illinois Aquaculture Development Plan was developed in 1987. Nearly all regulatory authority for aquaculture and fish importation is promulgated though IDNR. There have been no significant changes to policies related to aquaculture.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	_____
Low	**X**

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

This was ranked as low priority by ICMP since aquaculture is not a major economic endeavor in the Coastal Zone. TAC members felt this issue could be economically relevant in the coastal area in the future. However there was no push to elevate the priority of this topic. CAG members supported keeping this as a low priority.

Phase II Assessments

Coastal Hazards

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to improve the CMP's ability to prevent or significantly reduce coastal hazard risks by eliminating development and redevelopment in high-hazard areas and managing the effects of potential sea level rise and Great Lakes level change.

1a. **Flooding In-depth** (for all states besides territories): Using data from *NOAA's State of the Coast* "Population in the Floodplain" viewer and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure, indicate how many people at potentially elevated risk were located within the state's coastal floodplain as of 2010.

2010 Populations in Coastal Counties at Potentially Elevated Risk to Coastal Flooding				
	Under 5 and Over 65 years old		In Poverty	
	# of people	% Under 5/Over 65	# of people	% in Poverty
Inside Floodplain	53,576	21.54%	21,738	8.74%
Outside Floodplain	1,069,000	18.9%	919,465	16.28%

NOAA's State of the Coast was utilized to gather information on the 2010 population in coastal counties living inside the floodplain. Information for the 2010 Populations in Coastal Counties living outside the floodplain was compiled from US Census.

1b. **Flooding In-depth** (for all states besides territories): Using summary data provided for critical facilities, derived from FEMA's HAZUS and displayed by coastal county through NOAA's Coastal County Snapshots for Flood Exposure, indicate how many different establishments (businesses or employers) and critical facilities are located in the FEMA floodplain. You can provide more information or use graphs or other visuals to help illustrate or replace the table entirely if better information is available.

Critical Facilities in the FEMA Floodplain						
	Schools	Police Stations	Fire Stations	Emergency Centers	Medical Facilities	Communication Towers
Inside Floodplain	1	0	1	0	2	78
Coastal Counties	4011	233	393	16	1077	12,262

Facility numbers were provided by the Illinois Emergency Management Agency.

2. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards within the coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone or are specific areas most at risk?

	Type of Hazard	Geographic Scope (throughout coastal zone or specific areas most threatened)
Hazard 1	Erosion/Accretion	Focus on North Shore – Evanston to Wisconsin state line
Hazard 2	Stormwater/flooding	Throughout

3. Briefly explain why these are currently the most significant coastal hazards within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

   Continued development in the Coastal Zone together with increasing severity of storms and ongoing wetland loss have led to increased risk of flooding damage in the urban areas. Severe storms are also exacerbating erosion along the north shore and in the ravines. Erosion at some sites, including Illinois Beach State Park, is a long-standing issue that has not been resolved for long-term management. Severe erosion in some locations results in extensive, and sometimes problematic, accretion in other downdrift areas. Particular problems include blockage of entrance channel to port facilities and clogging water intake pipes.

4. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Coastal storms	Understanding patterns and minimizing impacts

In-Depth Management Characterization:
Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

1. For each coastal hazard management category below, indicate if the approach is employed by the state or territory and if there has been a significant change since the last assessment.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Statutes, Regulations, and Policies:			
Shorefront setbacks/no build areas	N	N	N/A
Rolling easements	N	N	N/A
Repair/rebuilding restrictions	Y	N	N/A
Hard shoreline protection structure restrictions	Y	N	N/A
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	N/A
Repair/replacement of shore protection structure restrictions	Y	N	N/A
Inlet management	N	N	N/A
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)	Y	Y	N/A
Repetitive flood loss policies (e.g., relocation, buyouts)	Y	N	N/A
Freeboard requirements	Y	N	N/A
Real estate sales disclosure requirements	Y	N	N/A
Restrictions on publicly funded infrastructure	Y	N	N/A

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Infrastructure protection (e.g., considering hazards in siting and design)	Y	Y	N/A
Other – state executive order	Y	N	N/A
Management Planning Programs or Initiatives:			
Hazard mitigation plans	Y	N	N/A
Sea level rise/Great Lake level change or climate change adaptation plans	Y	Y	N/A
Statewide requirement for local post-disaster recovery planning	Y	N	N/A
Sediment management plans	N	Y	N/A
Beach nourishment plans	Y	Y	N/A
Special Area Management Plans (that address hazards issues)	N	N	N/A
Managed retreat plans	N	N	N/A
Other (please specify)			
Research, Mapping, and Education Programs or Initiatives:			
General hazards mapping or modeling	Y	Y	N/A
Sea level rise mapping or modeling	N	N	N/A
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y	Y	N/A
Hazards education and outreach	Y	Y	N/A
Other – flood mapping performed in house	Y		

2. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in addressing coastal hazards since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

N/A

Identification of Priorities:

1. Considering changes in coastal hazard risk and coastal hazard management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively address the most significant hazard risks. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: *Management of shoreline erosion and accretion*

   Description: Coordinate efforts and studies and develop strategies for management of shoreline erosion and accretion, and improving strategies and outreach for management of ravine erosion

Management Priority 2: <u>Improving stormwater management</u>

Description: Stormwater management is an increasing challenge in the urban environment and a variety of solutions should be employed to effectively capture water and reduce flooding and the damage associated with it. Coordination of work among different entities, performing research and studies, and utilization of green infrastructure will allow development of solutions to increase infiltration, improve water quality, and minimize flooding.

2. Identify and briefly explain priority needs and information gaps the CMP has for addressing the management priorities identified above. The needs and gaps identified here should not be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Y	Erosion mitigation strategies; wetland characterization
Mapping/GIS/modeling	Y	Shoreline changes; wetland locations; sediment movement;
Data and information management	Y	Manage and share data effectively
Training/Capacity building	Y	Ravine management strategies; sand management strategies; wetland usage for stormwater.
Decision-support tools	N	
Communication and outreach	Y	Shoreline and sediment management; ravine management; stormwater management
Other (Specify)	N	

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?
   Yes **<u>X</u>** **No** _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

The hazards identified are a significant issue in the Illinois Coastal Zone, and the coastal program can play an important role in addressing unmet needs related to these hazards.

Public Access

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities to improve the CMP's ability to increase and enhance public access opportunities to coastal areas.

1. Use the table below to provide additional data on public access availability within the coastal zone not reported in the Phase I assessment.

Public Access Status and Trends			
Type of Access	**Current number**	**Changes or Trends Since Last Assessment** (↑, ↓, –, unkwn)	**Cite data source**
Access sites that are ADA compliant	No. of Sites More than 76	N/A	Chicago Park District, ICMP Program Document
	Percent of Sites More than 36%		

ICMP staff researched ADA accessible beaches, marinas, fishing spots, and parks in the Illinois coastal zone. Information on ADA compliance was not available for all sites. All harbors and marinas are required to be ADA accessible, and there are a number of Chicago beaches which are ADA compliant. We were unable to assess ADA compliance for trails and local parks located in the coastal zone.

2. What are the three most significant existing or emerging threats or stressors to creating or maintaining public access within the coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone or are specific areas most threatened? Stressors can be private development (including conversion of public facilities to private); non-water-dependent commercial or industrial uses of the waterfront; increased demand; erosion; sea level rise or Great Lakes level change; natural disasters; national security; encroachment on public land; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Increased demand	Throughout the coastal zone
Erosion	Illinois Beach State Park, northern section
Barriers to access – fees, lack of transportation, lack of boat ramps	Throughout the coastal zone

3. Briefly explain why these are currently the most significant stressors or threats to public access within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Increased demand and existing barriers to access were brought up as main access issues by members of the Technical Advisory Committee (TAC). Increased demand is connected to increasing population as well as to new types of recreational activities available along the coast. Increased demand is also connected to the emerging issue of public versus private access along the beach. TAC members mentioned the need to further understand how accessible the coast actually is, and whether all users can equally partake in recreational activities along the coast. Erosion has been an ongoing issue for many of the northern areas in the coastal zone, including Illinois Beach State Park (IBSP). Erosion issues become exacerbated with more frequent and violent storms – for example, at IBSP, storm-caused erosion resulted in 6 foot drops from the beach to the lake. Erosion control measures, such as engineered shorelines, may also impact the level and type of access.

4. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Public vs. private rights for beach access (issues of public trust lands)	Assessment of need

In-Depth Management Characterization:
Purpose: To determine the effectiveness of management efforts to address identified problems related to the public access enhancement objective.

1. For each additional public access management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant changes (positive or negative) have occurred at the state- or territory-level since the last assessment.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Comprehensive access management planning	Yes	Yes	N/A
GIS mapping/database of access sites	Yes – for some resources	Yes	N/A
Public access technical assistance, education, and outreach (including access point and interpretive signage, etc.)	Yes	Yes	N/A

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

    Not applicable

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in providing public access since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

    ICMP did not identify any studies that analyze the effectiveness of the state's management efforts in providing public access.

Identification of Priorities:

1. Considering changes in public access and public access management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve the effectiveness of its management effort to better respond to the most significant public access stressors. *(Approximately 1-3 sentences per management priority.)*

    Management Priority 1: <u>Identify current level of use, barriers to access, and future needs.</u>

    Description: There is a lack of comprehensive assessment on the state of public access in the coastal zone. Increased demand and changing needs make it important for ICMP to gain a better understanding of public access so that we can use our funds most effectively.

    Management Priority 2: *<u>Address erosion issues.</u>*

    Description: Erosion creates unsafe conditions and directly limits access at existing recreational areas. Erosion solutions are needed to ensure that the public can safely access Lake Michigan and its shoreline.

    Management Priority 3: <u>Expand access opportunities.</u>

    Description: Enhance existing public access opportunities and develop new opportunities for increased access.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Yes	Research existing opportunities, future needs, erosion solutions, and research current and desired human uses and patterns.
Mapping/GIS	Yes	Mapping of existing opportunities
Data and information management	Yes	Management of GIS data; survey data, etc.
Training/Capacity building	Yes	Training and capacity-building for communities to provide appropriate access, ADA compliance, and expansion options.
Decision-support tools	Yes	Analysis of needs to support planning efforts
Communication and outreach	Yes	Education, providing information on availability of resources

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?
   Yes **X** **No** _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Public access was identified as one of the high-priority areas for the ICMP. Public access issues affect a large portion of the coastal population and have direct impacts on local communities and economies. There is a need to engage the public and understand the public's perceptions and priorities. Also, given the many organizations involved in public access along the coast, this topic would benefit from an integrated approach that considers all the various interests and players.

Energy and Government Facility Siting

In-Depth Resource Characterization:
Purpose: To determine key problems and opportunities relating to the siting of energy and government facility siting and activities that may be of greater than local significance.

1. What are the three most significant existing or emerging challenges to facilitating energy and government facility siting and activities within the coastal zone? Indicate the geographic scope of the challenge, i.e., is it prevalent throughout the coastal zone or are specific areas most threatened? Challenges can be conflicting uses; coastal resource impacts; coordinating regulatory processes or review; insufficient data; natural disasters; national security; or other (please specify). When selecting significant challenges, also consider how climate change may exacerbate each challenge.

Challenges	Geographic Scope (throughout coastal zone or specific
Insufficient data	Offshore and nearshore habitat
Coastal resource impacts	Offshore and nearshore habitat
Developing regulatory process	Offshore and nearshore habitat

The energy siting assessment is primarily focused on offshore wind energy. Offshore wind energy development is in various stages of feasibility and planning nationwide and in the Great Lakes. In Illinois, the Lake Michigan Wind Energy Act (20 ILCS 896/1-99, effective August 16, 2013) authorized Illinois Department of Natural Resources (IDNR) to adopt rules to grant permits for assessment, construction and operation leases for off-shore wind facilities. Multiple challenges exist in relation to gathering data on resources present in areas of potential wind development and understanding potential impacts associated with both wind energy and transmission cables. Data is needed to inform regulatory process that may be established in the future.

2. Briefly explain why these are currently the most significant challenges to facilitating energy and government facility siting and activities within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Resources assessment and understanding of resource impacts have been identified by the ICMP's Technical Advisory Committee (TAC) members as an important need that should be addressed by ICMP. The Lake Michigan Wind Energy Act authorized IDNR to adopt rules to grant permits for assessment, construction and operation leases for off-shore wind facilities. However, there are gaps in our scientific knowledge that are preventing informed identification of important nearshore and offshore habitat features and resources that must be protected because they support important sport, commercial and nongame fish and wildlife populations, or support other important uses and needs.

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Storage and transfer of petcoke	Study of impacts, coordination of regulatory agencies
Increased shipping of oil products	Study of impacts, coordination of regulatory agencies

In-Depth Management Characterization:
Purpose: To determine the effectiveness of management efforts to address identified problems related to the energy and Government facilities enhancement objective.

1. For each additional energy and government facilities management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Energy and government facility/activity research, assessment, monitoring	Yes	No	N/A
Energy and government facility/activity GIS mapping/database	Yes	No	N/A
Energy and government facility siting technical assistance, education, and outreach	Yes	No	N/A

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

    Not applicable.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in facilitating energy and government facility siting and activities since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

    The Illinois Lake Michigan Offshore Wind Advisory Council developed an advisory report in which it recommends that IDNR should develop a detailed offshore wind siting matrix that provides a clear process to identify which portions of Lake Michigan are acceptable for offshore

wind development. IDNR will need to compile data and perform necessary analysis to determine areas acceptable for offshore wind energy development. As there are no off-shore wind facilities in Lake Michigan yet, other offshore wind energy management efforts have not been undertaken.

Identification of Priorities:

1. Considering changes in energy and government facility siting and activities, the management of these facilities and activities since the last assessment, and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to facilitate the siting of energy and government facilities and activities to address the most significant energy and government facility siting and activity challenges identified. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Gather data that would inform development of off-shore wind siting rules.

   Description: This priority includes performing studies and research to identify important nearshore and offshore habitat features and resources that must be protected due to their high value for fish, wildlife or other uses.

   Management Priority 2: Gather information on emerging issues related to storage and transfer of energy products and by-products.

   Description: This priority would focus on gathering information to evaluate the emerging uses within the coastal zone and their potential impacts on resources.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Yes	Types of habitats and resources present in areas with potential for wind development
Mapping/GIS	Yes	Mapping habitat types, other resources, and their extent
Data and information management	Yes	Management and analysis of data collected, sharing data with other IDNR divisions and other organizations
Training/Capacity building	No	
Decision-support tools	Yes	Tools that would lead to identification of areas that should be avoided, or areas that development could be focused
Communication and outreach	Yes	Outreach to stakeholder groups and experts to gather information and input on resources, uses, opportunities, and challenges.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

   Yes **X**

   No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

ICMP will develop a strategy for gathering data related to the siting of offshore wind turbines and associated cables. Currently, there has been limited financial incentive or political momentum in Illinois to explore off-shore wind development since the passage of the Act. However, ICMP seeks to be proactive in gathering the data needed to develop such rules. By gathering this data now while there is little economic push for the guidelines, ICMP will be able to provide clear, rational input without the errors that might result from a more hasty decision lacking all of the important data.

ICMP will not currently develop a strategy for storage and transfer of petcoke. The City of Chicago issued regulations to require existing petcoke facilities to enclose all of their storage piles and take other measures to prevent dust from leaving the site. In addition, the City recently passed ordinance that prohibits the establishment of any new petcoke and coal facilities or the expansion of any existing facilities. ICMP is following this emerging issue and the regulations which are being developed. If needed, ICMP will use other funds to further study the issue.

Strategies for Priority Enhancement Areas

Coastal Hazards - Shoreline Erosion and Accretion

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☒ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

The goal of this strategy is to improve management of shoreline erosion and accretion issues through new coastal programs, coordinated management actions, and coastal restoration activities. In this case, the new program will be the establishment of a Shoreline Erosion and Accretion program. The strategy may also lead to development of local ordinances, administrative decisions and memoranda of agreement as desired or necessary to achieve economically and environmentally sustainable shoreline management.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

The Shoreline Erosion and Accretion strategy is needed to understand and address serious sediment erosion and accretion issues, especially along the North shore of the Illinois coast from the Wisconsin state line south to at least Evanston and possibly farther south into the City of Chicago. The Illinois North Shore coast involves a geologically recent beach ridge plain that is migrating southward due to prevailing winds and currents. This region of sand, sediments and gravel has been moving southward through periods of higher and lower lake levers over the past 11,000 years.

The Illinois coast is a mix of armored and natural shorelines. Natural movements of sediments along the shore, weather patterns, extreme storm events, changing water levels, and man-made infrastructure along the coastline are just some of the challenges that have to be considered for managing the shoreline. Certain areas, such as the Illinois Beach State Park, experience significant erosion of sand that results in limited access to the beach. Other areas, such as Waukegan Harbor, are subject to sand accretion that results in limited access to ports and increased dredging costs, among other issues.

Currently, Illinois' North Shore coastal communities manage the issues of coastal erosion and excess sand deposition (accretion) individually, though they are all part of a regional geological system and ecosystem. Some communities are excessively burdened with managing accumulating sand that clogs harbor entrances and makes beaches unhealthy, while neighboring communities lose their beaches and have to pay a premium to rebuild them, only to have the sand wash away in the next storm. There is a need for regional coordination on this issue.

The first key step of this strategy will be creating a new Shoreline Erosion and Accretion program through the establishment of a coastal geologist position housed with the Illinois Coastal Management Program, to provide the specific expertise to determine information gaps; compile and analyze historical data; identify and pursue research needs; coordinate with other research and management entities (e.g. US Army Corps of Engineers); and investigate traditional and novel strategies for managing the shoreline. Working with the Illinois State Geological Survey (ISGS), ICMP and ISGS will provide funding for the coastal geologist position, which has been vacant within ISGS for a number of years. ISGS is a unit of state government which is currently part of the University of Illinois.

The Coastal Geologist will be responsible for guiding and coordinating ICMP's shoreline management program based on solution-driven research, investigation, data collection and data management to develop and provide a clearinghouse of shore management strategies. Over the course of 5 years, we will develop annual work plans that build on existing data and knowledge and add strategic and focused projects to enhance our understanding of the natural and man-made processes that are influencing the coastal zone.

The coastal geologist will be responsible for coordinating studies, providing assistance to communities on littoral drift and other geologic issues, providing assistance to land managers with erosion and accretion issues, and coordinating work with other agencies. Necessary research topics will be identified by the coastal geologist and may include engineering solutions and assessment of cumulative effects of multiple shoreline

stabilization structures being installed on private property. Based on the outcomes of the studies, the coastal geologist will work with land managers and local municipalities to implement necessary strategies, programs (including new or augmented land acquisition, management or restoration programs), and ordinance changes to manage the shoreline.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

The currently high lake levels, changing climate, and shoreline structures are now causing a seemingly increased rate of erosion at the north of the sand plain and areas just downdrift of man-made structures. The eroded sediments travel southward and are deposited on the updrift side of other lakeward structures causing clogged intake pipes; shoaling in harbor mouths; beach expansion and changes in shoreline depth. Other man-made structures farther south protect areas of shoreline, while causing increased erosion, undercutting, bluff recession, and possibly lake downcutting just downdrift of the structures. This both natural and artificially exacerbated process creates serious shoreline management issues through the region, which includes 14 separate communities and a state park in two different counties that each manage their stretch of shore separately.

The following are specific areas of needs and gaps related to shoreline erosion and accretion that will be addressed through the creation of a Shoreline Erosion and Accretion program:

1. Investigations for management of the State-Owned, Illinois Beach State Park, where areas of high quality dune and swale habitat are being lost; recreational beaches and infrastructure are being damaged; and accelerated erosion is releasing buried debris from abandoned housing and development.
2. Shoreline structure inventory and analysis of individual and cumulative effect of shoreline structures and protection measures on erosion, accretion and in-lake and on shore habitats.
3. Analysis of traditional and novel shoreline protection measures and sediment bypass strategies for use along the Illinois Coast.
4. Re-initiation of long-term shoreline monitoring program.
5. Development of tools and outreach material to promote cooperation, coordination, and use of regional strategies for shoreline management.

By re-establishing and housing a coastal geologist with ICMP, the program will have on-staff expertise for pertinent coastal geologic issues and an ability to focus on key areas of need outlined above. Some of these activities could be accomplished in other ways, but having a focused staff person guided by specific program needs will not only allow us to address currently identified gaps, but also to consistently review and revise needs/gaps as needed for real-world solutions. Unlike a private, for profit, consultant, a coastal geologist on staff can work towards goals at both a site scale and through taking a holistic view of the shoreline without the worry of billing hours or laying the groundwork for future contracts

and projects. In addition, the expertise in-office will raise the knowledge level of all Coastal staff, and will provide ad-hoc support and advice for other projects and programs. Last, the initial investment in a Coastal Geologist will likely establish this position beyond the enhancement period. ISGS has had an interest in re-establishing the Coastal Geologist position, and Coastal Program support is facilitating their interest and helping to broaden their Department's breadth of expertise.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

The anticipated effects of creating a Shoreline Erosion and Accretion program and hiring a Coastal Geologist include improved coordination and cooperation among shoreline managers; reduced costs for coastal municipalities managing their shorelines; sustainable long-term solutions to eroding shorelines; and improved shoreline habitats, both terrestrial and aquatic. This strategy will benefit the Coastal Management Program because there is a serious need for addressing community concerns and taking a broader perspective of the entire shoreline and the ICMP is uniquely positioned to assist in this way. Federal, state and local elected officials are all aware of the need for better management of the shoreline in order to maintain and enhance recreation, tourism and sustainable development. ICMP can provide a high-value service to these communities by working on this issue as a region and emphasizing cooperation and communication for problem solving. Establishing a regional dialogue on coastal erosion and accretion may open the door for continued communication and coordination on other coastal issues that would further regional goals for recreation, resource management and sustainable costal development.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

The likelihood of achieving success through this strategy is high. The initial goals of establishing a Shoreline Erosion and Accretion program, hiring a Coastal Geologist, and conducting solution-driven research are expected to be successful during the five-year assessment cycle. It is difficult to determine if subsequent goals of implementing regional solutions to shoreline erosion and accretion will be met within the enhancement period or in subsequent years. There are a number of unknown factors that will affect the timeframe necessary to achieve the goal. We are currently uncertain about the extent of data needs because Illinois currently lacks the coastal expertise needed to address these issues. Creating a Shoreline Erosion and Accretion program and re-establishing coastal geology expertise is essential to work toward the strategy goal. Using an adaptive management strategy in conjunction with a robust outreach and engagement strategy with coastal communities will help the region, and individual municipalities and managers with relevant, high-quality data, and a forum for multi-directional communication and coordination.

Program changes such as memoranda of understanding, administrative rules, ordinances, and new program elements will emerge from community-based needs and decisions based on sound science and research.

ICMP plans to continue work on this fundamental program need by building a base of support of local and regional legislators, local elected officials, and industrial, recreational, and resource-based interest group stakeholders. Targeted education and outreach are critical during this enhancement period and beyond to assure the best success at achieving the strategy goals.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy due to unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: To improve management of shoreline erosion and accretion issues through new coastal programs, coordinated management actions, and coastal restoration activities.
Total Years: 5
Total Budget: $550,000

Year(s): 1
Description of activities:

- Initiate Shoreline Erosion and Accretion program and hire a Coastal Geologist (the position may be filled prior to the start of the 309 Strategy)
- Literature Research
- Coordination with other agencies
- Coordination with local governmental entities
- Initiate studies

Major Milestone(s): Hire Coastal Geologist; identify initial workplan; complete literature review, initiate studies
Budget: $110,000

Year(s): 2-5
Description of activities:

- Continue research
- Apply for Projects of Special Merit
- Coordinate work with other agencies
- Coordination with local governments
- Targeted education and outreach
- Develop new program elements identified as priorities through research. This may include new or revised coastal land acquisition, management, and restoration programs, memoranda of understanding, administrative rules, ordinances
- Implementation of projects as feasible
- Provide technical support for local project implementation
- Assess program success and use an adaptive management approach

Major Milestone(s): Completion of research studies, development of education and outreach tools, implementation of projects
Budget: $440,000

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

ICMP has not previously sought funds for this strategy, however, we are currently exploring options to fund the first year of the coastal geologist's salary from other funds. ISGS will contribute to funding towards the salary. Additional funding needs will be addressed through 306 funds and partnership opportunities.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

ICMP would need to hire a coastal geologist and conduct technical studies that may require specialized equipment. ICMP is currently in discussions with ISGS to jointly fund a coastal geologist position. We have also been coordinating with USACE on the sediment budget study.

VIII. Projects of Special Merit

Projects of Special Merit may include additional studies that would not be covered by the proposed budget as well as projects focused on erosion prevention at Illinois Beach State Park.

It is expected that details for Projects of Special Merit would be developed by the Coastal Geologist.

5-Year Budget Summary by Strategy

Coastal Hazards - Shoreline Erosion and Accretion Strategy

Strategy Title	**Year 1 Funding**	**Year 2 Funding**	**Year 3 Funding**	**Year 4 Funding**	**Year 5 Funding**	**Total Funding**
Coastal Geologist	$60,000	$60,000	$60,000	$60,000	$60,000	$300,000
Research/Studies	$50,000	$50,000	$50,000	$50,000	$50,000	$250,000
Total Funding	$110,000	$110,000	$110,000	$110,000	$110,000	$550,000

Coastal Hazards - Ravine Management Program

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

Develop a ravine management program plan for the Illinois Coastal Management Program (ICMP).

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

ICMP proposes developing a ravine management program that will assess current conditions, set priorities for future education, outreach and management and begin stakeholder and partner engagement. As part of the ravine management strategy, ICMP would undertake a study to gain a better understanding of the status of ravine management. The study would:

- gather information on past and current management efforts undertaken by various

organizations and communities

- gather information on existing policies and ordinances
- provide information on best management practices (BMPs) and on implementing ravine strategies
- assess vulnerability of ravines to coastal hazards
- prioritize ravines in greatest need for stormwater and erosion control
- identify existing gaps in ravine management
- provide recommendations for education, outreach, and management, and identify best opportunities for ICMP to become involved

Once the study is complete, ICMP would engage a consultant to facilitate outreach to landowners and other agencies to promote education about the topic.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

Ravines are an important and unique feature in the northern part of the Illinois coastal zone. There are 47 ravines located between Winnetka and the Wisconsin border. The steep-sided ravines support groundwater-fed growing conditions and microclimates and offer habitat for unique communities of plants and animals. The topography and positioning of the ravine systems provide the right conditions for several threatened and endangered northern plant and tree species rarely found this far south. Managing the ravines to address the stormwater runoff and the erosion associated with it is a significant challenge in the Illinois coastal zone, especially for the ravines surrounded by urban development.

Ravine management has been identified by ICMP stakeholders as a high priority during the development of the Illinois Lake Michigan Implementation Plan (ILMIP). Ravine management efforts have been ongoing by some municipalities within the coastal zone as well as by some private landowners. Organizations like the Alliance for the Great Lakes have also been involved in ravine management in the coastal zone. However, there are multiple ravines lacking management and many of them are faced with severe erosion and habitat degradation. The ravine research, investigations and assessments will provide ICMP and partners involved in ravine management with current status of ravine efforts, and will provide much-needed information on which ravines should be prioritized for ICMP's involvement. The Ravine Management Program will address the needs identified in the plan.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

Ravines are a unique feature of the coastal zone. If not addressed, stormwater and erosion issues lead to severe degradation of the ravine habitat and contribute to Lake Michigan water quality degradation. Work has been ongoing in some ravines to properly manage the habitat, but other ravines are in need of management actions. This strategy will provide ICMP with information on the current status of the ravines and it will guide ICMP's future actions on the ravines, such as allocation of funds toward priority ravine projects. This work will also address priorities identified as part of ILMIP to assess vulnerability of the ravine system, help communities manage the ravines, and provide education and assistance to landowners.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

There is a high likelihood of success for creation of the Ravine Management Program. ICMP will engage a qualified contractor to research and develop a plan and then begin implementation of the program. We will also work with organizations already engaged in ravine management, such as the Alliance for the Great Lakes and the Park District of Highland Park.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: Develop a ravine management program for the Illinois Coastal Management Program (ICMP).
Total Years: 4
Total Budget: $135,000

Year(s): 1-2
Description of activities:

- Develop RFP
- Hire qualified consultant to conduct research and develop ravine management plan
- Literature Research, plan review
- Coordination with other agencies
- Development of ravine management plan

Major Milestone(s): Engage qualified contractor, develop plan
Budget: $75,000

Year(s): 3-4
Description of activities:

- Implement Ravine Management Program through outreach, education, and project support.
- Coordination with local governmental entities

Major Milestone(s): Engage consultant for outreach and implementation; complete strategic outreach to communities, organizations and landowners: provide individual ravine management plans and project support to high priority ravines.
Budget: $60,000

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

ICMP has not previously sought funds for this strategy, as it is beyond what we would be able to fund through standard Section 306 resources. We do not anticipate additional funding needs beyond those outlined in this 309 plan.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

ICMP would engage a qualified contractor to develop the Ravine Management Plan and implement the program. At this time, ICMP does not have sufficient staff levels and staff expertise to handle the development of the plan in-house. ICMP is working with the Illinois State Geological Survey to develop a Coastal Geologist position as a joint appointment between two agencies. Once hired, the coastal geologist would be involved in erosion management in the ravines.

VIII. Projects of Special Merit

No Projects of Special Merit are planned for this strategy at this time.

5-Year Budget Summary by Strategy

Coastal Hazards - Ravine Management Program Strategy

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Ravine Management Plan	$25,000	$50,000				$75,000
Program Implementation			$30,000	$30,000		$60,000
Total Funding	$25,000	$50,000	$30,000	$30,000		$135,000

Coastal Hazards - Prioritizing Wetlands

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☒ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

The goal of the Prioritizing Wetlands strategy is to complete characterization and analysis of wetlands in the Illinois Coastal Zone and prioritization for their use in managing local surface runoff before it enters storm sewers. This prioritization will guide potential land acquisition projects, land management goals, and potentially lead to memoranda of understanding for improving stormwater management using wetlands.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

Non-overbank flooding due to inadequate stormwater management systems is a major concern in the coastal zone. Diverting rain water and snowmelt into natural systems before it would

enter grey infrastructure such as storm sewers or detention basins has the potential to improve coastal resiliency. The proposed strategy will involve establishing a flexible set of criteria to prioritize wetlands for use in stormwater management. These criteria will be developed using current literature and best practices for stormwater management as a first step. Illinois Coastal Management Program (ICMP) and a consultant will convene a group of wetland experts, land managers, stormwater managers, and other specialists to review current information and define a system for identifying key characteristics of individual wetlands, including existing input of local surface runoff, and prioritizing them for specific use in stormwater management. The group may also identify a prioritization strategy for wetland protection and restoration activities, or other goals as needed.

ICMP will work with partners or contractors to develop an inventory of all existing wetlands within the Illinois Coastal Zone to develop a spatial database that will include fundamental characteristics of wetlands within the Coastal Zone. Existing data for individual wetlands will be gathered from a variety of sources including the Illinois Natural Areas Inventory, National Wetlands Inventory, research literature, local studies, etc. Additional data needed to complete the characterization for the wetlands will be collected through field work and ground-truthing.

The wetland characterizations will be analyzed through the prioritization criteria identified by experts and then reviewed for accuracy, outcomes and any calibration necessary. Once the group of experts is satisfied with the resulting prioritization, ICMP will develop outreach strategies to landowners and land managers to present them with the results of the prioritization process. Additional program elements may be needed to assist communities or landowners on how to reduce coastal hazards through incorporating these wetlands into comprehensive green infrastructure and stormwater management strategies. Guidance on additional technical resources and funding opportunities will also be provided.

Ultimately the inventory and characterization will give ICMP a spatial database and a better understanding of the distribution and current condition of wetlands throughout the coastal zone and their potential value in surface runoff management. This is a fundamental need for understanding critical natural resources along the coast and will undoubtedly provide many more uses than described for this strategy.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

As identified in the Phase I and II assessments, stormwater management and flooding are an issue throughout the coastal zone. Stormwater management is an increasing challenge in the urban environment. The frequency of intense storm events is increasing and the current “grey” stormwater infrastructure is inadequate to handle such high volumes in short time periods. Options to capture water away from traditional stormwater systems and allow for slow infiltration through more natural substrates are becoming more accepted and they provide additional aesthetic, ecological, and societal benefits. There is a

broad and growing interest in using green infrastructure to better manage our ever-increasing stormwater, and wetlands can provide a natural, existing green infrastructure matrix in some cases.

Currently, the ICMP does not have an up-to-date, accurate database of wetland resources within the coastal zone. While some communities already incorporate wetlands into green infrastructure and stormwater plans, this coastal zone database will be critical to incorporating existing or potential wetland areas into all coastal community green infrastructure plans, and assisting municipalities with flooding and stormwater issues. This strategy addresses the need by compiling existing data into a local database and supplementing it with field work and ground truthing to ensure accuracy. Developing the prioritization criteria is essential for effectively identifying and utilizing existing wetland resources for stormwater management.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

This strategy will provide ICMP with critical decision-making tools to assist local communities in making smart choices when dealing with stormwater management. Currently ICMP does not have adequate wetland data to present to communities that have stormwater issues. A prioritized wetland database will allow ICMP to identify existing wetland features in order to assess their suitability for local stormwater management needs. In addition, this data will allow ICMP to customize recommendations to promote the best possible uses of their coastal resources. The data will provide an opportunity to use spatial analysis tools to elucidate larger scale planning options that would not be apparent without a regional dataset. Improvements in stormwater management in the coastal zone could provide significant benefits to Lake Michigan nearshore water quality, reductions in localized flooding, improved groundwater quality, and an increased appreciation for wetland resources.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

There is a high likelihood of success because there is much data already available and there are good tools and methods for filling in needs and gaps. ICMP will engage qualified contractors to assist with wetland inventory and will engage multiple experts to develop prioritization criteria. ICMP expects that many partners and stakeholders will be very supportive of this project. ICMP will use this information in our continuing outreach and education programming.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: The goal of the Prioritizing Wetlands strategy is complete characterization and analysis of wetlands in the Illinois Coastal Zone and prioritization for their use in managing stormwater runoff. This prioritization will guide potential land acquisition projects, land management goals, and potentially lead to memoranda of understanding for improving stormwater management using wetlands.
Total Years: 4
Total Budget: $115,000

Year(s): 1-2
Description of activities:

- Develop RFP
- Engage contractor(s)
- Literature review
- Convene experts and define a system for identifying key data on individual wetlands which would be needed to prioritize them for specific use in managing runoff from adjacent land
- Wetland inventory and characterization, including field work and ground-truthing
- Develop a database with wetland information
- Wetland prioritization

Major Milestone(s): Complete wetland inventory, prioritize wetlands for acquisition, restoration, and use in stormwater management
Budget: $75,000

Year(s): 3-4
Description of activities:

- Develop outreach strategies
- Develop outreach materials
- Provide prioritized wetlands information to other groups and municipalities
- Assist municipalities with incorporating prioritized wetlands into stormwater management planning

Major Milestone(s): Incorporate existing or potential wetland areas into community green infrastructure plans
Budget: $40,000

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

ICMP has not previously sought funds for this strategy, as it is beyond what we would be able to fund through standard Section 306 resources. We do not anticipate additional funding needs beyond those outlined in this 309 plan.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

ICMP does not currently have a staff GIS person who could perform the inventory process. Other ICMP staff members possess some of the technical expertise and skills, but a contractor will be used in coordination with other key experts to assure broader considerations and viewpoints.

VIII. Projects of Special Merit

No projects of special merit are planned at this point for this strategy. As the prioritization process develops, ICMP may apply for projects of special merit to support stormwater management activities at priority wetlands.

5-Year Budget Summary by Strategy

Coastal Hazards - Prioritizing Wetlands Strategy

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Inventory and prioritization	$40,000	$35,000				$75,000
Outreach			$20,000	$20,000		$40,000
Total Funding	$40,000	$35,000	$20,000	$20,000		$115,000

Coastal Hazards - Groundwater Hydrology

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☒ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

The goal of this strategy is to identify the Illinois Lake Michigan groundwater basin in order to modify the Coastal Zone boundary to represent an accurate area affecting the Illinois Coastal Zone.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

The proposed strategy will involve a hydrologic assessment of the Calumet region – possibly expanding to other parts of the Illinois Coastal Zone - to understand where groundwater flows into the Lake Michigan watershed. Currently, the Illinois Coastal Zone Boundary is based on the understanding that the reversal of the Chicago and Calumet Rivers carries much of the surface runoff from the Chicagoland region to the Mississippi watershed because of the extensive

system of sewers, tunnels and other drainage modifications implemented through the course of our urban development. However, there is very little information available to elucidate the extent of the groundwater basin for Lake Michigan so we cannot ascertain where water that infiltrates the ground actually contributes to Lake Michigan. This is particularly relevant because there is a broad and growing interest in the use of green infrastructure to better manage our ever-increasing stormwater. The frequency of intense storm events is increasing and current "grey" stormwater infrastructure is inadequate to handle such high volumes in short time periods. Options to capture water away from traditional stormwater systems and allow for slow infiltration through more natural substrates are becoming more accepted and they provide additional aesthetic, ecological, and societal benefits.

The proposed strategy will determine if the current Illinois Coastal Zone boundary is adequate to address water infiltration that goes to Lake Michigan. Illinois groundwater may still be an important contribution to the Lake Michigan system, but the extent and amount is unknown. Initially the strategy will focus on the Calumet region as there is a strong movement in the region to address stormwater and flooding issues through a variety of strategies including increased infiltration.

The strategy will involve establishing a contract with a qualified hydrologist or firm that will work with the Illinois Coastal Management Program (ICMP) to develop a Calumet region groundwater study beginning with a literature review and assessment of currently available data. Once we have a thorough understanding of the groundwater data landscape we will work with the hydrologist to determine the best approach and research design to begin identifying the Illinois Lake Michigan groundwater basin. Data considerations will influence the geographic extent of this study. Strategy development will also include key partners involved in water management such as Metropolitan Water Reclamation District; Chicago Dept. of Water Management; Metropolitan Planning Council, Illinois Environmental Protection Agency, and others. ICMP in cooperation with other local experts and agencies will assess groundwater investigation results quarterly to determine progress and adjust research strategy as needed.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

There is a significant gap in understanding the groundwater system that contributes to Lake Michigan from Illinois. The proposed program change will allow the ICMP to work within a more accurate and appropriate Coastal Zone boundary with a greater impact on the Lake Michigan coast. There is a great interest in increasing the use of green infrastructure use for stormwater management. This has been identified by our program and our stakeholders and a high priority throughout the coastal zone. We have been working to promote green infrastructure use, but it has been somewhat limited within our current coastal zone boundary that reflects the Lake Michigan to Mississippi River diversion. An accurate boundary would allow us to strategically address the area truly contributing water to Lake Michigan.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

This strategy will allow our coastal program to understand where and how water is infiltrating to the Lake Michigan system so we can target our programs to the appropriate areas based on sound scientific data. Many communities in the Calumet region suffer from flooding due to stormwater management problems, and polluted runoff affects water quality in the area waterways. Green infrastructure can be used to increase infiltration, decrease flooding, and divert stormwater away from already overloaded storm drains. Understanding the extent of the groundwater basin will allow us to target programs more effectively. This information would also be used by many other partner agencies to improve and enhance water management in the Lake Michigan Basin. Other added benefits include increasing water into the groundwater basin for better, cleaner recharge for Lake Michigan and an expanded coastal zone boundary that allows our program to expand into logical areas that are clearly coastal in some aspects but were excluded from the zone because of the severely altered surface hydrology resulting from diversion of Chicago waterways away from Lake Michigan.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

The likelihood of success is high because the goal is specific and achievable through literature reviews, spatial data plotting, monitoring and research, and modeling. The information is knowable but not currently known. It is not clear exactly how long this research will take to complete for the Calumet, so the program change could occur after the enhancement period. Ideally, ICMP will complete the groundwater hydrology for the entire coastal zone and then submit a program change for the boundary. The Illinois Coastal Program has been very well-received and there will be significant support for both the results of the strategy research, and for expansion of the program boundary. The ICMP will continue regular outreach and education with coastal legislators, elected officials, and stakeholders to assure support for the program and that the program is focused on the issues important to our stakeholders.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change

somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: The goal of this strategy is to identify the Illinois Lake Michigan groundwater basin in order to modify the Coastal Zone boundary to represent an accurate area affecting the Illinois Coastal Zone.
Total Years: 5
Total Budget: $900,000

Year(s): 1-2
Description of activities:

- Create RFP
- Contract with an experienced hydrologist or firm
- Literature review and assessment of currently available data
- Coordination with key partners
- Develop workplan
- Begin groundwater assessment of the Calumet region

Major Milestone(s): Hire a consultant or experienced hydrologist, develop workplan and strategies
Budget: $360,000

Year(s): 3-5
Description of activities:

- Project management
- Quarterly assessment of work
- Continued groundwater assessment of the Calumet region
- Potential expansion of the groundwater assessment to other regions in the coastal zone
- Assessment of results, including evaluation of coastal zone boundary
- Dissemination of results
- Prepare documentation for program change (if warranted)

Major Milestone(s): Completion of groundwater assessment for the Calumet, compilation and analysis of results
Budget: $540,000

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

Section 309 funding should be sufficient to accomplish this strategy. However, if additional questions could be answered with more detailed data, we will coordinate with other partner agencies and entities that have a strong interest in understanding groundwater and stormwater movement in the Lake Michigan basin.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

ICMP does not have the technical knowledge, skills, or equipment to fulfill the needs of this strategy, so we have planned most of the technical work to be done contractually.

VIII. Projects of Special Merit

No Projects of Special Merit are planned at this time.

5-Year Budget Summary by Strategy

Coastal Hazards - Groundwater Hydrology Strategy

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Researcher/consulting firm	$80,000	$80,000	$80,000	$80,000	$80,000	$400,000
Groundwater assessment	$100,000	$100,000	$100,000	$100,000	$100,000	$500,000
Total Funding	$180,000	$180,000	$180,000	$180,000	$180,000	$900,000

Public Access Plan - Inventory and Needs Assessment

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☐ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☒ Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☒ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

The goal of the Public Access strategy is to develop a public access plan. Information gathered during the process will guide ICMP decisions on public access and provide information that will be used by IDNR and incorporated into the State Comprehensive Outdoor Recreation Plan. This strategy will also inform the work of local and regional governments so they can incorporate identified needs and solutions into their planning process and will inform the need for policy changes related to public access along the coast.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

As part of the development of the Public Access Plan, ICMP will develop a comprehensive inventory of public access and recreation resources followed by an assessment of user needs and perceptions. The inventory and needs assessment will provide information on gaps and barriers to access that exist in the coastal zone. The inventory will include a review of existing public access GIS information, followed by field work to fill in data gaps. A standard inventory sheet will be developed to gather information about level of access and site amenities, and data will be entered into GIS database. The inventory will encompass both land and water based recreational activities. Besides assessment of sites and amenities, the inventory phase may also include assessments of trails and trail connections, transportation options, parking, fees, signage and wayfinding, and accessibility for seniors and persons with a disability.

The needs assessment will determine the level to which current public access opportunities are serving the public, and identify user needs, perceptions, and existing or emerging issues. To reach a broad constituency, the assessment will utilize a variety of approaches that may include surveys, individual interviews, focus group meetings, and public meetings.

This project will improve the information available to the ICMP and will directly inform the allocation of ICMP resources towards public access opportunities. The coastal assessment will be incorporated into the Statewide Comprehensive Outdoor Recreation Plan, which informs the actions of IDNR as a whole. Information from the assessment will be utilized at the state sites located within the coastal zone – Illinois Beach State Park and William Powers State Recreation Area – and will be of paramount importance for informing development of any new land acquisitions. Information from this project may also inform IDNR public access and recreation grant funding programs. The information on needs will be provided to coastal municipalities and ICMP staff will work with municipalities – especially those that are undergoing a planning process or ordinance update process - on incorporating improvements to public access that were identified during the assessment. ICMP may work with IDNR legal staff on potential revisions to statutes and regulations related to public trust lands, if needed.

In the future, the information may lead to a development of a comprehensive access guide available online.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

As identified in the assessment, there is a lack of comprehensive information sources that would provide a thorough overview of public access in the coastal zone. Various types of information can be found on websites for municipalities or local park districts, but the level of information and its usefulness vary. The information is scattered and does not lend itself to regional planning, nor does it allow ICMP to fully understand the emerging issues that the public may be dealing with. The population living in the coastal zone is projected to increase, thus increasing demand on the resources and demand for access. That makes it imperative to identify additional public access opportunities and to manage

the existing ones to meet the needs of the coastal residents and visitors while protecting natural resources.

The two state sites located in the coastal zone offer a variety of recreational opportunities. However, the sites do not have access-focused management plans. Information gathered from the inventory and the assessment will be used by the IDNR staff in their decision making regarding public access. In addition, IDNR continues to pursue land acquisition opportunities within the coastal zone. The information gathered from the inventory and needs assessment will be a useful for determining best uses for any new sites.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

The inventory and needs assessment would be a first step towards providing a detailed look at the public access opportunities, their distribution throughout the coastal zone, and barriers to access. The needs assessment would gather public input on issues related to current and future public access challenges and opportunities in the coastal area. This will provide a direct benefit to ICMP, land managers, park districts, and other agencies involved with public access and recreation. This project will allow for improved regional planning and may also inform IDNR on issues of public rights of access along the shore of Lake Michigan.

This strategy will also help ICMP toward implementing a stakeholder identified priority of linking public transportation, hiking and biking trails, and water trails to provide multi-modal recreational access.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

This project has a high likelihood of success. ICMP will hire a contractor to perform both the inventory and the needs assessment and to compile the information into a Public Access Plan. ICMP currently provides grant funds for planning efforts connected to access, and also directs 306 funds towards various habitat and recreational tasks at the two state sites within the coastal zone. Once the data acquisition phase is complete, ICMP will use the information to inform actions and funding decisions of our own program as well as provide the information to IDNR for management of the state sites within the costal boundary. ICMP also expects to be involved in the development and programming at new acquisition sites with the information gathered during the assessment informing the direction and management of the site.

Many municipalities are undertaking various planning efforts in the coastal zone, many of which have a recreation and public access component. ICMP will work with municipalities during their planning process to address needs identified as part of the assessment.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: The goal of the Public Access strategy is to gather data that will guide ICMP decisions on public access and provide information that will be used by IDNR and incorporated into the State Comprehensive Outdoor Recreation Plan (SCORP). This strategy will also inform the work of local municipalities so they can incorporate identified needs and solutions into their planning process and will inform the need for policy changes related to public access along the coast.
Total Years: 3
Total Budget: $137,500

Year(s): 1
Description of activities:

- Create RFP
- Select qualified contractor
- Develop list of inventory data to collect
- Conduct inventory of current recreational facilities and level of public access
- Compile data in GIS

Major Milestone(s): Compilation of GIS data, completion of inventory
Budget: $67,500

Year(s): 2
Description of activities:

- Create a project steering group including partners such as the Chicago Metropolitan Agency for Planning, local park districts, county forest preserve districts, municipalities and others
- Create RFP
- Select qualified contractor
- Conduct assessment of needs through surveys, focus groups, public meetings
- Develop Public Access Plan

Major Milestone(s): Compilation of needs, production of Public Access Plan
Budget: $57,500

Year(s): 3
Description of activities:

- Coordination with other IDNR departments
- Coordination with Illinois Beach State Park and William Powers State Recreation Area
- Outreach to municipalities

Major Milestone(s): Incorporation of data into SCORP, incorporation of needs into municipal plans
Budget: $12,500

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

ICMP has not previously sought funds for this strategy, as it is beyond what we would be able to fund through standard Section 306 resources. We do not anticipate additional funding needs beyond those outlined in this 309 plan.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

ICMP does not currently have a staff GIS person who could assist with the inventory process. ICMP would hire a qualified contractor to perform both the inventory and the assessment.

VIII. Projects of Special Merit

No Projects of Special Merit are planned at this time.

5-Year Budget Summary by Strategy

Public Access Plan - Inventory and Needs Assessment

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Public access inventory and assessment	$67,500	$57,500				$125,000
Outreach (ICMP staff)			$12,500			$12,500
Total Funding	$67,500	$57,500	$12,500			$137,500

Filling Critical Data Gaps for Offshore Wind Energy Siting

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas *(check all that apply)*:

- ☐ Aquaculture
- ☒ Energy & Government Facility Siting
- ☐ Coastal Hazards
- ☐ Marine Debris
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Public Access
- ☒ Ocean/Great Lakes Resources

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply)*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☐ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. ***Strategy Goal:***

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change.

The proposed 309 Energy Facility Siting program change is for the Illinois Department of Natural Resources (IDNR) and the Illinois Coastal Management Program (ICMP) to collect data necessary to propose rules governing the siting of offshore wind turbines and associated cables. In accordance with State of Illinois law, these rules will be proposed to the State's Joint Committee on Administrative Rules for approval. This program change is likely to take place after the 309 Plan period, because we anticipate that data collection informing the program change will be required throughout the five-year implementation time.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

The Lake Michigan Wind Energy Act (20 ILCS 896/1-99, effective August 16, 2013) authorized IDNR to adopt rules to grant permits for assessment, construction and operation leases for off-shore wind parks. This Act allows the State to utilize wind energy, a large renewable energy resource positioned close to a metropolitan population center. Because of the current low cost of petroleum and natural gas there has been little financial incentive nor political momentum in Illinois to explore off-shore wind development since the passage of the Act. However, ICMP seeks to be proactive in gathering the data needed to develop such rules. ICMP's Technical Advisory Committee has identified locations of spawning habitat for key native fishes including lake trout (*Salvelinus namaycush*) and yellow perch (*Perca flavescens*) as one of the most pressing data needs. In order to protect fisheries, off-shore wind development siting criteria should take into consideration important fish spawning habitat.

Substrate is an important ecosystem component that provides shelter, spawning habitat, nursery, and feeding grounds for aquatic communities. Detailed physical habitat data for Lake Michigan is currently limited and collecting and analyzing the necessary information poses a substantial challenge. Not only is the size of the potential study area massive, critical habitat needs for fish species vary depending on their life histories. Habitat considerations are a high priority for fishery and resource management plans for nearshore (coastal zone) and offshore (e.g., reefs) regions. Precise information about substrate types and the degree of bottom heterogeneity along areas of interest will enable ICMP to make scientifically-sound siting recommendations. Details for gathering substrate information and identifying off-shore and nearshore spawning habitat are described in Part 1 and Part 2 of the strategy below.

General outreach work will also be accomplished through this strategy to identify additional valuable resources and uses of nearshore and offshore waters. This aspect may involve convening experts and stakeholders, surveying and interviews, additional background research, and review of other coastal or marine spatial plans that could help guide our process for identifying and considering resources and uses. This work would be accomplished through ICMP staff and consultants as needed, and is described below as Part 3 of the strategy.

Part 1: Identify Spawning Sites in Areas of Potential Off-Shore Wind Development (Focal Species: Lake Trout)

Rocky substrates are uncommon and important fish habitats in this area. Native fish species in Lake Michigan with spawning preferences for rocky substrate include lake trout (Salvelinus namaycush), smallmouth bass (Micropterus dolomieu), slimy and mottled sculpin (Cottus spp.), and yellow perch (Perca flavescens). Limited data is currently available on lake trout spawning sites in the nearshore habitat in Illinois' Coastal Zone. Most information to date indicates that Julian's Reef and Waukegan Reef, which are both in the study area, are important spawning grounds. Preliminary side-scan sonar studies conducted by the Illinois Natural History Survey in 2009 discovered multiple unknown bedrock areas which are potential spawning and nursery habitat. These studies were small-scale; more comprehensive data are needed to discover all potential sites.

This project will allow us to collect additional data on the lake bottom substrate in areas where wind turbines could theoretically be placed, focusing on areas that could have the type of spawning habitat used by lake trout. Data collection would focus on the areas at least six miles offshore (based on visibility guidelines already proposed for Illinois) and of suitable depth for

turbines north of Evanston. This area has the highest potential for lake trout spawning habitat and has relatively little historical sediment information available. For example, Grossepoint reef off of Glencoe exceeds 3.2 km in length and covers more than 52 km2 in water depths of 7-55 m of water with a vertical relief of 16 m. This reef has been proposed as potential spawning site and for additional mapping in the past, however no follow up assessments have occurred.

Part 2: Identify Perch, Lake Trout and Other Nearshore Fish Spawning Areas Potentially Impacted by Transmission Cables

Native fish species in Lake Michigan with spawning preferences for rocky substrate include lake trout (Salvelinus namaycush), smallmouth bass (Micropterus dolomieu), slimy and mottled sculpin (Cottus spp.), and yellow perch (Perca flavescens). Yellow perch is an ecologically important native species and once was among the most important commercial and sport fisheries in Lake Michigan. However, their abundance was greatly reduced in the late 1990s and has not recovered, despite which led to closure of the commercial fishery and reduced harvest limits for the sport fishery. Despite these management efforts yellow perch population levels are still low compared to historical accounts while recruitment continues to be erratic but generally low.

In Illinois waters, data suggest that yellow perch prefer to spawn in areas with large rubble or cobble substrates. This species shows high levels of fidelity to their spawning sites and their preferred substrate is relatively uncommon, making accurate identification of these areas necessary for proper protection. For all target species, this project will verify abundance and activity of these native fish at likely nearshore spawning locations at different times throughout the season. These data will provide the baseline for the creation of turbine and transmission line siting criteria.

Future follow-up work, not funded as part of this project, may be pursued to assess sites with high quality spawning substrates for invasive species such as zebra mussels, quagga mussels, round goby, and Cladophora species.

Part 3: Other data needs

Fish spawning habitat is not the only data need; research is under consideration through other funding sources to collect additional data on potential turbine impacts to migratory bird and bat populations. Additional research will focus on more general lake resources and uses that could be affected by offshore wind development. ICMP will begin investigations in collaboration with experts and stakeholders to identify these resources and uses for consideration in the development of a siting matrix. Other considerations and needs may become apparent as IDNR begins background research for this matrix.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

This project will allow us to collect needed data on the lake bottom substrate in areas where wind turbines and transmission lines could theoretically be placed. Offshore wind turbine sites are expected to be at least six miles offshore (based on visibility guidelines already proposed for Illinois) and are limited to locations with suitable depth for turbines. Transmission line sites can be anticipated based upon the location existing infrastructure and most likely potential offshore turbine locations. In Illinois, likely turbine sites are north of Evanston and south of Winnetka. As described in the Phase I assessment, wind energy has been proposed for development in Evanston. The most probable location for transmission line connection to onshore power transmission is in Kenilworth, IL.

Other lake resources exist within the waters that could be targeted for wind energy. It is important to build an accurate picture of these resources and their uses and values to Illinois and the Great Lakes. Stakeholder and expert outreach will be needed to gather preliminary information that accounts for many needs and uses.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

This strategy will address significant knowledge gaps our technical advisors have identified for meeting the IDNR's mandate to develop offshore wind energy siting guidelines. By gathering this data now while there is little economic push for the guidelines, ICMP will be able to provide clear, rational input without the errors that might result from a more hasty decision lacking all of the important data.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

To complete the lake substrate part of this strategy, ICMP plans to contract with the Illinois Natural History Survey (INHS). Staff at INHS has completed previous substrate surveys which this research will extend and further develop. Their researchers have extensive expertise and qualifications for this type of work and have advised ICMP in the development of this strategy. This work will inform the development of the rules, which, depending on the political and economic climate, may take place after the 5 year strategy period.

Background research on lake resources and uses will be conducted by ICMP staff in collaboration with key partners and experts, and with the assistance of consultants, as needed.

VI. Strategy Work Plan

Using the template below, provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe

those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: The proposed 309 Energy Facility Siting program change is for the Illinois Department of Natural Resources (IDNR) and the Illinois Coastal Management Program (ICMP) to collect data necessary to propose rules governing the siting of offshore wind turbines and associated cables.
Total Years: 5
Total Budget: $583,563

Year(s): 1-2
Description of activities:
- ICMP staff begin research on lake resources and uses
- Conduct outreach to experts and lake users
- Begin building a spatial database of resources and uses

Major Milestone(s): Development of spatial database
Budget: $25,000

Year(s): 3
Description of activities:
- Hire INHS staff scientist and technician
- Obtain appropriate vessel and sonar equipment
- Preliminary field reconnaissance and surveys

Major Milestone(s): Development of work plan, procurement of equipment
Budget: $315,113

Year(s): 4-5
Description of activities:
- Conduct field surveys for lake trout spawning habitats
- Conduct field surveys for yellow perch spawning habitats
- Data analysis
- Report recommendations

Major Milestone(s): Collection of data during every field season
Budget: $243,450

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

ICMP has not previously sought funds for this strategy, as it is beyond what we would be able to fund through standard Section 306 resources. Depending on weather conditions and the rate at which data is obtained, the fish habitat study may extend past the 2016-2020 strategy period. If the study time period needs to be extended, ICMP plans to apply for continuing funds as part of the next assessment cycle (2021-2025).

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

The INHS, a part of State government, has the technical knowledge and skills to carry out the proposed strategy. Some equipment will need to be purchased to carry out the strategy, including a research vessel fitting the survey requirements and a side-scan sonar system. These are not available through other state agencies are built in to the five-year budget summary below.

VIII. Projects of Special Merit

No Project of Special Merit anticipated at this time.

5-Year Budget Summary by Strategy

Filling Critical Data Gaps for Offshore Wind Energy Siting

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Resource/uses spatial database	$10,000	$15,000				$25,000
Equipment			$236,500			$236,500
Research to fill critical data gaps			$78,613	$121,725	$121,725	$322,063
Total Funding	$10,000	$15,000	$315,113	$121,725	$121,725	$583,563