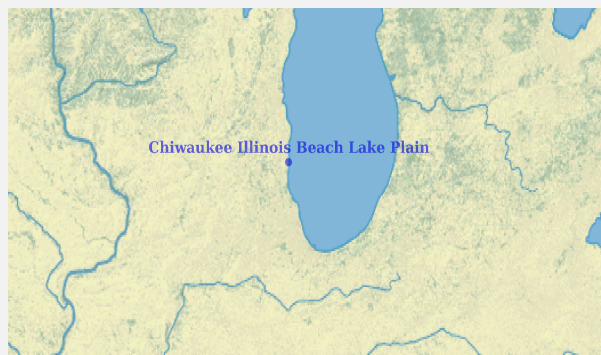




# Ramsar Information Sheet

Published on 6 October 2015

## United States of America Chiwaukee Illinois Beach Lake Plain



Designation date: 25 September 2015  
Ramsar ID: 2243  
Coordinates: 42°28'15"N 87°48'51"W  
Official area (ha): 1 584,00  
Number of zones: 10

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

*Summary (This field is limited to 2500 characters)*

The Ramsar Site, known as the Chiwaukee Illinois Beach Lake Plain, contains the highest quality coastal dune and swale ecosystem in southeast Wisconsin and northeast Illinois, supporting six globally rare and representative fen, sedge meadow, freshwater marsh and seep community types associated with the southwest Great Lakes Morainal sub eco-region. The unique geology and hydrology of this ecosystem is driven by historic glaciation, wind and wave action, Lake Michigan water levels, ground water inflows, and in the more recent past, surface water inflows. Because of the shallow topography among dune and swale communities within the complex, wetland community boundaries can easily expand, contract and shift significantly over time. In addition, many wildlife species including wetland dependent reptiles and birds rely on these uplands to complete their life cycle or for regular foraging. Therefore where dune and swale topography is present, narrow bands of upland savanna and prairie are not excluded from the designation area.

The ecosystem connects 14 different community types, 7 are wetland communities. The site's wetlands and associated upland prairie and savanna complex provides habitat for over 930 native plant species and 300 animal species, including 63 state-protected species. Two (2) federally protected wetland-dependent species are found within the Lake Plain, including the only highly viable population of *Platanthera leucophaea* [eastern prairie fringed orchid] in the region, and *Charadrius melodus* [piping plover]. The site serves as important breeding habitat for many wetland-dependent bird species and provides critical stop-over habitat for at least 310 migratory bird species. A portion of the site is designated an Important Bird Conservation Area (825 hectares) by the National Audubon Society and 5.1 square kilometers is designated as critical habitat area for the federally endangered piping plover. Due to the ecological, geological and biological significance of the area, it has been recognized with the dedication of two National Natural Landmarks. It's also recognized as a Conservation Opportunity Area by State Wildlife Action Plans (both Illinois and Wisconsin) and nearly 60% is dedicated as Nature Preserve (861 ha, 48% of the total area), State Natural Area (165 hectares, 9%), or State Scientific Area (34 ha, 2%). Locally it is recognized as a Conservation Focus Area by the Chicago Wilderness Consortium.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

Name

Institution/agency

Postal address *(This field is limited to 254 characters)*

E-mail

Phone

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year

To year

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional) *(This field is limited to 2500 characters)*

The boundary is the same as existing protected natural areas and open space or follows physical boundaries such as shoreline, roads, wetland community boundary, and ravine slopes.

### 2.2.2 - General location

a) In which large administrative region does the site lie?

Wisconsin and Illinois

b) What is the nearest town or population centre?

Kenosha, Wisconsin and Waukegan, Illinois

### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):

1584

Area, in hectares (ha) as calculated from GIS boundaries

1584.42

### 2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Other scheme (provide name below)	Midwest Broadleaf Forest Province

Other biogeographic regionalisation scheme (This field is limited to 2500 characters)

McNab, W. H, D.T Cleland, J. A Freeouf, J. E Keys Jr., G.J. Nowacki, and C. A. Carpenter. 2007. Description of "Ecological Subregions: Sections of the Coterminous United States" First Approximation. United States Department of Agriculture Forest Service. The terrain of the Site is nearly level lake plain underlain by lacustrine sand deposits and steep sloped ravine tributaries. The subregion encompasses 17,330 square miles, 4.71% of the larger province.

## 3 - Why is the Site important?

### 3.1 - Ramsar Criteria and their justification

#### Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other reasons (This field is limited to 3000 characters)

The Ramsar Site supports six representative wetland community types of exemplary high quality and which are designated with a global conservation status ranking\* of imperiled or vulnerable as described by the Association for Biodiversity Information and the Nature Conservancy in Plant Communities of the Midwest, Classification in an Ecological Context (2001).

The Conservation Rank field gives the global conservation status rank of the association. The global rank is a numerical assessment of the rarity and imperilment of the association across its entire range of distribution. Ranks are primarily based on the number of occurrences, state conservation status rank(s), the geographic range of the type, and its long-term decline in abundance (e.g., pre-European settlement abundance versus current abundance). Other factors include permanence, intrinsic fragility and vulnerability, threats, and the number of occurrences that are protected.

The ranks are defined as follows:

- **CRITICALLY IMPERILED:** Generally 5 or fewer occurrences and/or very few remaining acres or very vulnerable to elimination throughout its range due to other factor(s).
- **IMPERILED:** Generally 6-20 occurrences and/or few remaining acres or very vulnerable to elimination throughout its range due to other factor(s).
- **VULNERABLE:** Generally 21-100 occurrences. Either very rare and local throughout its range or found locally, even abundantly, within a restricted range or vulnerable to elimination throughout its range due to specific factors.
- **APPARENTLY SECURE:** Uncommon, but not rare (although it may be quite rare in parts of its range, especially at the periphery). Apparently not vulnerable in most of its range.
- **SECURE:** Common, widespread, and abundant (though it may be quite rare in parts of its range, especially at the periphery). Not vulnerable in most of its range.

Below is a description of each wetland type of significance found within the Lake Plain and the associated Ramsar Wetland Type Classification:

- Great Lakes Interdunal Wetlands, Pannes; Ramsar Wetland Type- Ts (seasonally flooded meadows, sedge meadows). CONSERVATION RANK: Globally Imperiled.
- Southern Great Lakes Shore Emergent Marsh; Ramsar Wetland Type- Tp (freshwater marshes and pools). CONSERVATION RANK: Globally Vulnerable and Apparently Secure.
- Lake Plain Wet Prairie, Wet Sand Prairie; Ramsar Wetland Type- Ts (seasonally flooded meadows). CONSERVATION RANK: Globally Imperiled and Globally Vulnerable.
- Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen; Ramsar Wetland Type- U (fens). CONSERVATION RANK: Globally Vulnerable and Apparently Secure.
- Twigrush Wet Prairie; Ramsar Wetland Type- Ts (seasonally flooded meadows, sedge meadows). CONSERVATION

RANK: Globally Imperiled.

• Skunk Cabbage Seepage Meadow, seep; Ramsar Wetland Type – Xf (Tree-dominated intermittent inland wetland). CONSERVATION RANK: Apparently Secure.

- Criterion 2 : Rare species and threatened ecological communities
- Criterion 4 : Support during critical life cycle stage or in adverse conditions

### 3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Platanthera leucophaea</i> 	Eastern prairie fringed orchid	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Federally threatened	

(This field is limited to 2500 characters)














The Lake Plain provides suitable and or critical habitat for two United States Federally Threatened and Endangered species that are associated with wetland communities, including one plant species and one bird species and supports two globally imperilled wetland communities, panne and wet sand prairie.






• *Platanthera leucophaea*:

The Lake Plain supports the only highly viable population of EPFO in the Prairie (Lake Michigan Lake Plain) physiographic region. This population occurs in Chiwaukee Prairie State Natural Area. A highly viable population typically has more than 50 flowering plants; a population trend that is stable or increasing over a monitoring period of 5 years; available habitat of at least 50 hectares (125 acres) in size; assurances of ongoing management to reduce impacts from drainage, invasive non-native plant species or woody vegetation encroachment; and protection through long-term conservation easements, legal dedication as nature preserves, or other means. The Chiwaukee Prairie State Natural Area fits all of the above criteria. The species recovery goal in this physiographic region is two highly viable populations. Efforts to reintroduce new populations to other portions of the Lake Plain have resulted in the establishment of a few isolated small populations (less than 5 flowering individuals found annually) at Illinois Beach State Park. Furthermore, large portions of the Lake Plain represent potentially suitable habitat area for the recovery of this species since there are large protected sedge meadow and prairie habitats in various successional stages that are currently being managed with prescribed fire, hydrologic restoration and invasive species control that could provide for colonization of additional new populations and refugia. Because the Lake Plain is large in size with a mosaic of areas of potentially suitable habitat, it represents an important complex for the recovery of this species.



### 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	<i>Bucephala albeola</i> 	Bufflehead	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		The site is a resting habitat for this species of migrating waterbirds. Its open-water habitats are often the only deep-water available for diving to catch food.
CHORDATA / AVES	<i>Bucephala clangula</i> 	Common Goldeneye	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		The site is a resting habitat for this species of migrating waterbirds. Its open-water habitats are often the only deep-water available for diving to catch food.
CHORDATA / AVES	<i>Buteo platypterus</i> 	Broad-winged Hawk	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.
CHORDATA / AVES	<i>Charadrius melodus</i> 	Piping Plover	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Federally endangered	The Great Lakes population was listed as endangered under provisions of the US Endangered Species Act on January 10, 1986 (final rule 50 FR50726).
CHORDATA / AVES	<i>Chroicocephalus philadelphia</i> 	Bonaparte's Gull	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, both to and through the area. It acts as a natural "funnel" for these birds passing around the lake to the north, northwest and northeast (from S and SW) during spring migration.
CHORDATA / AVES	<i>Cygnus columbianus</i> 	Tundra Swan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.
CHORDATA / REPTILIA	<i>Emydoidea blandingii</i> 	Blanding's turtle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				EN 	<input type="checkbox"/>	<input type="checkbox"/>	State-threatened (Illinois)	Breeding and foraging habitat for one of its largest known populations. Needs large tracks of contiguous wetland and upland habitat to successfully complete its life cycle. Listed as threatened in Wisconsin until 2013, there is a petition to re-list it.

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	<i>Geothlypis philadelphia</i> 	Mourning Warbler	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.
CHORDATA / AVES	<i>Grus canadensis</i> 	Sandhill Crane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.
CHORDATA / AVES	<i>Oporornis agilis</i> 	Connecticut Warbler	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.	
CHORDATA / AVES	<i>Setophaga caerulescens</i> 	Black-throated Blue Warbler	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		The Lake Michigan shoreline is especially important as a navigational aid, bringing species both to and through the area. It acts as a natural "funnel" for this species when heading south and east around the bottom of the lake in fall.

*(This field is limited to 2500 characters)*

**Criterion 2:**

• **Charadrius melodus:**

The Great Lakes population of piping plovers was listed as endangered under provisions of the U.S. Endangered Species Act on January 10, 1986 (final rule (50 FR50726). Critical habitat was designated on the Great Lakes breeding grounds on May 7, 2001 and for all populations on the wintering grounds on July 10, 2001. The Great Lakes population had declined from a historic size of several hundred breeding pairs to 17 at the time of listing. From 1986-2002 population fluctuated between 12-51 breeding pairs, with breeding areas largely confined to Michigan.

• **Emydoidea blandingii:**

Relies on the wetland communities for over-wintering and the adjacent upland prairie savanna communities for nesting in the summer. Since 2006 researchers have been tracking the community in Spring Bluff and Chiwaukee Prairie, allowing for the development of population models and conservation strategies to help ensure the conservation of sustainable populations of this species.

**Criterion 4: Migration corridor**

Lake Michigan's shoreline is acknowledged as one of the most important flyways for migrant songbirds in the United States by ornithologists and bird watchers worldwide. In all, more than 300 species of birds have been recorded in the Lake Plain since 2000. The Lake Plain provides the largest, near contiguous, block of stopover habitat for migratory birds along the entire Illinois coast and south western Lake Michigan coast in Wisconsin. Volunteer monitors who inventory hawk migrations annually have documented 68,202 migrating individuals between 2000 and 2013. The Bird Conservation Network has documented over 310 species of birds within the Lake Plain, 161 have been observed during the breeding season and 18 are listed as endangered, or threatened by state or federal law (see Annex I). Lake Michigan's shore, with its comparatively rich feeding and nesting opportunities, makes a huge contribution to the survival of many migratory birds that pass through

Illinois and Wisconsin.

### 3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Pannes	<input checked="" type="checkbox"/>	Considered globally imperilled communities.	The Lake Plain supports 60 acres of high quality pannes, primarily at Illinois Beach State Park, the only remaining pannes in Illinois and Southeast Wisconsin. This community is at risk of degradation due to changes in hydrology and invasive species
Wet sand prairies	<input checked="" type="checkbox"/>	Considered globally imperilled communities	High quality wet sand prairies occur throughout the Lake Plain and are also threatened by hydrologic alteration and invasive species.

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

*(This field is limited to 2500 characters)*

Emergent marshes play a significant role in natural functioning of the coastal system, providing areas of deep water that are critical to wildlife, especially turtle species, during drought conditions, and important storage during storm events and filtration of surface water. The hydrology of the freshwater marsh community allows water to accumulate longer than in the surrounding landscape, with far-reaching consequences for the natural environment. These wetlands become the locus of organisms that require or can tolerate moisture for extended periods of time, and the wetland itself becomes the breeding habitat and nursery for many organisms that require water for early development.

Sedge meadows, fens and wet prairies provide rich areas adjacent to and within interdunal swales that are critical to the high diversity of invertebrates known within the site (Hey and Associates, 2000). These wetland communities also provide critical nesting habitat for wetland dependent bird species (e.g. rails, bitterns, cranes, ducks, herons, egrets, and many song birds). These wetlands are also critical overwintering habitat for reptiles, such as the Blanding's turtle.

Seeps within the slopes of the ravines and tree dominated wetlands found adjacent to ravine tributaries and vernal pools within the sand savannas support rich plant communities. These are often characterized by plant species that are northern relics, those that are found on the southern end of their range and are able to grow within the ravines and wooded wetlands of the site due the moderating effects of Lake Michigan and, within the ravines the unique micro-climates found along the steep protected slopes and tributary channels. These wooded wetlands also provide habitat for bird species that are found within open canopy woodlands, such as the red-headed woodpecker, a species of greatest concern identified in each state's wildlife action plan.

Sand prairies and savannas, although not wetland communities, provide important habitat for many wetland dependent species. Blanding's turtle requires sparsely vegetated upland sand prairie for nesting and basking. Many wetland bird species use these upland habitats for foraging. Franklin's Ground Squirrel (*Spermophilus franklinii*), a mammal listed as a species of Special Concern in Wisconsin and Illinois and is also found within Chiwaukee Prairie. This semi-colonial species prefers dense grassy, shrubby marshland as well as brushy and partly wooded areas.

### 4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
M: Permanent rivers/ streams/ creeks		0	3	
Tp: Permanent freshwater marshes/ pools	Southern Great Lakes Shore Emergent Marsh	2	500	Representative
Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils	Lakes Interdunal Wetlands - Pannes; Lake Plain Wet Prairie - Wet Sand Prairie; Twigrush Wet Prairie	1	600	Representative
U: Permanent Non-forested peatlands	Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen	3	24	Representative
W: Shrub-dominated wetlands		4	15	
Xf: Freshwater, tree-dominated wetlands	Skunk Cabbage Seepage Meadow, seep	0	1	Representative
Y: Permanent Freshwater springs; oases		0	1	

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
2: Ponds		0	9	
9: Canals and drainage channels or ditches		0	4	

## 4.3 - Biological components

### 4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Andropogon gerardii</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Angelica atropurpurea</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Arnoglossum plantagineum</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Calamagrostis canadensis</i>		Dominant species of Twigrush Wet Prairie
<i>Calamagrostis stricta</i>		Dominant species of Twigrush Wet Prairie
<i>Caltha palustris</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Carex aquatilis</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Carex atherodes</i>		Found in Twigrush Wet Prairie
<i>Carex bromoides</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Carex buxbaumii</i>		Found in Twigrush Wet Prairie



Scientific name	Common name	Position in range / endemism / other
<i>Carex comosa</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Carex cryptolepis</i>		Found in Twigrush Wet Prairie
<i>Carex curvicolis</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Carex haydenii</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Carex hystericina</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Carex lacustris</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Carex lasiocarpa</i>		Dominant species of Twigrush Wet Prairie
<i>Carex leptalea</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Carex pellita</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Carex sartwellii</i>		Dominant species of Twigrush Wet Prairie
<i>Carex sterilis</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen

Scientific name	Common name	Position in range / endemism / other
<i>Carex stricta</i>		Dominant species of Twigrush Wet Prairie
<i>Carex trichocarpa</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Ceratophyllum demersum</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Chelone glabra</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Cladium mariscoides</i>		Dominant species of Twigrush Wet Prairie
<i>Coreopsis tripteris</i>		Found in Twigrush Wet Prairie
<i>Cornus sericea</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Doellingeria umbellata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Dulichium arundinaceum</i>		Found in Twigrush Wet Prairie
<i>Eleocharis elliptica</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Eleocharis quinqueflora</i>		Found in Great Lakes Interdunal Wetlands, Pannes

Scientific name	Common name	Position in range / endemism / other
<i>Eleocharis rostellata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Epilobium coloratum</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Equisetum variegatum</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Eupatorium maculatum</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Euthamia caroliniana</i>		Found in Twigrush Wet Prairie
<i>Filipendula rubra</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Gentianopsis virgata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Hypericum kalmianum</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Ilex verticillata</i>		Found in Twigrush Wet Prairie
<i>Impatiens capensis</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Iris versicolor</i>		Found in Twigrush Wet Prairie
<i>Juncus balticus</i>		

Found in Great Lakes Interdunal  
Wetlands, Pannes

Scientific name	Common name	Position in range / endemism / other
<i>Lemna minor</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Liatis spicata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Lobelia kalmii</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Lysimachia quadriflora</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Muhlenbergia glomerata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Nymphaea odorata</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Oxypolis rigidior</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Packera paupercula</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Panicum acuminatum acuminatum</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Panicum flexile</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Panicum virgatum</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie

Scientific name	Common name	Position in range / endemism / other
<i>Parnassia glauca</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Pedicularis lanceolata</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Physocarpus opulifolius</i>		Found in Twigrush Wet Prairie
<i>Pilea pumila</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Potamogeton gramineus</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Pycnanthemum virginianum</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Rhynchospora capillacea</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Sagittaria latifolia</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Salix candida</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Salix discolor</i>		Found in Twigrush Wet Prairie
<i>Salix petiolaris</i>		Found in Twigrush Wet Prairie
<i>Schoenoplectus acutus</i>		

Found in Great Lakes Interdunal  
Wetlands, Pannes

Scientific name	Common name	Position in range / endemism / other
<i>Schoenoplectus tabernaemontani</i>		Dominant species of Southern Great Lakes Shore Emergent Marsh
<i>Scleria verticillata</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Silphium terebinthinaceum</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Solidago ohioensis</i>		Found in Great Lakes Interdunal Wetlands, Pannes
<i>Solidago patula</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Solidago riddellii</i>		Found in Twigrush Wet Prairie
<i>Sorghastrum nutans</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Spartina pectinata</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Spirodela polyrhiza</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Symphyotrichum ericoides</i>		Found in Lake Plain Wet Prairie, Wet Sand Prairie
<i>Symplocarpus foetidus</i>		Found in Skunk Cabbage Seepage Meadow, seep
<i>Thalictrum dasycarpum</i>		



Found in Cinquefoil - Sedge Prairie  
Fen, Graminoid Fen or Low Shrub  
Fen

Scientific name	Common name	Position in range / endemism / other
<i>Thelypteris palustris</i>		Found in Southern Great Lakes Shore Emergent Marsh
<i>Triantha glutinosa</i>		Found in Cinquefoil - Sedge Prairie Fen, Graminoid Fen or Low Shrub Fen
<i>Typha latifolia</i>		Dominant species of Southern Great Lakes Shore Emergent Marsh

Invasive alien plant species

Scientific name	Common name	Impacts
<i>Celastrus orbiculatus</i>		Actually (major impacts)
<i>Frangula alnus</i>		Actually (major impacts)
<i>Leymus arenarius</i>		Actually (major impacts)
<i>Phalaris arundinacea</i>		Actually (major impacts)
<i>Phragmites australis</i>		Actually (major impacts)
<i>Rhamnus cathartica</i>		Actually (major impacts)
<i>Typha angustifolia</i>		Actually (major impacts)
<i>Typha glauca</i>		Actually (major impacts)

#### 4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
ARTHROPODA/INSECTA	Aflexia rubranura	Redveined leafhopper				
CHORDATA/AVES	Ammodramus henslowii	Henslow's Sparrow				
CHORDATA/AVES	Bartramia longicauda	Upland Sandpiper				
CHORDATA/AVES	Catharus fuscescens	Veery				
CHORDATA/ACTINOPTERYGII	Catostomus catostomus	Longnose sucker				
CHORDATA/REPTILIA	Clonophis kirtlandii	Kirtland's watersnake				
CHORDATA/ACTINOPTERYGII	Coregonus artedi	Cisco				
CHORDATA/ACTINOPTERYGII	Coregonus clupeaformis	Lake whitefish				
CHORDATA/AVES	Euphagus cyanocephalus	Brewer's Blackbird				
CHORDATA/AVES	Ixobrychus exilis	Least Bittern				
CHORDATA/AVES	Nycticorax nycticorax	Black-crowned Night Heron;Black-crowned Night-Heron				
ARTHROPODA/INSECTA	Paraphlepsius lupalus	Leafhopper				
CHORDATA/AVES	Podilymbus podiceps	Pied-billed Grebe				
CHORDATA/AVES	Rallus elegans	King Rail				



## 4.4 - Physical components

### 4.4.1 - Climate

*(This field is limited to 1000 characters)*

The climate of the Lake Plain is typical of many continental locations, in that there are rather wide temperature fluctuations. The average high temperatures (degrees Fahrenheit) in the summer (June through August) are in the 70s and 80s with average lows in the 50s. Winter (December through March) highs are generally in the 20s and 30s with lows in the teens and 20s. There is an average of five and a half months without frost each year. Precipitation is highest during April through September (averages of 3.31 to 3.97 inches per month) and lowest in January (1.71 inches) and February (1.24 inches), with a yearly average of 34.20 inches.

### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

176

a) Maximum elevation above sea level (in metres)

188

Lower part of river basin

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

*(This field is limited to 1000 characters)*

Lake Michigan basin.

The total drainage area west of the Lake Plain is about 96 square kilometers with 46% of the area in Wisconsin and 54% in Illinois (Chrzastowski 2000). The climate of the catchment area is the same as the Lake Plain. The general geology of the catchment, like the Lake Plain, is the result of glacial processes and influenced by the dramatic fluctuations in Lake Michigan lake levels of the past 12,000 years. The catchment area has a rolling topography with little topographic relief except for within the ravine communities.

### 4.4.3 - Soil

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional) *(This field is limited to 1000 characters)*

Surficial sediments of the Lake Plain consist of a broad range of materials that include organic-rich sand, silt and clay in the

wetland swales and ravine slopes to well-sorted medium sands in the dunes, localized deposits of concentrated coarse sand pebbles and cobbles along the beach.



#### 4.4.4 - Water regime

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from surface water	<input checked="" type="checkbox"/>
Water inputs from groundwater	<input type="checkbox"/>

Water destination

Presence?
Feeds groundwater
To downstream catchment

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology: *(This field is limited to 1000 characters)*

Water levels within the wetland communities of the Chiwaukee Illinois Beach Lake Plain are influenced by Lake Michigan water levels, ground water, and surface water inflows, primarily from an urbanized watershed. Water levels in wetland communities can vary significantly during the growing season due to the interaction between lake levels and the high infiltration rates found with the sandy soils of the shallow swales where most wetlands are found. Water levels in emergent marsh communities generally remain near or above land surface for most or all of the year, can experience surface water levels up to 2.5 feet above ground level during the spring and early summer months, but experience complete draw down at or below ground level during dry periods in late July and August.

#### 4.4.5 - Sediment regime

Sediment regime unknown

#### 4.4.6 - Water pH

Unknown

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

#### 4.4.8 - Dissolved or suspended nutrients in water

Unknown

#### 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar  ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different: *(This field is limited to 1000 characters)*

Land use in the watershed is primarily urban and agricultural, with greater urbanization in Illinois, and more agricultural lands in Wisconsin.

Surface water inputs from tributaries that receive storm water runoff show elevated pollutants from roadways, urban development, and agriculture, including road salts, copper, nitrate, sulfate, ortho-phosphate, and total dissolved solids, with highest levels at the inputs on the urbanized, western side of the wetland complex. Surface water outflows from the site to Lake Michigan have lower nutrients and other anthropogenically influenced analytes due to wetland processes that remove and dilute pollutants. Water quality at outflows to Lake Michigan also have higher mean calcium, iron, and dissolved NVOC, indicative of general wetland conditions, groundwater inputs, and high-quality wetland environments (Kay et.al 2009, Miner 2012).

### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

Regulating Services

<b>Ecosystem service</b>	<b>Examples</b>	<b>Importance/Extent/Significance</b>
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Hazard reduction	Flood control, flood storage	High
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

#### Cultural Services

<b>Ecosystem service</b>	<b>Examples</b>	<b>Importance/Extent/Significance</b>
Recreation and tourism	Recreational hunting and fishing	High
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Inspiration	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

#### Supporting Services

<b>Ecosystem service</b>	<b>Examples</b>	<b>Importance/Extent/Significance</b>
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Sediment retention	High
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Carbon storage/sequestration	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Pollination		

Support for pollinators

High

Other ecosystem service(s) not included above: *(This field is limited to 1000 characters)*

-Contributes to the dispersal of seeds

Hydrological functions and values:

Because the site has substantial areas of standing water through which water entering must flow before discharging to Lake Michigan filtering of sediments, nutrients and pollutants is a significant value of these wetlands (and ironically a significant threat). The wet areas account for the large improvements in water quality prior to water entering Lake Michigan because it's where sediment deposition, dilution, chemical uptake and precipitation onto organic matter occur. The degree of attenuation is consistently highest where there is the longest residence time for water (Kay et. al., 2009). Wetlands found along the base of the ravine slopes and along the tributary edges play an important role in protecting the stream banks from accelerated erosion due to highly flashy and high velocity stormwater inflows. Groundwater recharge areas occur within the catchment area, but not specifically in the site.

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

#### 4.5.2 - Social and cultural values

<no data available>

#### 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Local authority, municipality, (sub)district, etc.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other public ownership	<input checked="" type="checkbox"/>	<input type="checkbox"/>

##### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Foundation/non-governmental organization/trust	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other types of private/individual owner(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional): *(This field is limited to 1000 characters)*

Land tenure within the Ramsar site:

Land Owner Hectares of Land Owned  
 Wisconsin Department of Natural Resources 70  
 The Nature Conservancy 47  
 Village of Pleasant Prairie 21  
 University of Wisconsin Parkside 36  
 Lake County Forest Preserve District 93  
 Village of Winthrop Harbor 11  
 Illinois Department of Natural Resources 1215  
 Zion Park District 7  
 Waukegan Park District 4

The areas surrounding the designation area are privately and publically owned.

### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: *(This field is limited to 1000 characters)*

1. Chiwaukee Prairie State Natural Area and Scientific Area – Management Authority: Wisconsin Department of Natural Resources.
2. Carol Beach Parks and Open space, and Barnes Creek - Management Authority: The Village of Pleasant Prairie.
3. Spring Bluff Nature Preserve – Management Authority: Lake County Forest Preserve District.
4. Fossland Park, Dead Dog Creek Tributary – Management Authority: Village of Winthrop Harbor.
5. Illinois Beach State Park and Nature Preserve & Hosha Prairie - Management Authority: Illinois Department of Natural Resources.
6. Bowen Park, Glen Flora Tributary – Management Authority: Waukegan Park District.

Provide the name and title of the person or people with responsibility for the wetland:

1. Sharon Fandel, 2. Kevin Meyers, 3. Debbie Maurer, 4. Scott Fuller, 5. Brad Semel, 6. Mike Trigg

Postal address: *(This field is limited to 254 characters)*

1. 101 South Webster St, Madison, WI
2. 8600 Green Bay Rd, Pleasant Prairie, WI
3. 1899 West Winchester Rd, Libertyville, IL
4. 830 Sheridan Rd, Winthrop Harbor, IL
5. One Natural Resources Way, Springfield, IL
6. 2000 Belvidere Rd, Waukegan, IL.

E-mail address: sharon.fandel@wisconsin.gov

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site’s ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	High impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dredging	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fire and fire suppression	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vegetation clearance/ land conversion	High impact	High impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unspecified	High impact	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please describe any other threats (optional): *(This field is limited to 2500 characters)*

a) Within the Ramsar Site:

- Invasive species
- Altered Hydrology
  - o Historic ditching (1940's) has impacts on hydroperiod and surface flow paths
  - o Stormwater runoff has impacted wetlands through increased surface flows of warm, sediment laden waters into the Lake Plain. Where ever storm water flows into the Lake Plain, invasive plant species are found.
- Decreased water quality
  - o Chloride has increased from surface water runoff from roadways during winter months
  - o Increased Nutrients
- Development (historically - residential housing, roadways, golf course, military camp)
- Erosion of ravine slopes and tributary banks



- Sedimentation
  - Altered Fire Regime
    - o Reduced fire frequency
  - Fragmentation from roadways and historic developments
  - Shoreline erosion
  - Shoreline hardening to protect private lands and marina developments
- b) In the surrounding area:
- Increasing impervious area (residential and industrial development, roadways)
    - o Pollution
    - o Increased stormwater runoff
    - ? Pollutant runoff
    - ? Nutrient runoff
  - o Decreased infiltration and ground water recharge
  - Conversion of grasslands and woodlands to conventional agriculture
    - o Tiling and ditching
  - Fragmentation
  - Shoreline erosion
  - Shoreline hardening
  - Nuclear Power Plant (see additional information for details)

## 5.2.2 - Legal conservation status

## National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Wisconsin State Natural Areas	ChiwaukeeStateNaturalArea(165.92hectare		partly
National Natural Landmark (National Park Service)	IllinoisBeachNaturePreserve(585.18hectare		partly
National Nat Landmark (NPS)	ChiwaukeePrairie(38.04hectares)designate		partly
National NL (NPS)	IllinoisDunesNorthNaturalArea,designatedin		partly
NNL (NPS)	NorthDunesNaturePreserve,designatedin19		partly
Illinois Nature Preserves	IllinoisBeachStatePark(335.48hectares)dec		partly
Illinois NP	SpringBluffNaturePreserve(115.34hectares		partly
Non-statutory: Wetland Gem by Wisconsin Wetlands Association	ChiwaukeePrairie,2012	<a href="http://www.wisconsinwetlands.org/gemlist.htm">http://www.wisconsinwetlands.org/gemlist.htm</a>	partly
Non-statutory: Excellence in Ecological Restoration by Chicago Wilderness	SpringBluffNaturePreserve,2013	<a href="http://www.chicagowilderness.org/what-we-do/restoring-nature-to-health/awardrecipients/">http://www.chicagowilderness.org/what-we-do/restoring-nature-to-health/awardrecipients/</a>	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	IllinoisBeachStatePark	<a href="http://habitatproject.org/birds/ibacurrent.html">http://habitatproject.org/birds/ibacurrent.html</a>	partly

### 5.2.3 - IUCN protected areas categories (2008)

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation

### 5.2.4 - Key conservation measures

#### Legal protection

Measures	Status
Legal protection	Implemented

#### Habitat

Measures	Status
Catchment management initiatives/controls	Implemented
Habitat manipulation/enhancement	Implemented
Hydrology management/restoration	Implemented

#### Species

Measures	Status
Control of invasive alien plants	Implemented
Reintroductions	Partially implemented

#### Human Activities

Measures	Status
Regulation/management of recreational activities	Implemented
Research	Implemented

Other: (This field is limited to 2500 characters)

**Current management practices:**

There is no single management plan for the entire Chiwaukee Illinois Beach Lake Plain, although partners are committed to working together to implement coordinated land management actions to achieve common conservation goals (see Lake Plain MOU).

Current management practices within the Lake Plain include: hydrologic restoration (installation of water control structure, replacement of culverts, removal of surface water flow obstructions, removal of a vacated roadways that crossed a wetland community), invasive plant control (both woody and herbaceous species), prescribed burn management, streambank stabilization, in stream habitat restoration, ravine bank stabilization, and seeding and planting highly erodible slopes. Reintroduction of eastern prairie fringed orchid is underway. Management of human use through designated trails and signage occurs throughout the designation area.

In September 2003, USFWS completed a "Recovery Plan for the Great Lakes Piping Plover. Very little suitable piping plover habitat remains in the Great Lakes region, and all the areas identified in the recovery plan, including the southern portion of the Lake Plain, are essential for the recovery of the species because these areas represent the habitat necessary to achieve the recovery goal of 100 breeding pairs in Michigan and 50 breeding pairs in the other Great Lakes States combined.

**Conservation measures proposed but not yet implemented:**

-Several Lake Plain Partners are working with the US Army Corps of Engineers to complete a comprehensive assessment of historic and current hydrologic conditions and development of a hydrologic restoration plan that identifies opportunities to restore historic flow patterns and mitigate stormwater inputs.

-Waukegan Harbor Area of Concern Expanded Study Area Habitat Management Plan, 2013 (in progress).

-Conversion of an existing roadway through Spring Bluff Nature Preserve to a pedestrian pathway with a platform overlook of the restoration area is proposed for construction in 2016. This would reduce the footprint of the roadway, limit vehicular traffic and encourage pedestrian and bike use through the preserve. No new trails are proposed.

### 5.2.5 - Management planning

Is there a site-specific management plan for the site?  Yes  No

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site: *(This field is limited to 1000 characters)*

The Lake Plain offers a variety of CEPA activities including a nature center located at Illinois Beach State Park. Nature trails are located in Chiwaukee Prairie, Illinois Beach State Park, Fossland Park, and Bowen Park (location of the Glen Flora Tributary). The University of Wisconsin-Parkside and Carroll College annually visit the Chiwaukee Prairie portion of the Lake Plain for botany and ecology field trips. Bowen Park provides a newly renovated children's playground as well as summer and day camps for youth. Two volunteer groups, the Chiwaukee Prairie Preservation Fund and the Friends of Illinois Beach are very active fostering community engagement and support for the Lake Plain natural areas. The Chiwaukee Prairie Preservation Fund, established as a not-for-profit 501(c) 3 in 1985 started as a grassroots effort by community members in 1965 to acquire and protect the area of wetlands and prairie that today is known as Chiwaukee Prairie.

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Plant species	Implemented
Animal community	Implemented
Water regime monitoring	Implemented
Water quality	Implemented

*(This field is limited to 2500 characters)*

-Monitoring of plants, wildlife and hydrology are on-going.  
 -Platanthera leucophaea (eastern prairie fringed orchid).  
 -Charadrius melodus (piping plover).

Current research projects:

- Gary Glowacki, Reduction of populations of meso-predators and associated impacts on Blanding's turtle populations, 2013-2014.
- Rob Sulski, Raptor Migration Research and Education along the Lake Michigan Shoreline of Lake County Illinois. 2008 –

current.

- Laura Smith, Graduate Research Assistant, Nelson Institute for Environmental Studies, University of Wisconsin – Madison. Plant-fungal linkages in perennial warm-season grasses.
- Dr. Robert Howe. University of Wisconsin- Green Bay and UW-Green Bay's Center for Biodiversity. Great Lakes Coastal Wetland Monitoring Program; Avian and Amphibian Monitoring at Spring Bluff Nature Preserve. 2014
- David Rogers. University of Wisconsin-Parkside. Vegetation Monitoring to Assess the Effects of Invasive Plant Management in Coastal Communities of the Chiwaukee Illinois Beach Lake Plain. 2010 – 2014
- James Miner. Illinois State Geological Survey. Monitoring and Assessment of Shallow Ground Water Resources in Relation to Hydrologic Restoration Actions within the Chiwaukee Illinois Beach Lake Plain.





## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

(This field is limited to 2500 characters)

- Anton, T.G. 2011. A herpetofaunal inventory of three Waukegan sites, Lake County, Illinois, 2011. Report prepared for the Waukegan Harbor Citizen's Advisory Group.
- Bird Conservation Network; [http://www.bcnbirds.org/greenpapers\\_files/GPflyway.html](http://www.bcnbirds.org/greenpapers_files/GPflyway.html)
- Chicago River/Lake Shore Area Assessment Volume 1: Geology, Critical Trends Assessment Program, Illinois Department of Natural Resources 2001
- Chrzastowski, M. L., 2001, Geology of the Zion beach-ridge plain, a Holocene, migratory coastal-sedimentary system: Guidebook, SEPM/Society for Sedimentary Geology, Great Lakes Section Annual Field Conference, September 14-16, 2001, Illinois State Geological Survey, Champaign, IL, 60 p.
- Chrzastowski, M. J. and W. Frankie. 2000. Guide to the geology of Illinois Beach State Park and the Zion beach-ridge plain, Lake County, Illinois: Illinois State Geological Survey Field Trip Guidebooks 2000C and 2000D, Champaign, IL.
- Chrzastowski, M.J., T.A. Thompson, and C.B. Trask. 1994. Coastal Geomorphology and Littoral Cell Divisions Along the Illinois-Indiana Coast of Lake Michigan. Journal of Great Lakes Research, Vol. 20: pp. 27-43.
- Gates, F.C., 1912 "The Vegetation of the Beach Area in Northeastern Illinois and Southeastern Wisconsin." The Illinois State Laboratory of Natural History Bulletin, Vol. 9: pp.255-370.
- Foster, D.S., and D.W. Folger. 1994. The Geologic Framework of Southern Lake Michigan. Journal of Great Lakes Research Vol. 20, pp. 44-60.
- The Illinois Comprehensive Wildlife Conservation Plan and Strategy. Report prepared by the Illinois Department of Natural Resources, July 2005. <http://www.dnr.illinois.gov/conservation/IWAP/Pages/default.aspx>
- The Wisconsin Wildlife Action Plan. Report prepared by the Wisconsin Department of Natural Resources. July 2008. <http://dnr.wi.gov/topic/wildlifehabitat/actionplan.html>
- Hey and Associates, E Cashatt, and T Vogt. 2000. An Odonata Survey of Spring Bluff, Grainger Woods, and Elm Road Forest Preserves. Agency File.
- Lake County Stormwater Management Commission. 2008. Kellogg Creek Watershed-based Plan. Lake County, IL. <http://www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/LakeMichiganWatershed/Pages/KelloggCreek.aspx>
- Lake County Stormwater Management Commission. 2010. Draft Dead River Watershed-based Plan. Lake County, IL. <http://www.lakecountyil.gov/Stormwater/LakeCountyWatersheds/LakeMichiganWatershed/Pages/DeadRiver.aspx>

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<2 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<4 file(s) uploaded>

### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Ramsar Convention Logo (  
*The Ramsar Convention  
Secretariat, 11-09-2015*)

### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation