

Integrating recreation and restoration in a post-industrial landscape on Chicago's south side



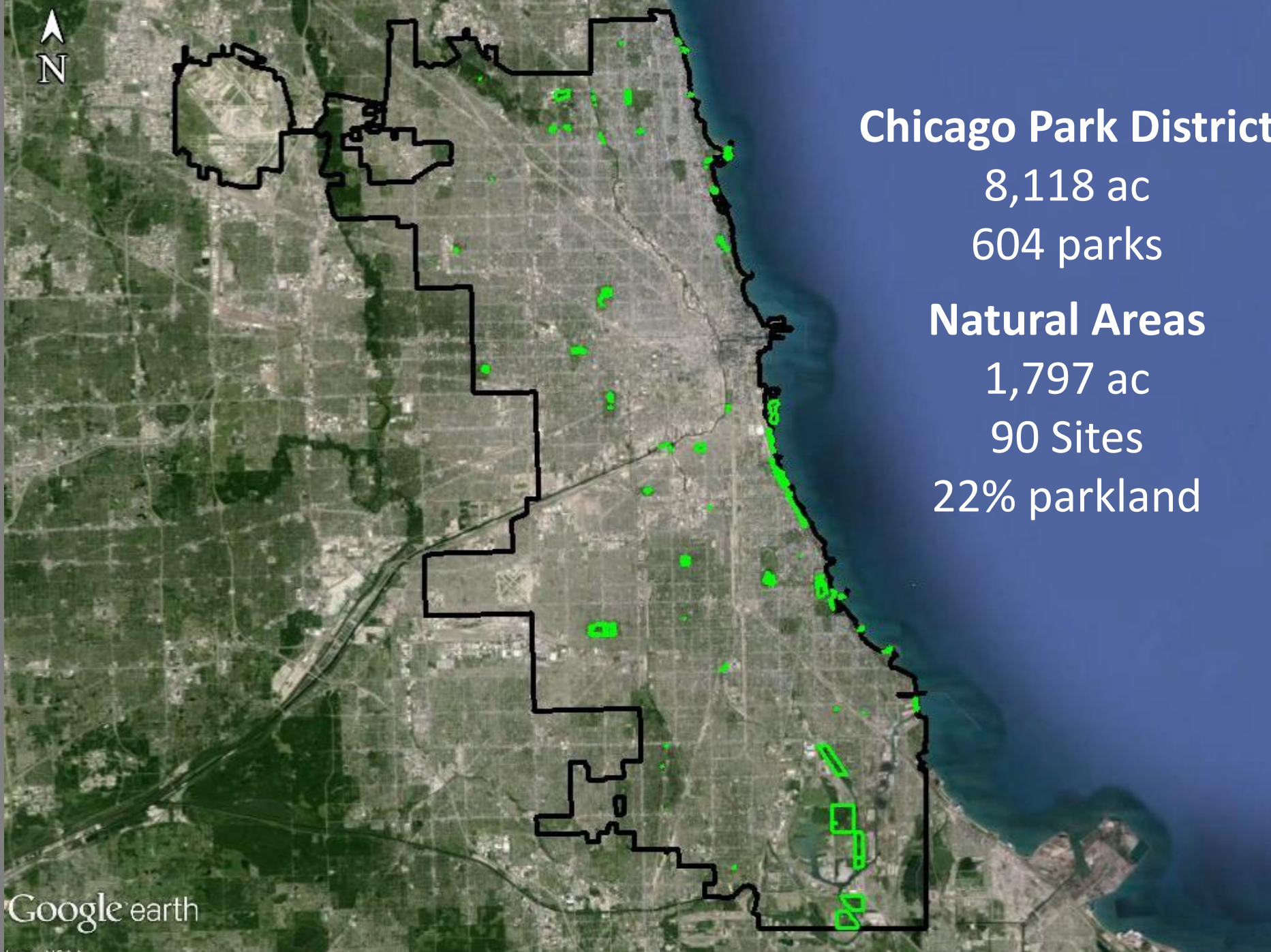
Site history & Industrial legacy
Integration of Recreation & Restoration
Research Collaborations



Photo courtesy of Thomas Photography, Friends of Big Marsh

Timeline

- Early 1800s Big Marsh was part of a network of wetlands adjacent to and sometimes a part of Lake Calumet.
- 1905-1929 Acme Steel coke plant was constructed and gradually expanded to meet growing demand for steel. By 1909, the plant covered 100 acres, forming the eastern edge of Big Marsh.
- 1950s-1970s Large-scale dumping of hot molten slag from/by the neighboring steel mills occurred on the site, forming much of the surface conditions at the south and eastern sections of the site
- 1960s The reshaping of Lake Calumet as an international port and construction of Stony Island Avenue resulted in a change in the shorelines and western edge of the site.
- 1981 Waste Management purchased the site for future development as a landfill.
- 1984 City of Chicago approved a moratorium barring new landfills from opening and preventing existing ones from expanding. This and subsequent bans prevented Big Marsh from being filled with waste, but wetland conditions degraded as invasive vegetation began to encroach and dominate.
- 2008 City of Chicago purchased Big Marsh for ecological restoration.
- 2011 Ownership of the property was transferred to Chicago Park District, establishing the site as Park #564.



Chicago Park District

8,118 ac

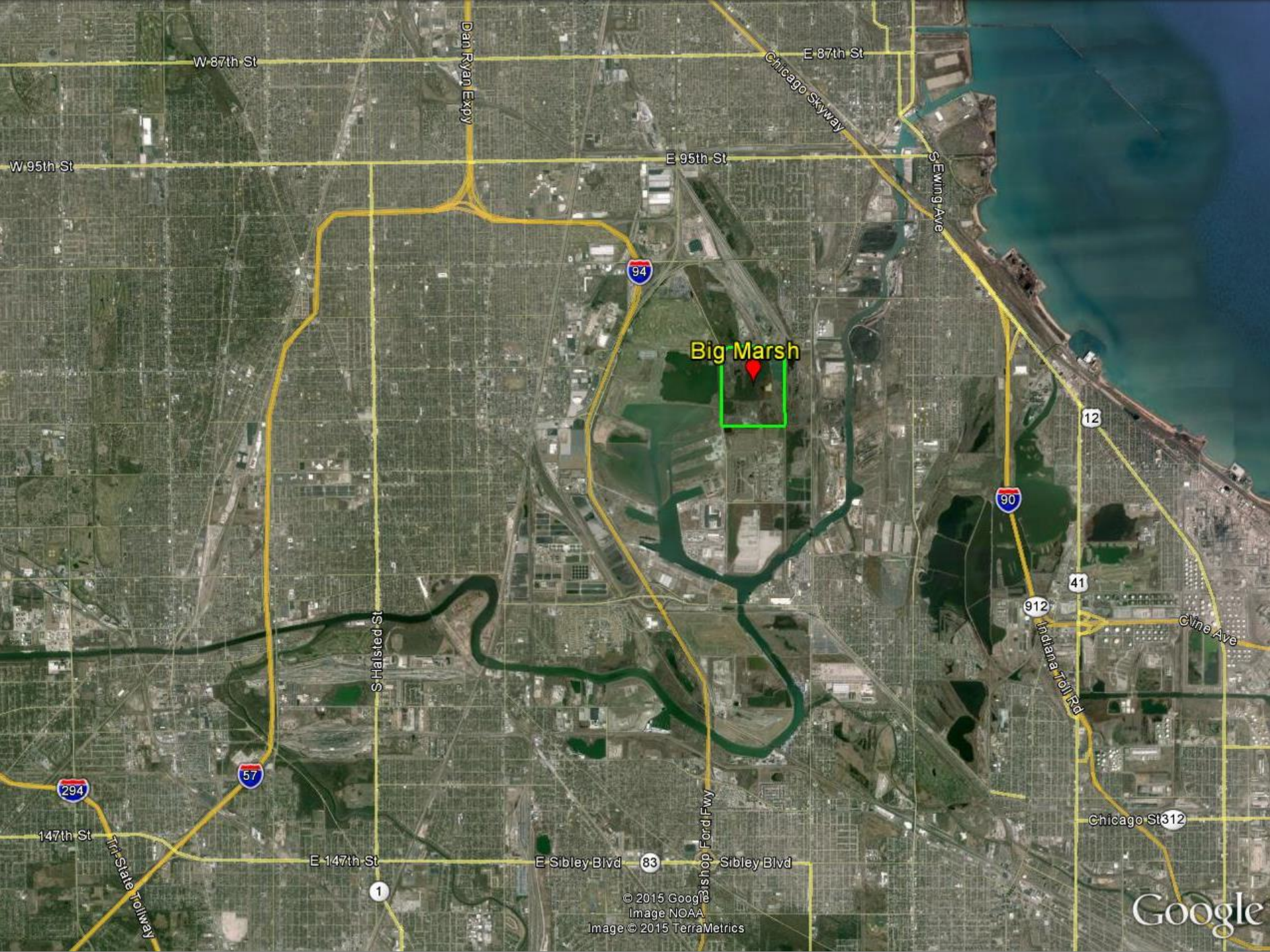
604 parks

Natural Areas

1,797 ac

90 Sites

22% parkland



W 87th St

E 87th St

W 95th St

E 95th St

Big Marsh



© 2015 Google
Image NOAA
Image © 2015 TerraMetrics

Google

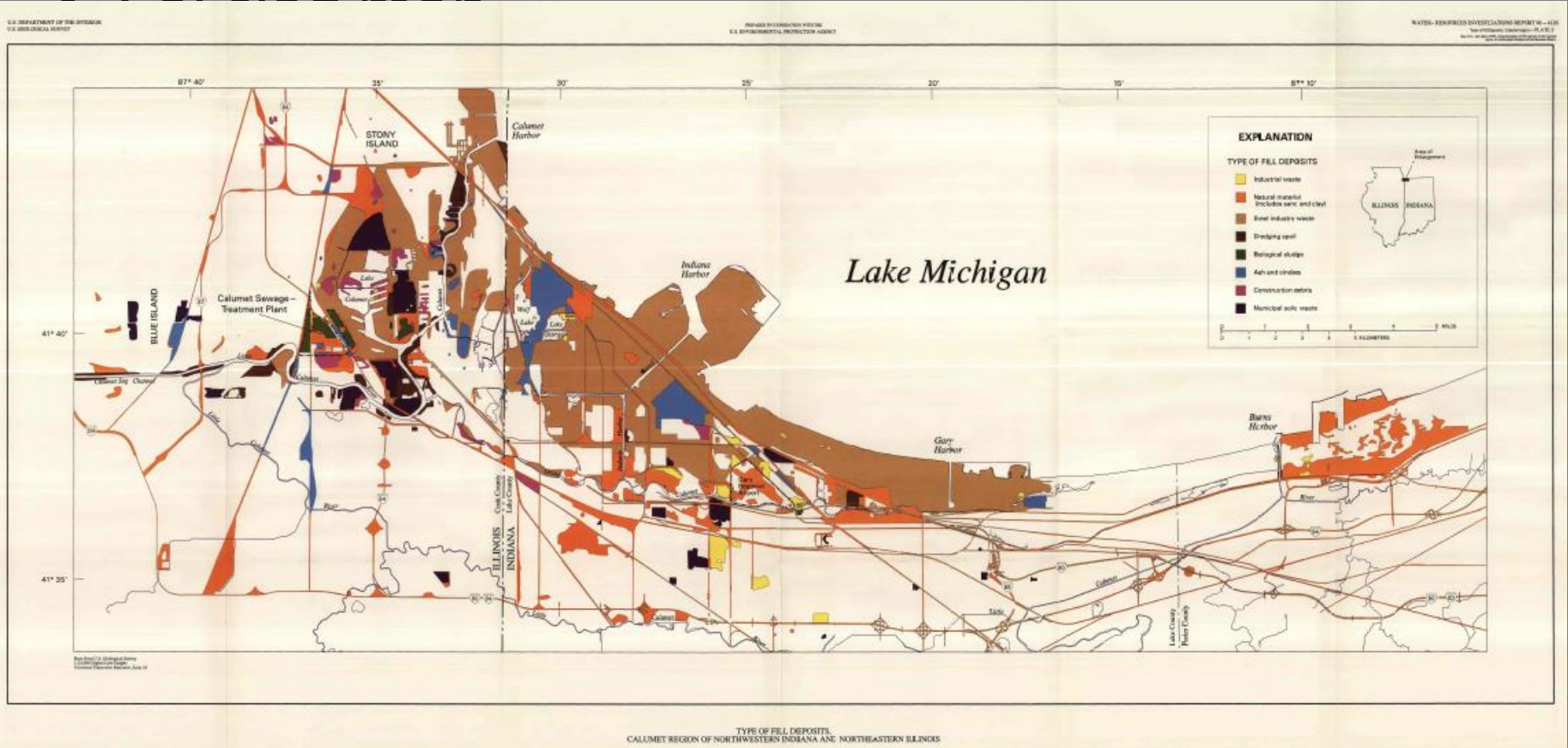
SOUTH CHICAGO

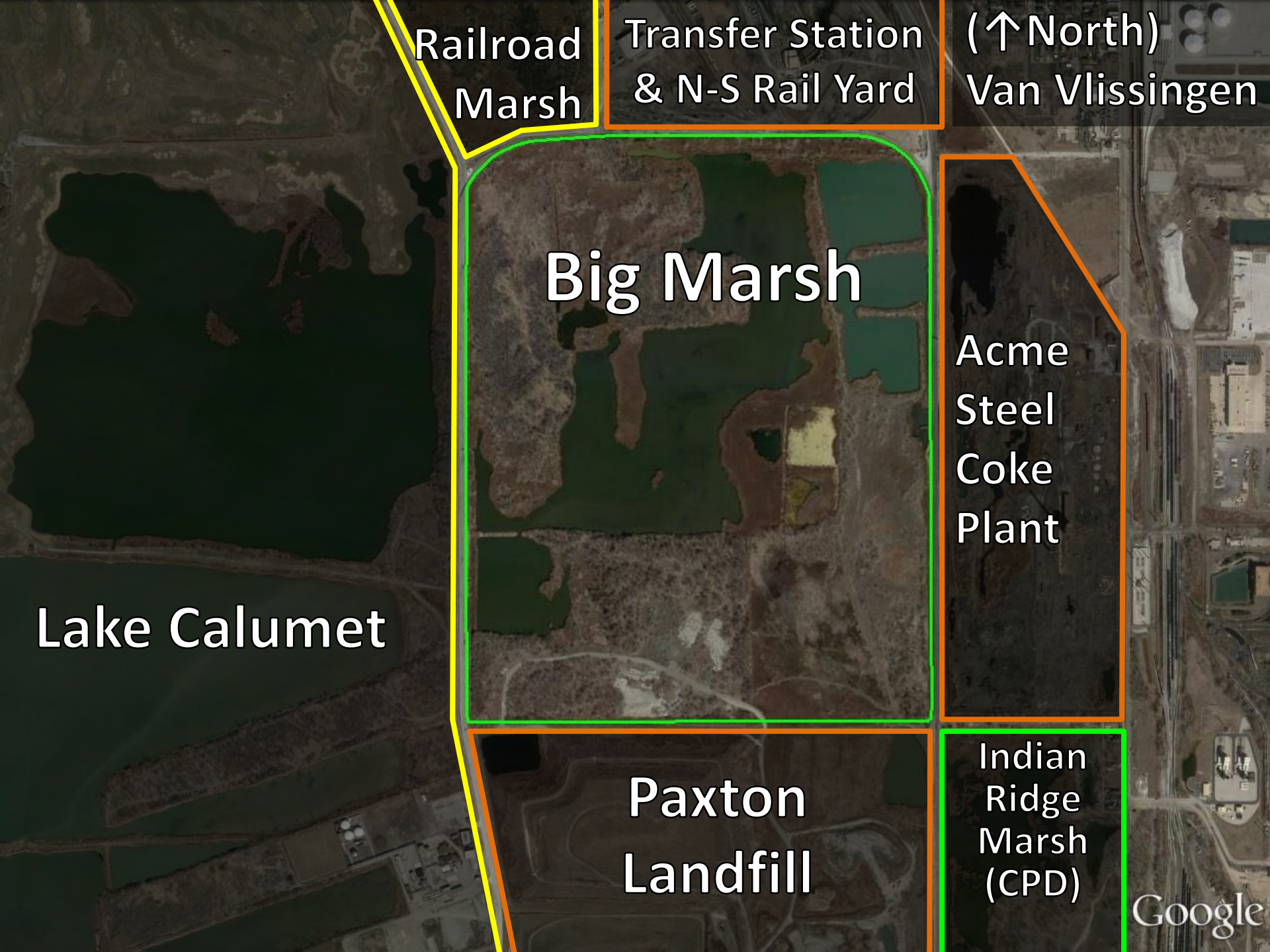
SECTION (114) OF
CALUMET RIVER, ILL.
AND CONNECTING LAKES
1887

For descriptive report dated
Jan. 2, 1887, on the survey of
1885 and 1886, by
G. H. Gandy
Major of Engineers U. S. A.



Where is slag?





Railroad
Marsh

Transfer Station
& N-S Rail Yard

(↑ North)
Van Vlissingen

Big Marsh

Acme
Steel
Coke
Plant

Lake Calumet

Paxton
Landfill

Indian
Ridge
Marsh
(CPD)

Google

Site History & Industrial Legacy



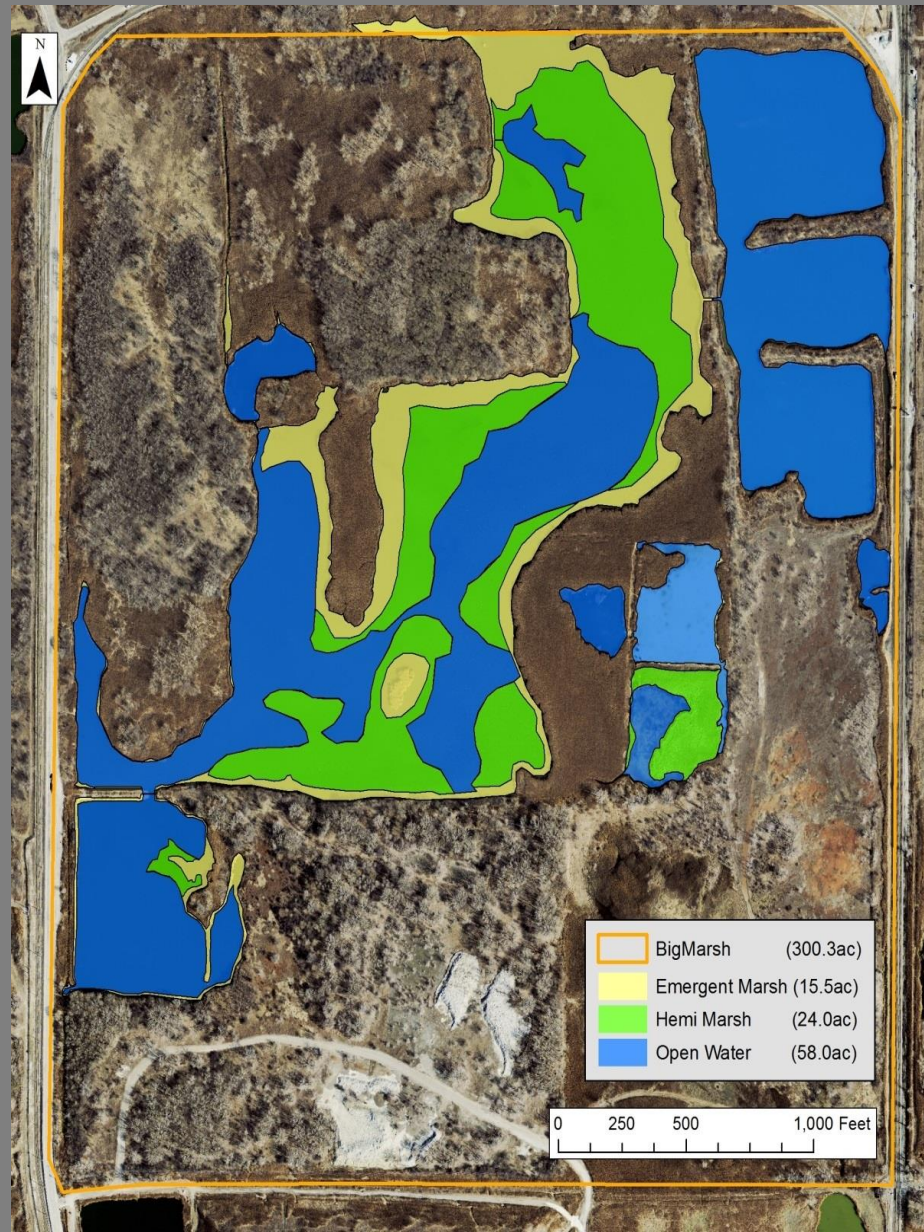
1970 image
Exposed slag bed

Modern
Stony Is. Ave.

Lake Calumet
shoreline, 1938

2005 Image

Wetland Habitat Potential





Landfill
(construction debris, etc)

Sand mining
(borrow pits)

Slag dumping





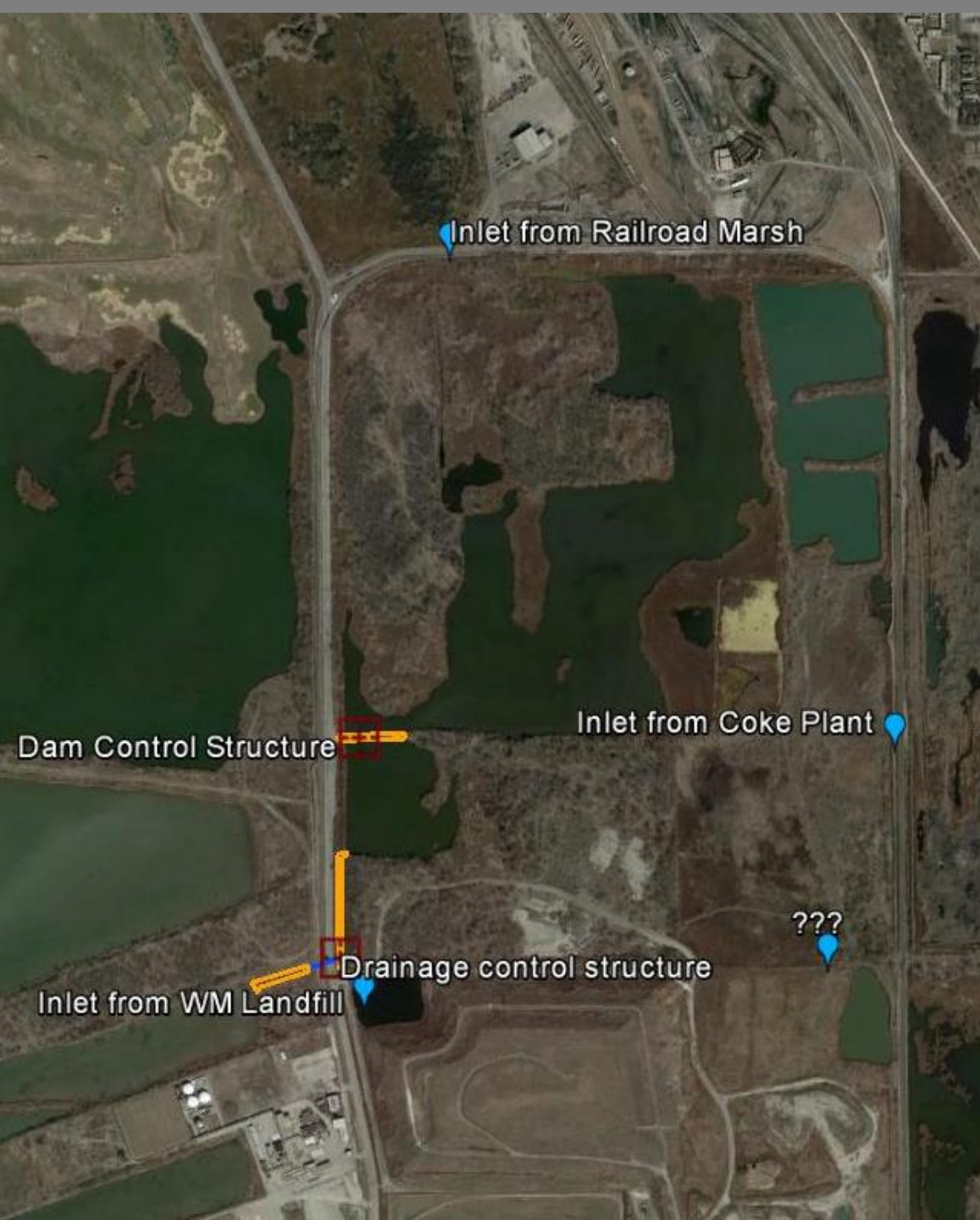
Slag and Industrial Legacy



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Altered Hydrology



- Water inputs from adjacent properties:
 - Railroad Marsh (North)
 - Coke Plant (East)
 - WM Landfill (South)
- Drainage through (defunct) dam, ditch, old control structure and clogged culvert, and into Lake Calumet
- High water levels = open water, no emergent wetland

Restoring the Hydrologic Connections





CAT

PK519

Restoring Hydrologic Connections to Lake Calumet



Water Control Structure



Connecting Deep Pools to Marsh



Restoring the Hemi-Marsh



Ecological Challenges



Invasive Species

- Phragmites EVERYWHERE.
- Loosestrife, sweetclover, knapweed throughout.
- Buckthorn dominating wooded upland areas (Northwest quadrant)



2014 Aerial of *Phragmites*



2014 Aerial of Buckthorn



Fall 2015 Aerial Invasive Species Treatment



Spring 2016 Prescribed Burn



Secretive Marsh Birds

Species of Concern (Monitored by Audubon Great Lakes)

- 2015 – 2 of 14 species
- 2018 – 11 of 14 species
- Surpassed historical records

Other Birds

- 1981-2014 120 total species recorded
- 2019 238 total species



Google earth

1000 ft

FUTURE
SPLIT RAIL FENCE

FUTURE
TRAILHEAD

FUTURE
MULTIUSE TRAIL
& CONNECTOR

FUTURE
WILDLIFE
OBSERVATION
PLATFORM

FUTURE
MULTIUSE TRAIL
& CONNECTOR

NEW SINGLETRACK

EXISTING BIKE
TRAILS & FEATURES

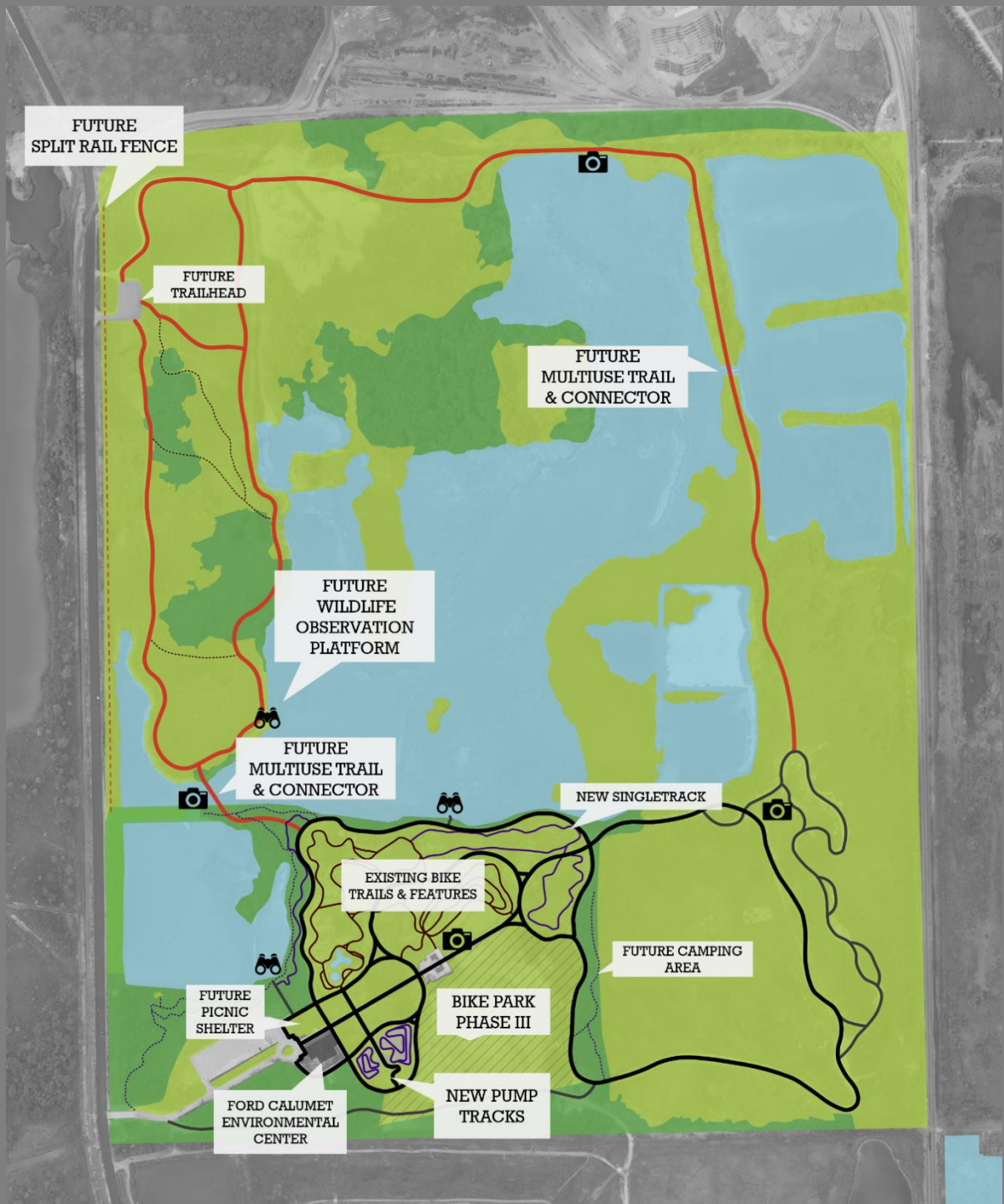
FUTURE CAMPING
AREA

FUTURE
PICNIC
SHELTER

BIKE PARK
PHASE III

FORD CALUMET
ENVIRONMENTAL
CENTER

NEW PUMP
TRACKS



RESEARCH COLLABORATIONS

Debris, Fill, Fly Dumping, ???





Debris, Fill, Fly Dumping, ???



Research Projects

wttw

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SCIENCE & NATURE

Chicago Park District Working to Heal Environment, Ecosystem at Big Marsh Park

Patty Wetli | January 28, 2021 2:09 pm



Lauren Umek of the Park District and research assistant Alifya Saify at Big Marsh Park. (Courtesy of Chicago Park District)



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Urban post-industrial landscapes have unrealized ecological potential

[Laura Merwin](#), [Lauren Umek](#), [Alison E. Anastasio](#)

February 2022



<https://onlinelibrary.wiley.com/doi/full/10.1111/rec.13643>

Novel Ecosystem?



- Low permeability, organic matter
- High pH, Ca, Mg, K, Cr, CEC





Golden sedge



Little green sedge



Obi wan canobea – on slag!



Kalm's lobelia



milkwort



Ladies tresses

Analogues to other habitats

Alvar - Öland, Sweden

Alvar – Niagara Escarpment,
Ontario



Analogues to other habitats

Dolomite Prairie – Ted
Stone, CCFPD



Dolomite Prairie – Midewin
Nat'l Prairie



