Calumet Initiative

Nicole Kamins
Chicago Department of Environment

Historic photos courtesy of Southeast Chicago Historical Society

Ford

CITY OF CHICAGO INCORPORATED 4th MARCH 1837

Chicago Department of Environment

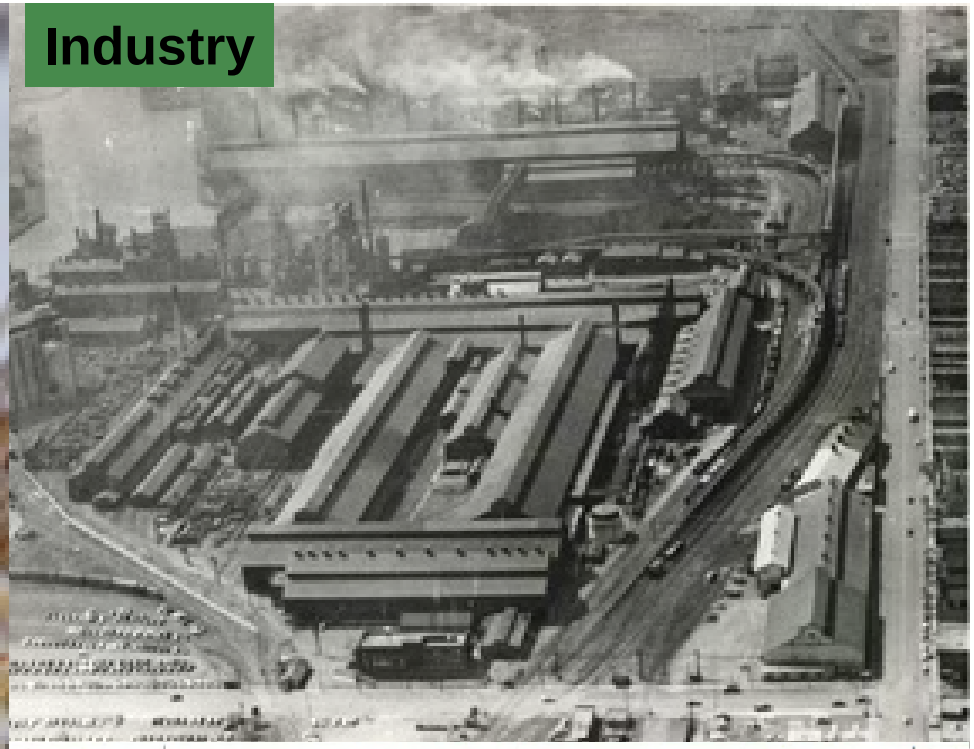
ILLINOIS DEPARTMENT OF NATURAL RESOURCES

CHICAGO'S ENVIRONMENTAL FUND

CALUMET INITIATIVE
Working · Living · Growing™

Nature

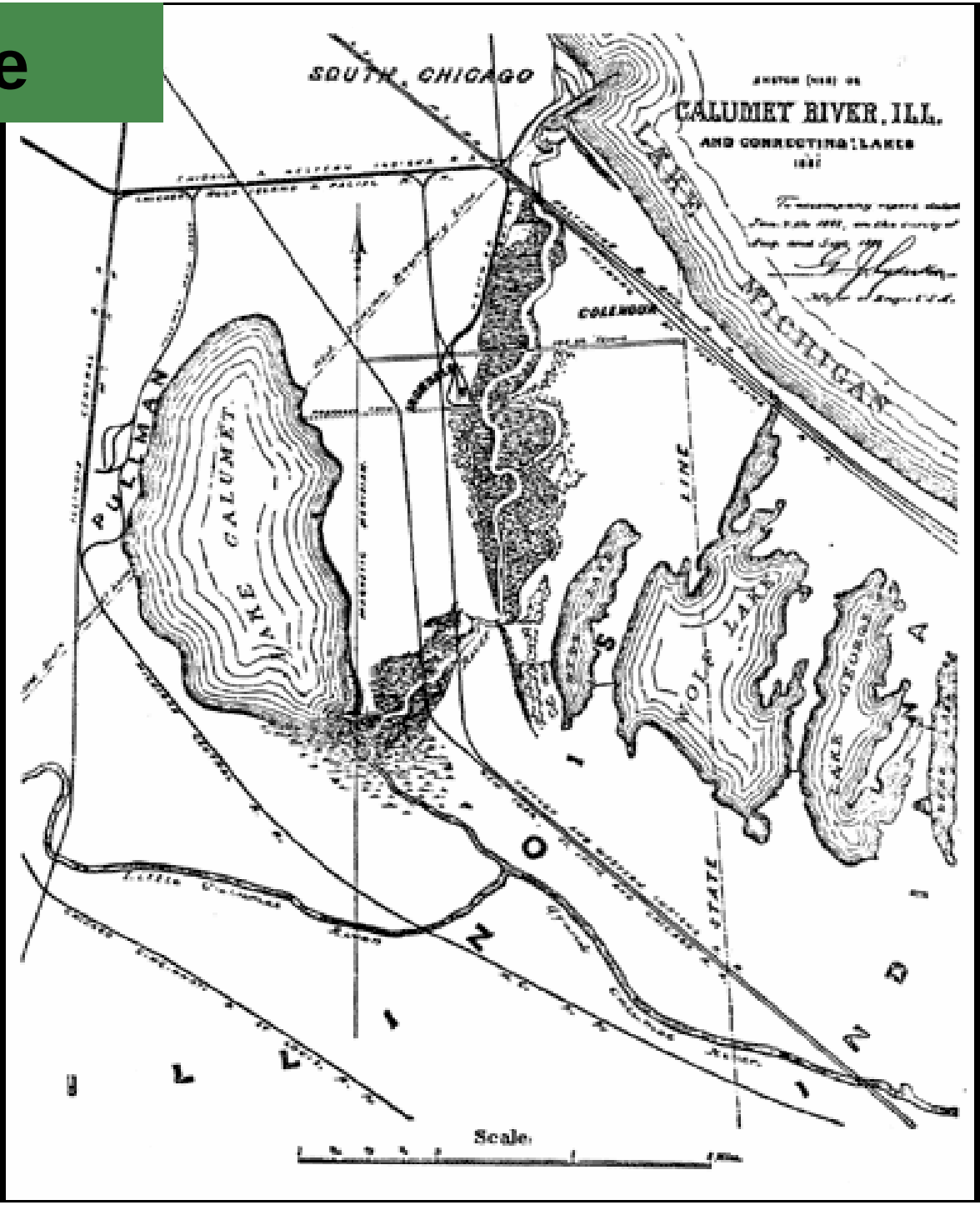
Industry



Community


Photo By Marcin Gliszewski

Nature


SOUTH CHICAGO
CALUMET RIVER, ILL.
AND CONNECTING LAKES
LAKE MICHIGAN
COLEHOUR
PULLMAN
LAKE CALUMET
STATE LINE
HOLLAND
LAKE GEORGE
Scale.

Wet Prairies

Forested Wetlands

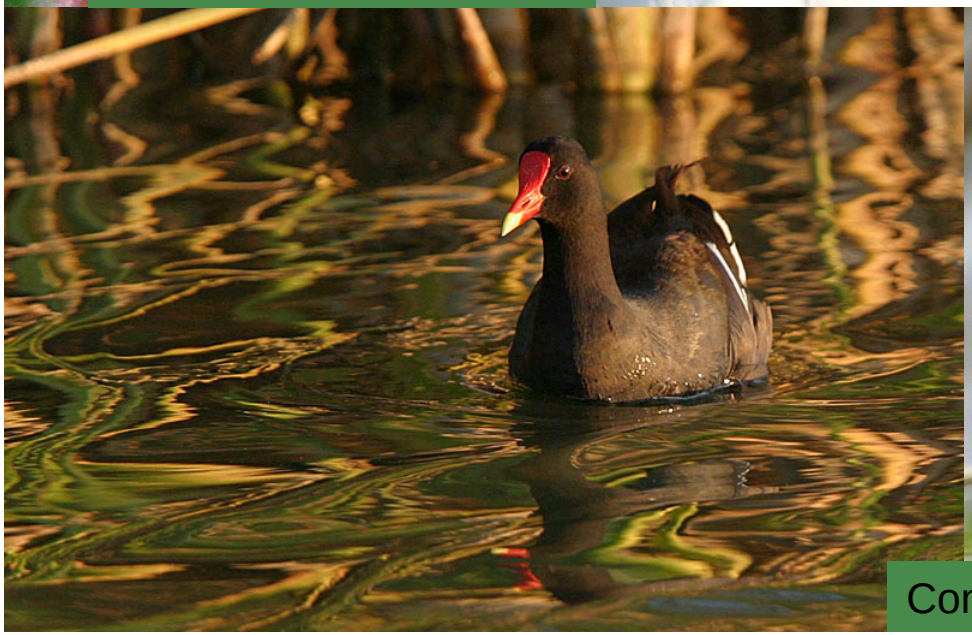
Emergent Wetlands

American soldiers stationed at Fort Dearborn hunted in the Lake Calumet marshes. There they found water birds *"of every kind that breed upon this continent."*

Black-crowned night heron

Yellow-headed Blackbird

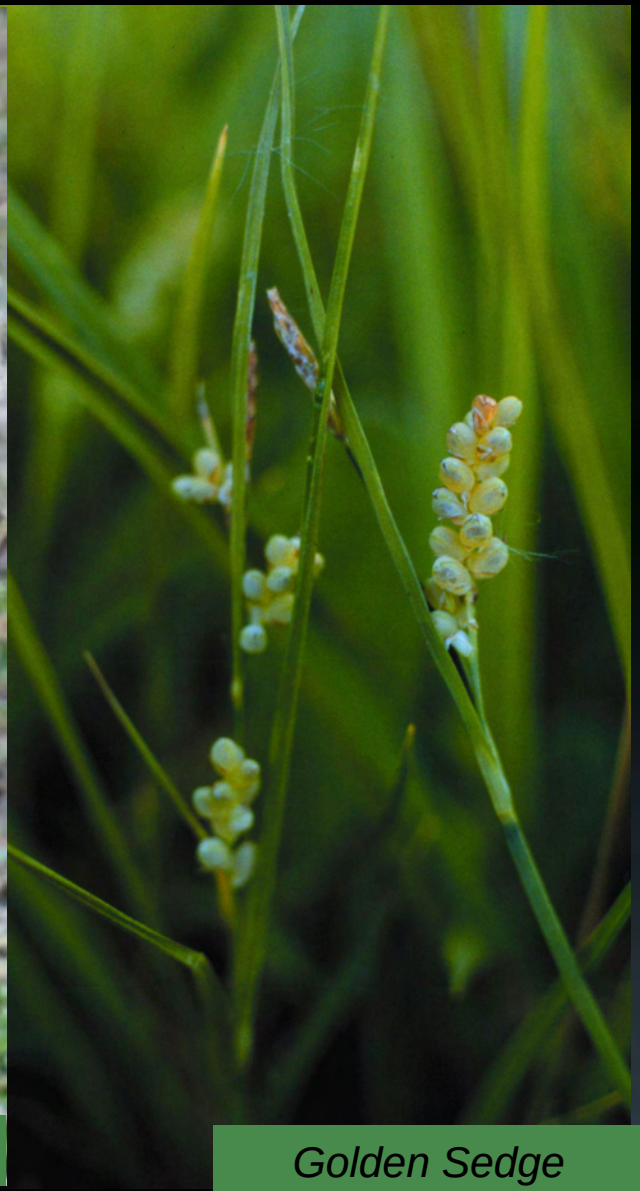
Great Egret



Common Moorhen

Scientists found "fine examples of rare and beautiful plants."

Elk sedge

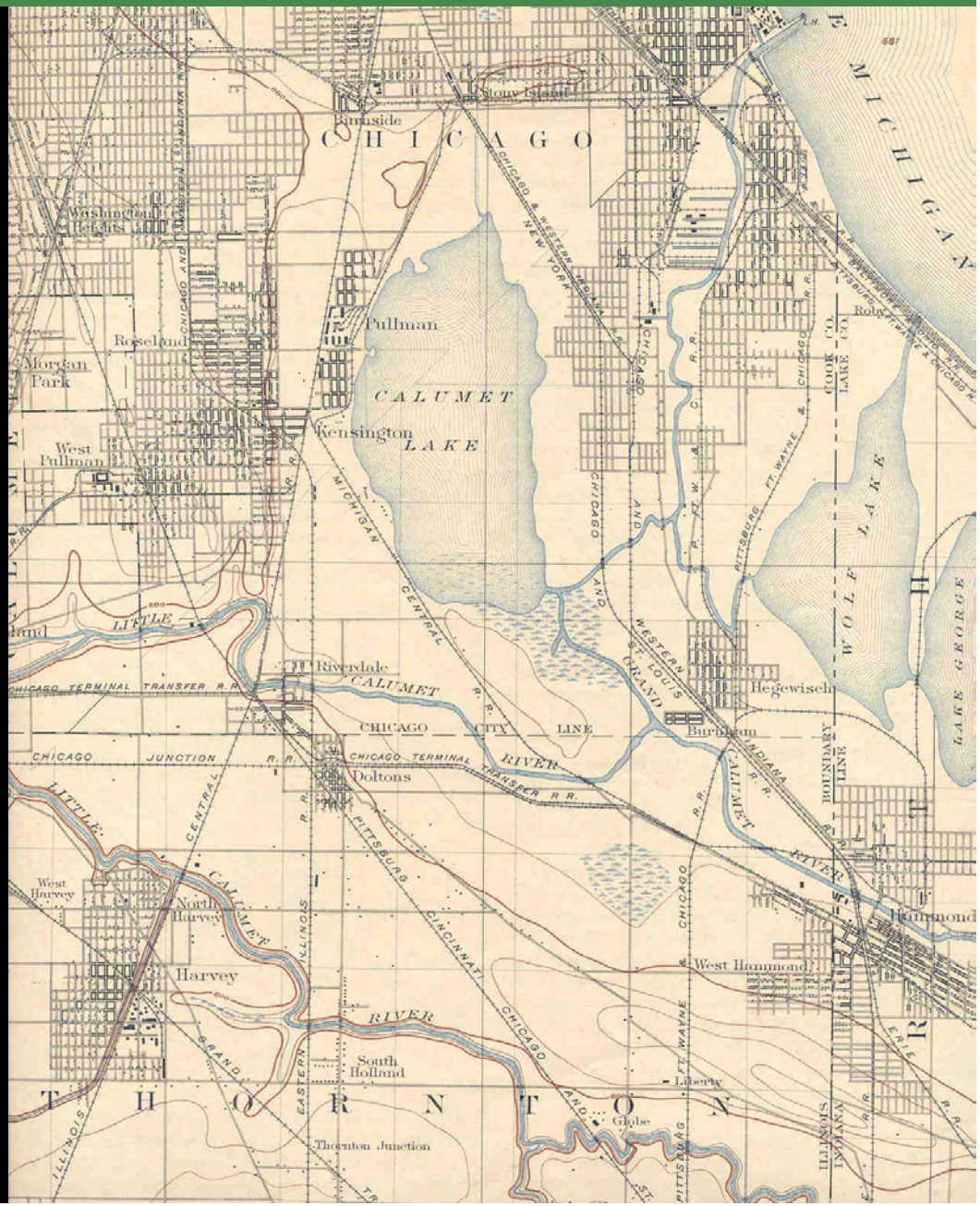


Golden Sedge

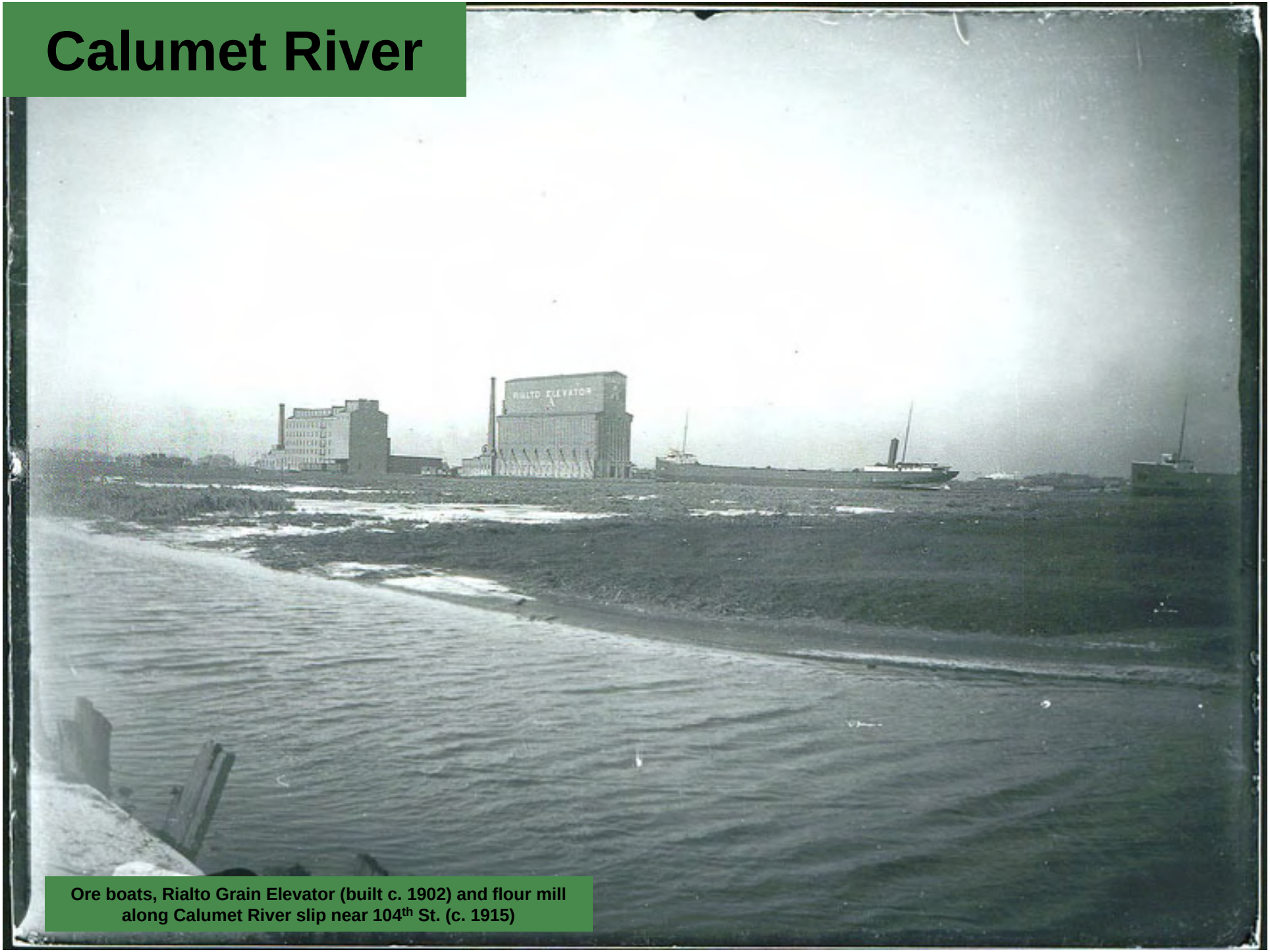
Thismia americana

Development of Southeast Side

- Lake Michigan
- Calumet River
- Railroad
- Natural Resources
- Wetland Filling

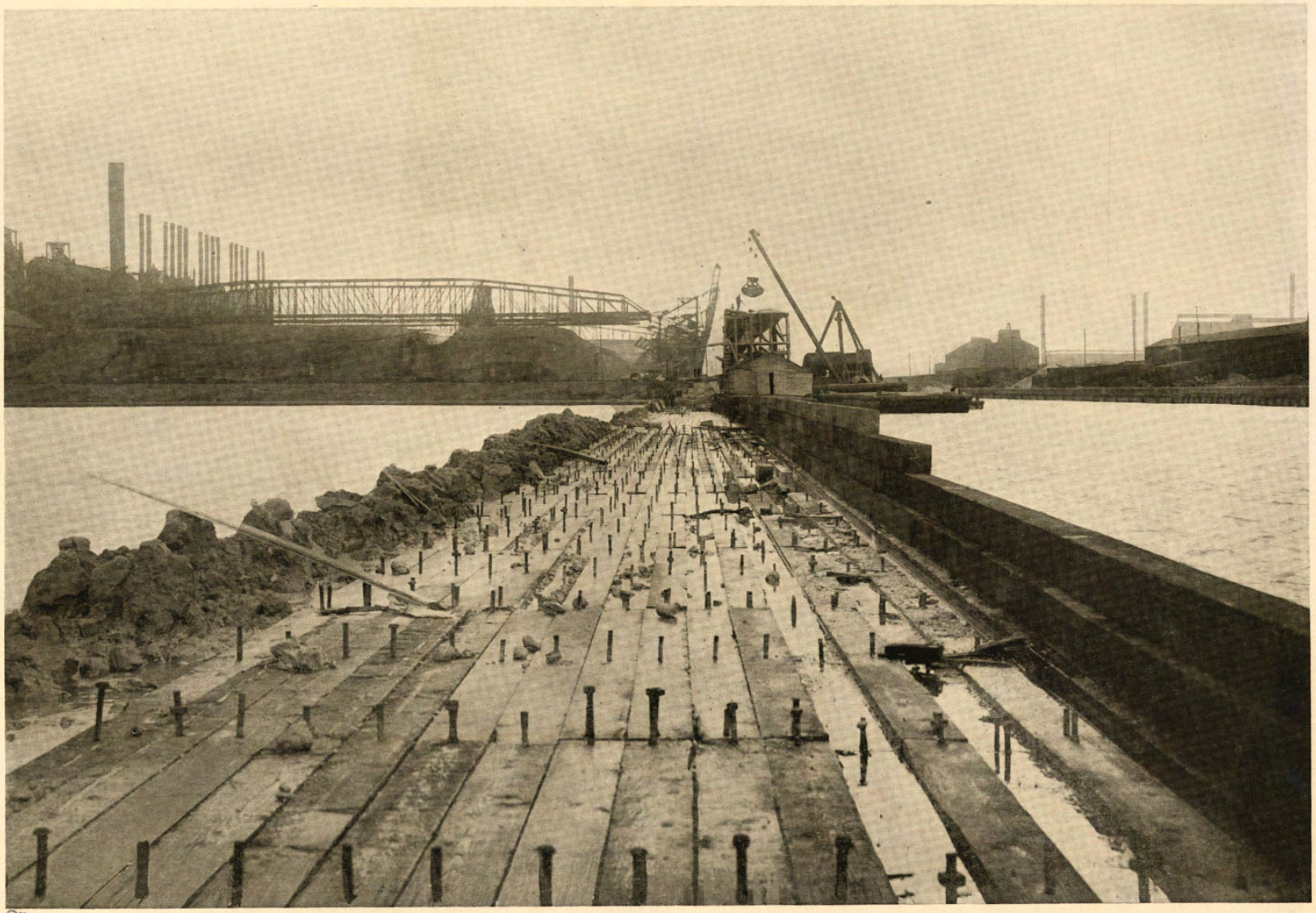


Calumet River



Ore boats, Rialto Grain Elevator (built c. 1902) and flour mill along Calumet River slip near 104th St. (c. 1915)

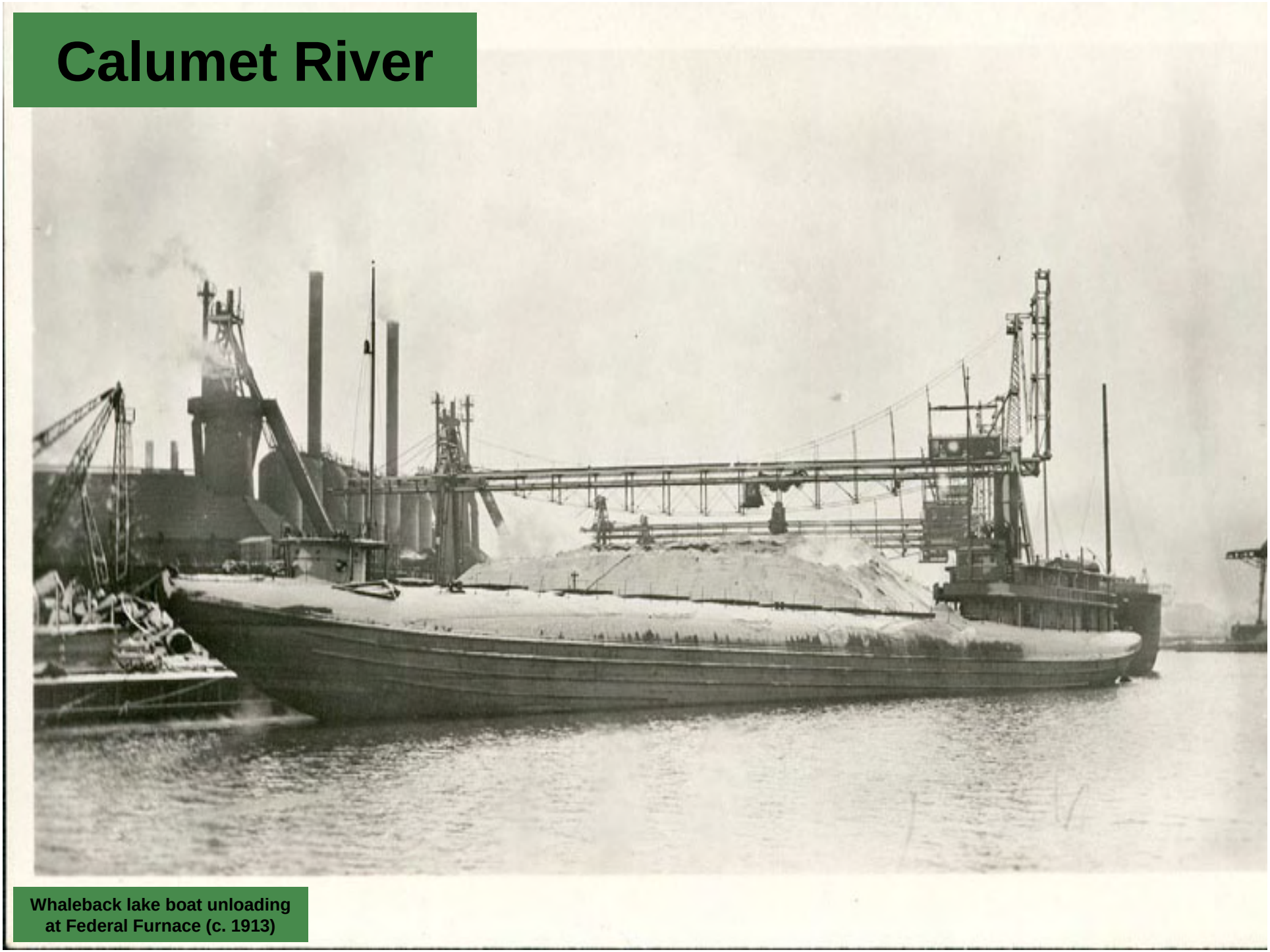
Calumet River



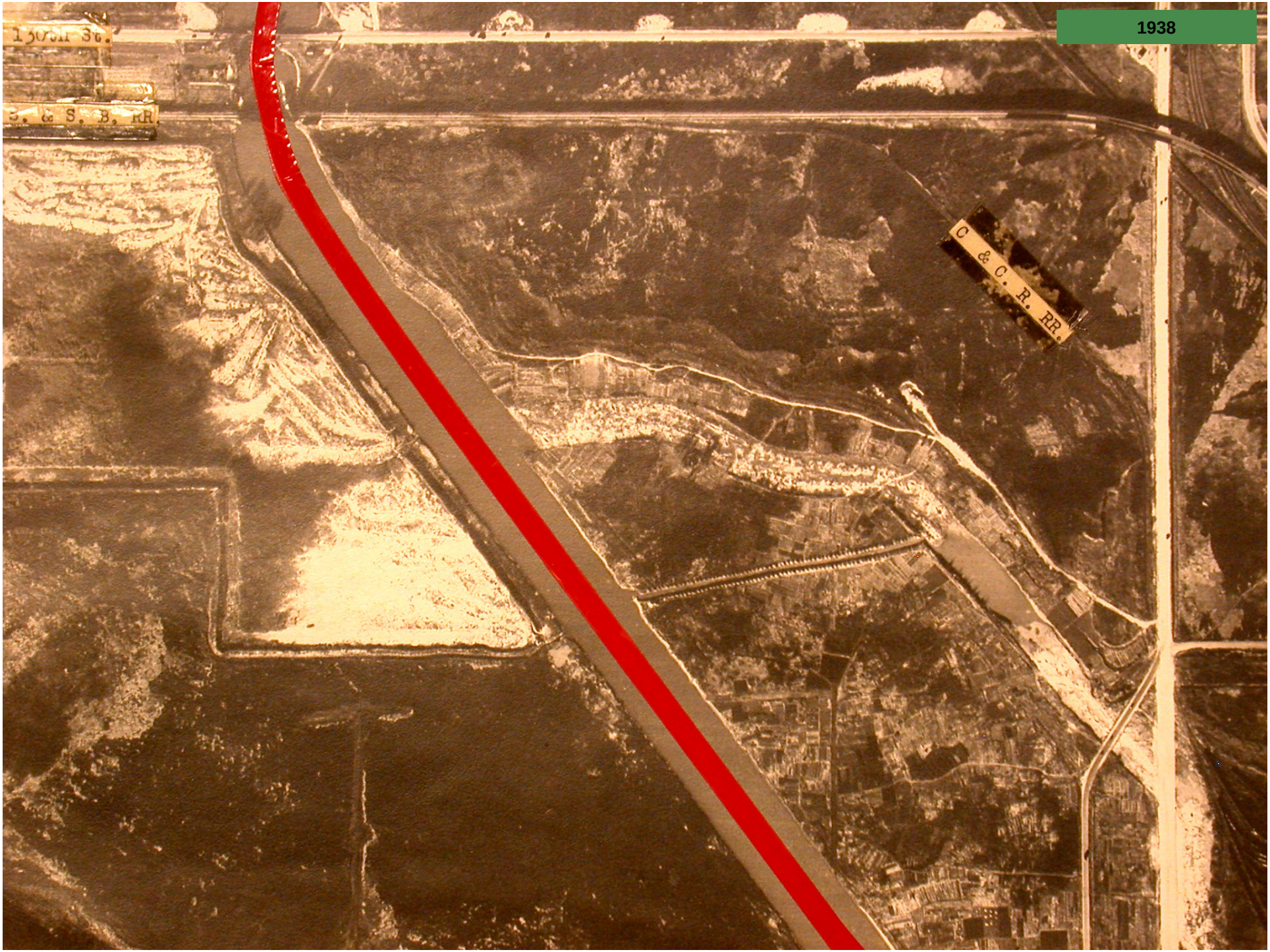
SOUTH CHICAGO, ILLINOIS: Crib work ready for concrete superstructure, built for the Illinois Steel Company's plant on Calumet River.

US Steel – Great Lakes Dredge and Dock Company construction- ready for concrete (c. 1912)

Calumet River

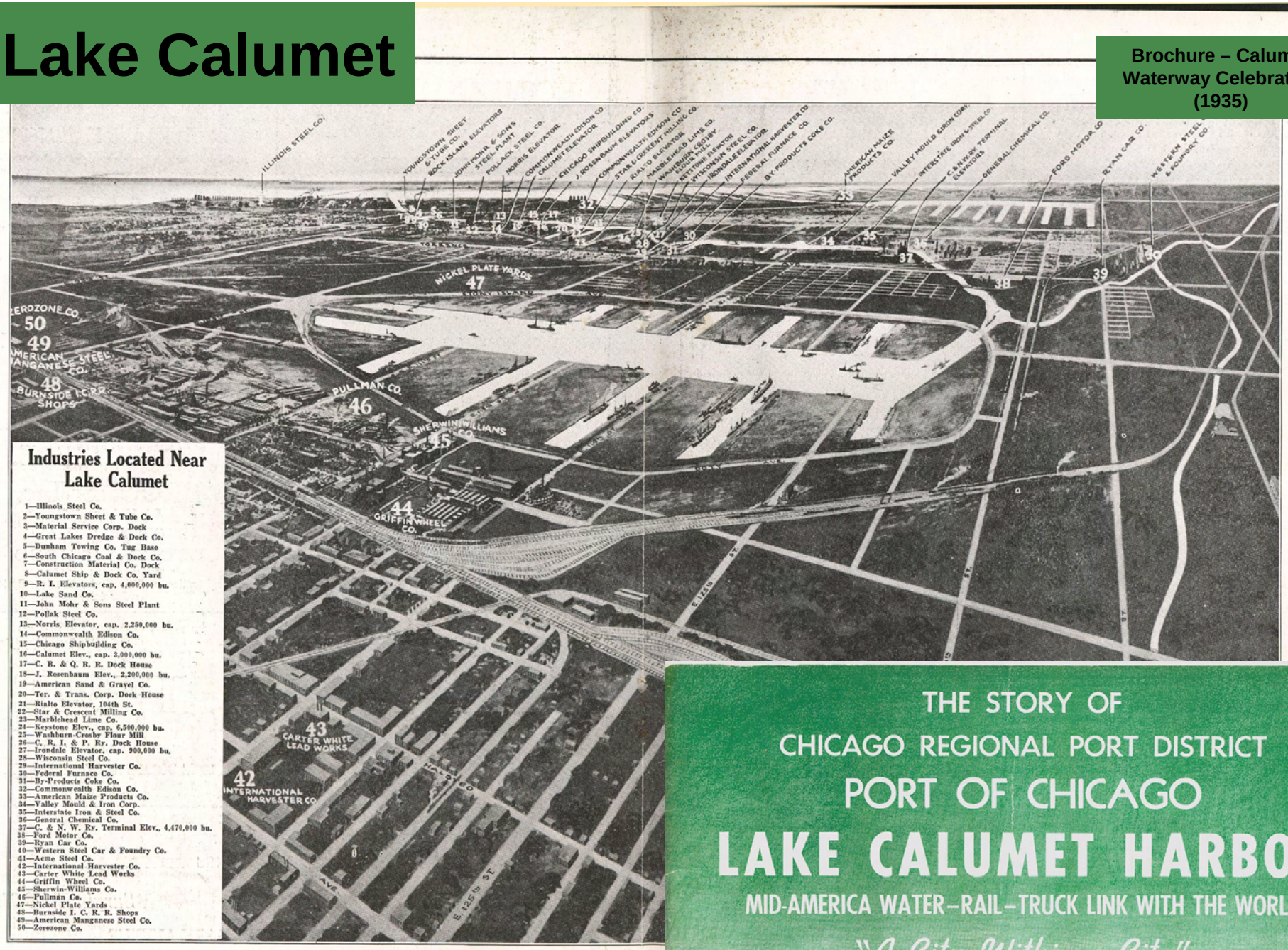


Whaleback lake boat unloading at Federal Furnace (c. 1913)


1938
C & C. R. RR.

Lake Calumet

Brochure – Calumet Waterway Celebration (1935)



Industries Located Near Lake Calumet

1—Illinois Steel Co.
2—Youngstown Sheet & Tube Co.
3—Material Service Corp. Dock
4—Great Lakes Dredge & Dock Co.
5—Dunham Towing Co. Tug Base
6—South Chicago Coal & Dock Co.
7—Construction Material Co. Dock
8—Calumet Ship & Dock Co. Yard
9—R. I. Elevators, cap. 4,000,000 bu.
10—Lake Sand Co.
11—John Mohr & Sons Steel Plant
12—Pollak Steel Co.
13—Norris Elevator, cap. 2,250,000 bu.
14—Commonwealth Edison Co.
15—Chicago Shipbuilding Co.
16—Calumet Elev., cap. 3,000,000 bu.
17—C. B. & Q. R. R. Dock House
18—J. Rosenbaum Elev., 2,200,000 bu.
19—American Sand & Gravel Co.
20—Ter. & Trans. Corp. Dock House
21—Rialto Elevator, 104th St.
22—Star & Crescent Milling Co.
23—Marblehead Lime Co.
24—Keystone Elev., cap. 6,500,000 bu.
25—Washburn-Crosby Flour Mill
26—C. R. I. & P. Ry. Dock House
27—Irondale Elevator, cap. 900,000 bu.
28—Wisconsin Steel Co.
29—International Harvester Co.
30—Federal Furnace Co.
31—By-Products Coke Co.
32—Commonwealth Edison Co.
33—American Maize Products Co.
34—Valley Mould & Iron Corp.
35—Interstate Iron & Steel Co.
36—General Chemical Co.
37—C. & N. W. Ry. Terminal Elev., 4,470,000 bu.
38—Ford Motor Co.
39—Ryan Car Co.
40—Western Steel Car & Foundry Co.
41—Acme Steel Co.
42—International Harvester Co.
43—Carter White Lead Works
44—Griffin Wheel Co.
45—Sherwin-Williams Co.
46—Pullman Co.
47—Nickel Plate Yards
48—Burnside I. C. R. R. Shops
49—American Manganese Steel Co.
50—Zerozone Co.

THE STORY OF
CHICAGO REGIONAL PORT DISTRICT
PORT OF CHICAGO
LAKE CALUMET HARBOR
MID-AMERICA WATER–RAIL–TRUCK LINK WITH THE WORLD
"A City Within a City"

Brochure (1961)

Calumet River

Mouth of the Calumet River – Calumet Park, Youngstown Steel; bottom left is South Slip of US Steel (1960s)

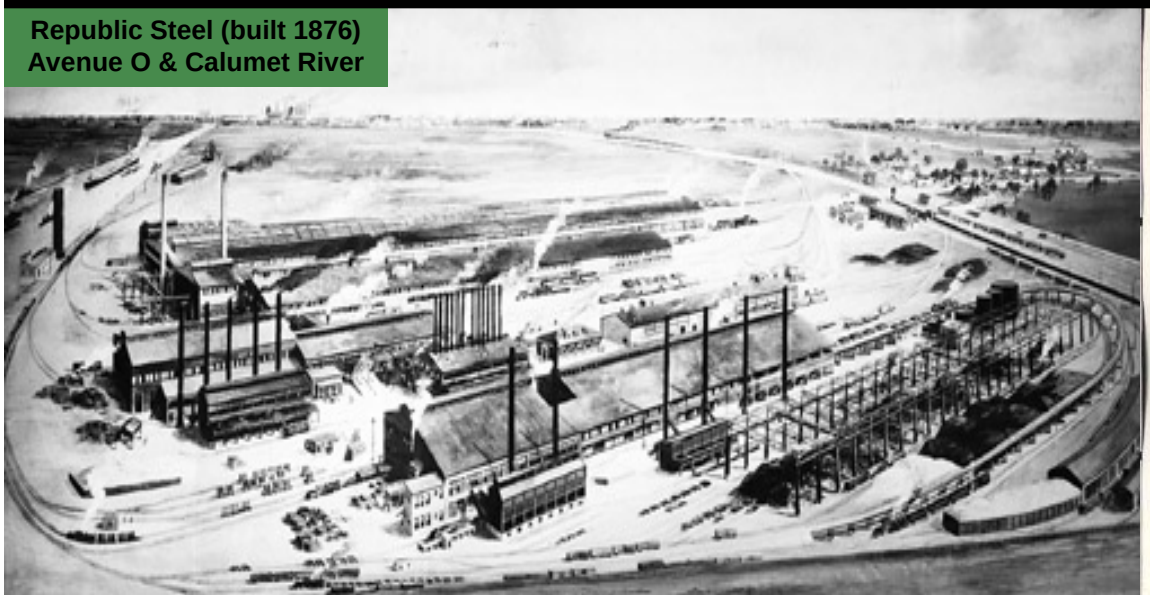
Railroads

Acme Steel, Riverdale
Plymouth No. 3 Locomotive
(late 1930s)

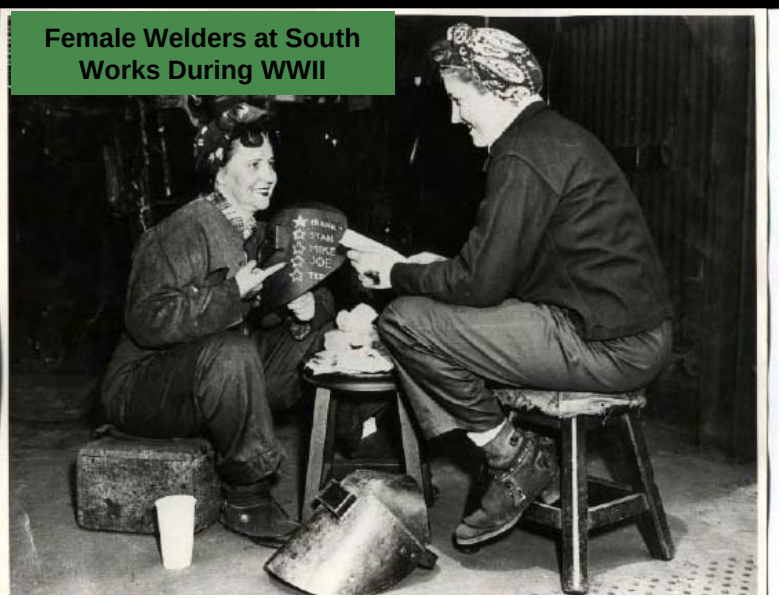
Industry: Steel

1875 to 1992

Acme Steel Coke Ovens

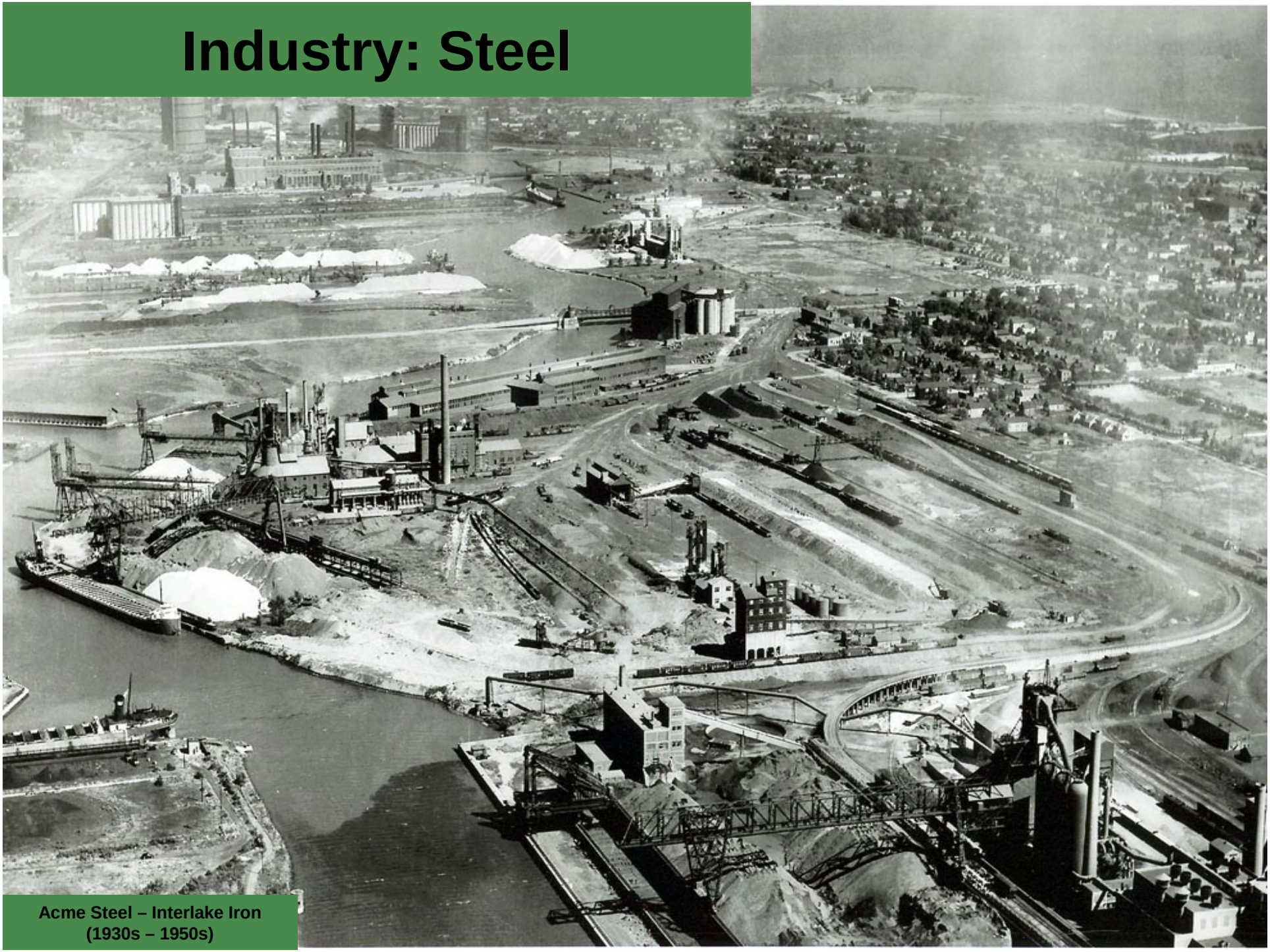


Republic Steel (built 1876)
Avenue O & Calumet River



Female Welders at South Works During WWII

Industry: Steel



Acme Steel – Interlake Iron
(1930s – 1950s)

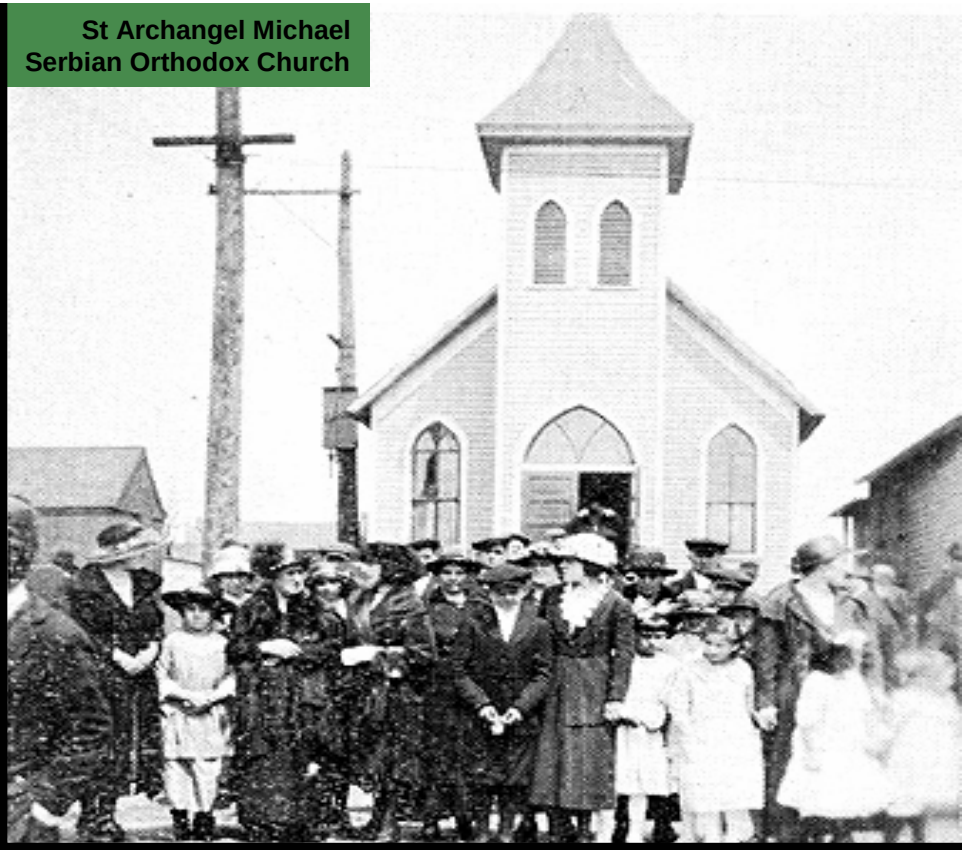
Industry: Steel

PUSHING COKE FROM AN OVEN

Acme Steel

Community

- **Polish**
- **Irish**
- **Yugoslavian**
- **Czechoslovakian**
- **Swedish**
- **Serbians**
- **Slovenians**
- **Italian**
- **German**
- **Croatian**
- **Austrian**
- **Mexican** (~1926)
- **African American** (post WWII)



St Archangel Michael Serbian Orthodox Church

100th Street Train Station c. 1900

106th and Torrence

Community: Today

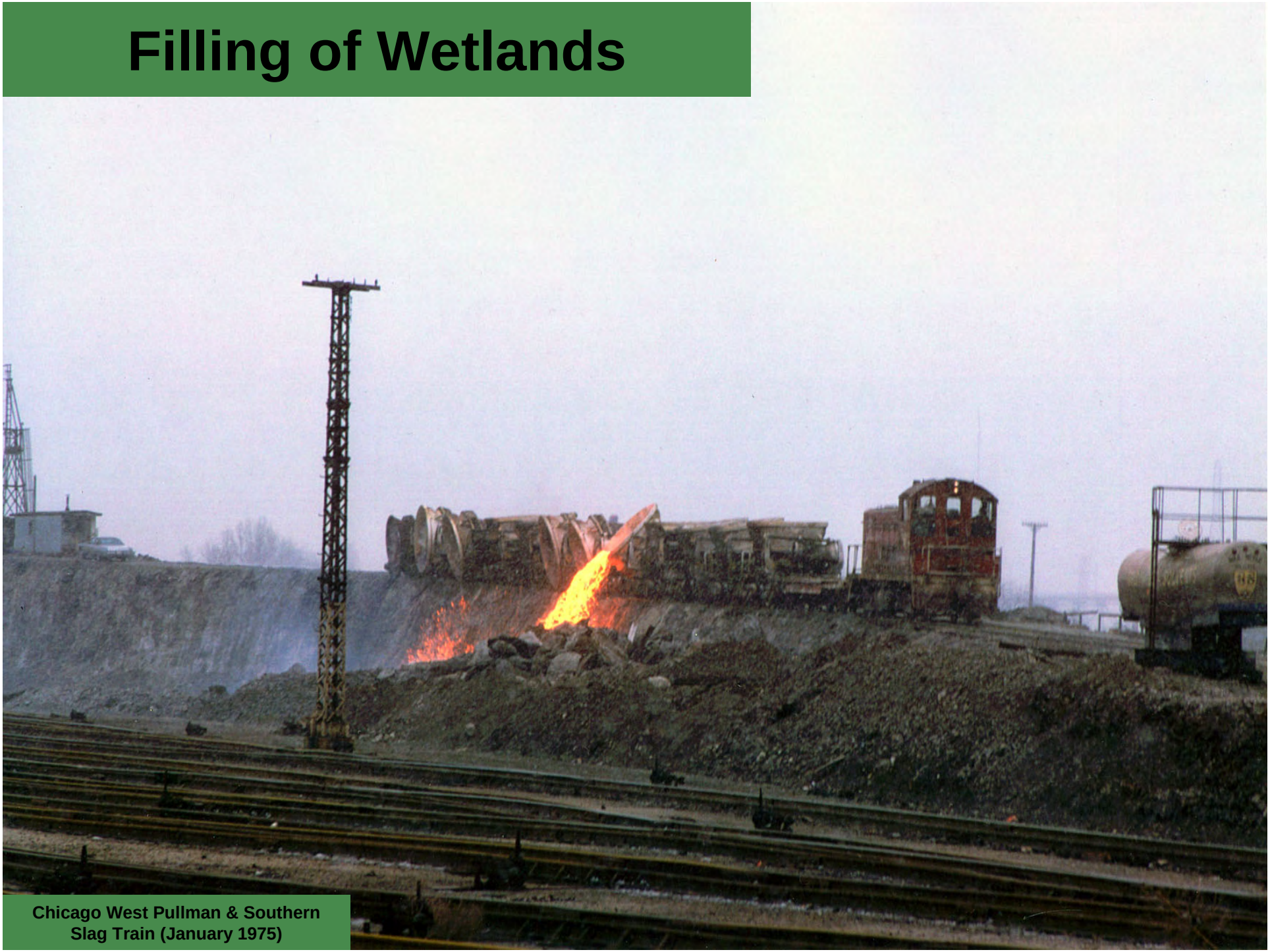
"Southeast Chicago is a place of neighborhoods. They are shaped by ethnicity, social class and by a physical presence that has always implied industrial might."

– Rod Sellers and Dominick A. Pacyga
Chicago's Southeast Side

South Chicago
South Deering
East Side
Hegewisch
Pullman

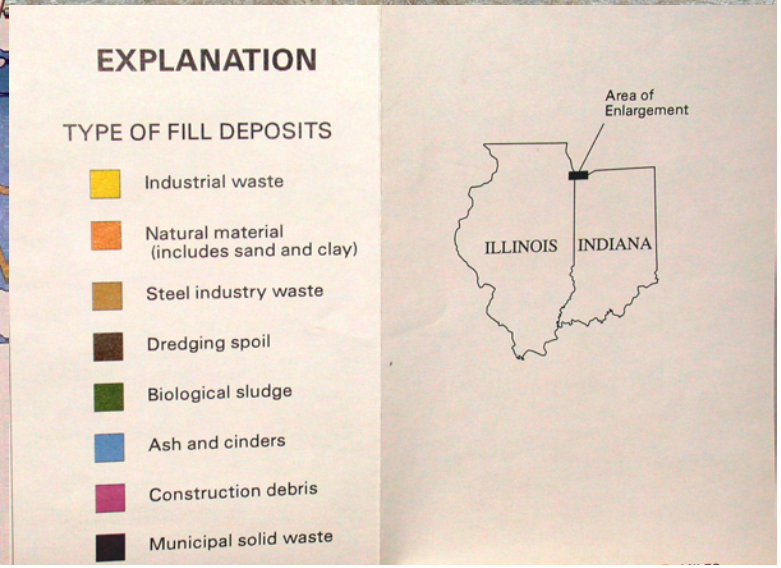
Filling of Wetlands

Filling of Wetlands



Chicago West Pullman & Southern
Slag Train (January 1975)

Fill Materials of the Calumet Region



Wisconsin Steel: Boom (1875) and Bust (1982)

US Steel South Works: Heyday (early 1900s) and Today

200,000 jobs lost

"[Let's] talk about the shuttered mills that once provided a decent life for men and women of every race. " – Presidential candidate Barack Obama, March 18, 2008

Industry: Today

60% of Chicago's Industrial Space

Industry Today

Years in Business 1 – 133 years
Average number of years in Calumet: 39

Jobs

Under 50 – 57%
Between 51-200 – 25%
Over 200 – 18%

Annual Revenue

Over $10 million – 52%
Under $10 million – 48%

Use of Space

Under 60,000 sq ft – 50%
Over 60,000 sq ft – 50%

Markets They Service

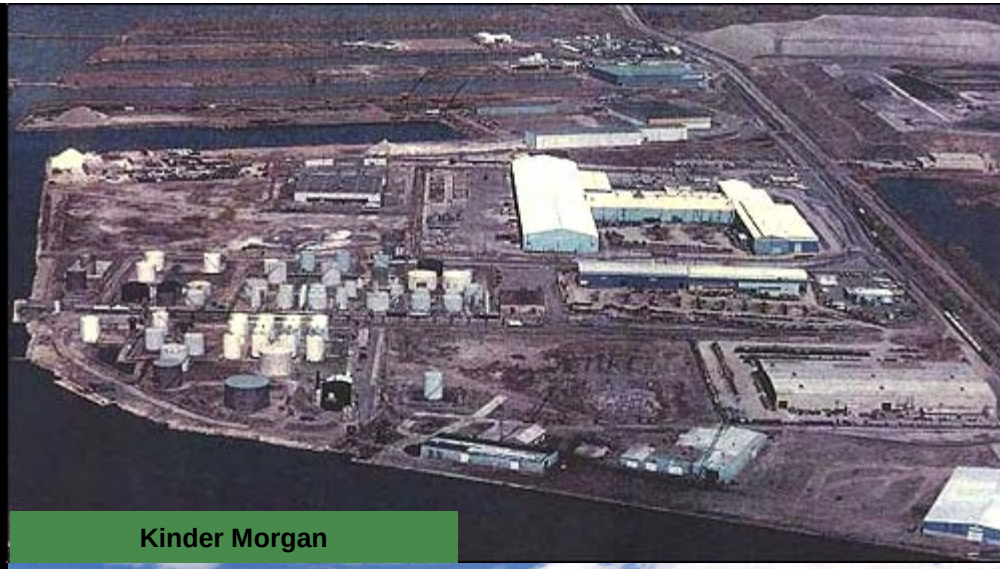
Local – 21%
Regional – 44%
National and
International – 35%
(Exporting 7%)

Source: 2003 Survey: Calumet Area Industrial Commission

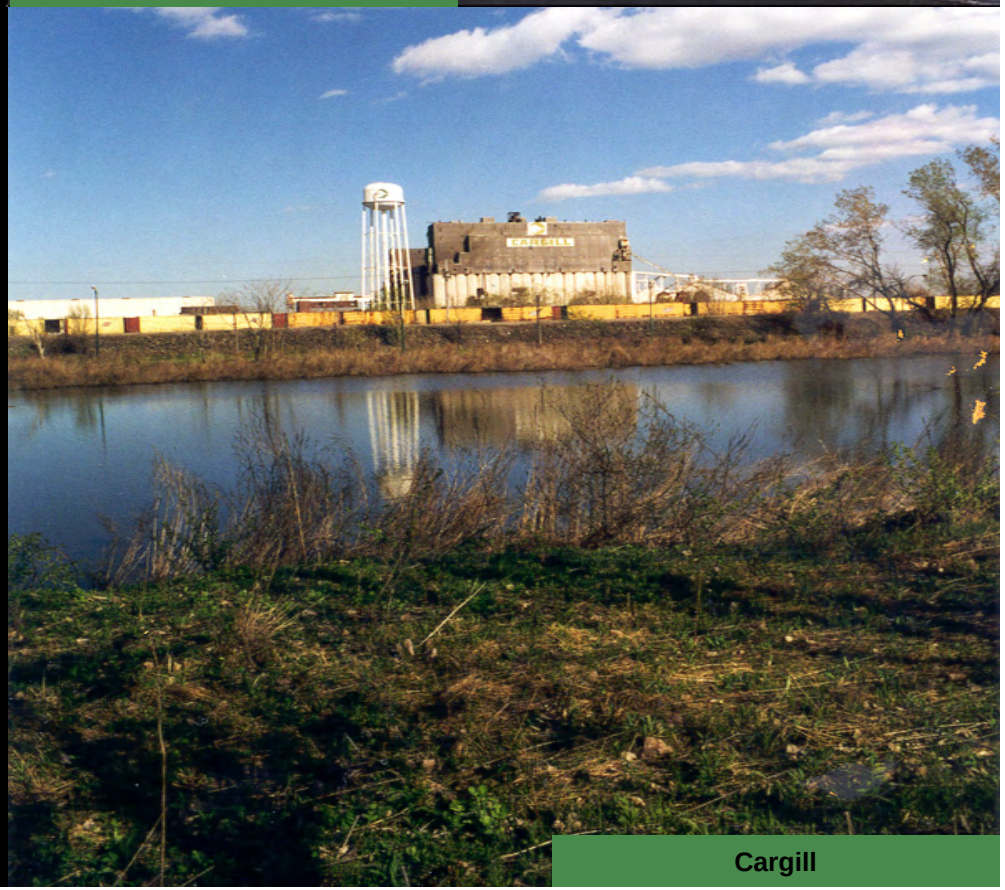
Industry Today

Ford Motor Company
Diamond Coring
Paket Corporation
Raffin Construction
Holcim
Cargill
Beemsterboer
Cullen Electric
Naylor Pipe
Mittal Steel
Sherwin Williams
Waste Management
Park National Bank
ADE, Inc.
CSX
Kinder Morgan
…and many more

Emphasis on Greening



Kinder Morgan



Cargill

Nature Today: Challenges

- Slag, Dredge Spoils
- Hydrology
- Contamination
- Invasive species
- Nuisance species
- Dumping, off-roading

Nature Today: Opportunities

- Large, ecologically significant wetlands
- Habitat for 40% of state-listed flora/fauna
- 11 sites in INAI
- 2004 Audubon Society IBA
- Urban setting
- Interpretive opportunities

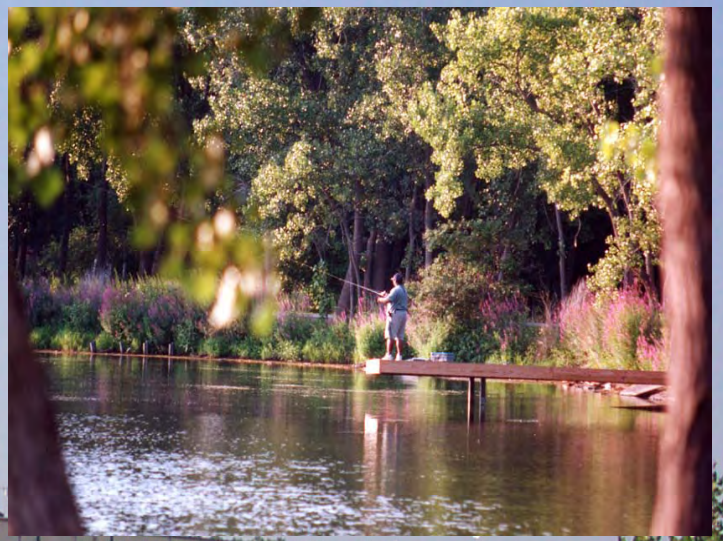
Biodiversity Blitz 2002

Taxonomic Group	Number of Species
Algae	83
Protozoa	18
Soil Invertebrates	35
Fungi	152
Lichens	25
Sac Fungi	18
Bryophytes, Ferns & Allies	44
Vascular Plants	709
Spiders	40
Mites	84
Zooplankton	8
Crustacea	14
Aquatic Insects	66
True Bugs	35
Leaf Hoppers	72
Beetles	350
Ants, Bees & Wasps	122
Butterflies & Moths	163
Ectoparasites	5
Molluscs	42
Fishes	33
Amphibians & Reptiles	9
Birds	110
Mammals	20
TOTAL:	**2,257**


SWAROVSKI

Education

Recreation

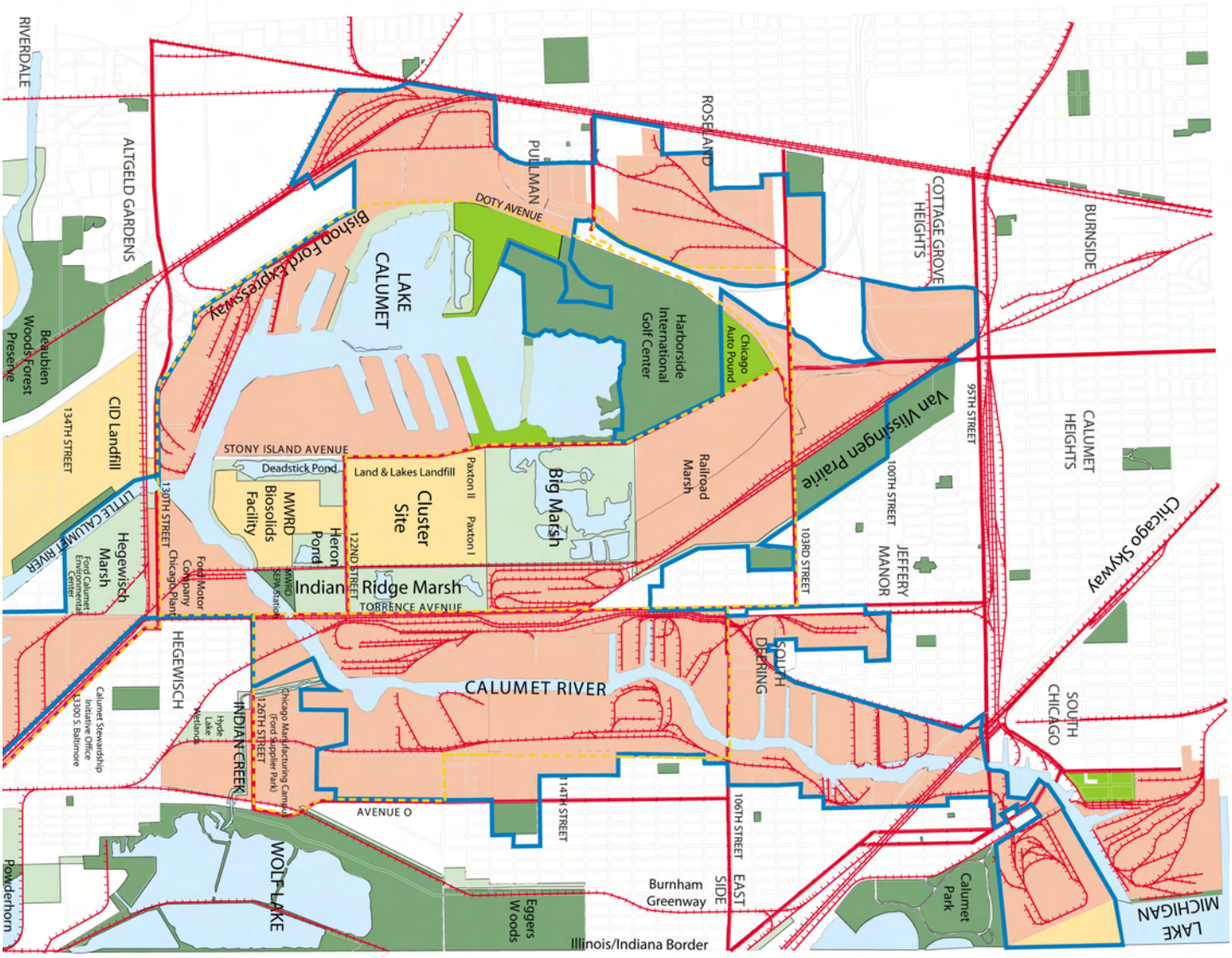


Volunteers

Research

No Small Plans

Calumet Area Land Use Plan



Calumet Open Space Reserve

Calumet Initiative Partners

ACADEMIA: Chicago State University, DePaul University, Governor's State University, Illinois Institute of Technology, Loyola University, Michigan State University, Northwestern University, Notre Dame, Purdue University, University of Illinois at Chicago, University of Illinois Urbana Champaign, University of Michigan-Ann Arbor

LOCAL AND STATE GOVERNMENT: Chicago Department of Environment, Chicago Department of Planning and Development, Chicago Department of Business and Information Systems, Chicago Park District, Alderman John Pope (10th Ward, Chicago), Alderman Anthony Beale (9th Ward, Chicago), Alderman William Beavers (7th Ward, Chicago), City of Hammond, Indiana, Forest Preserve District of Cook County, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, Illinois International Port District Authority, Illinois Natural History Survey, Illinois State Geological Survey, Illinois State Water Survey, Illinois Waste Management Research Center, Indiana Department of Environmental Quality, Indiana Department of Natural Resources, Metropolitan Water Reclamation District of Greater Chicago, Northeastern Illinois Planning Commission, Cook County Dept of Office Technology

FEDERAL GOVERNMENT: Illinois-Indiana Sea Grant; Urban Resources Partnership, US Army Corps of Engineers, US Department of Agriculture Forest Service North Central Research Station, US Environmental Protection Agency, US Fish and Wildlife Service, US Geological Survey, US National Park Service, US Natural Resources Conservation Service

ENVIRONMENTAL ORGANIZATIONS AND MUSEUMS: Bird Conservation Network, Brookfield Zoo, Chicago Academy of Sciences, Chicago Audubon Society, Chicago Ornithological Society, Chicago Wilderness, Field Museum of Natural History, Friends of the Chicago River, Grand Calumet Task Force, Illinois Audubon Society, National Audubon Society, Openlands Project, Shedd Aquarium

LOCAL RESIDENT-LED ORGANIZATIONS: Calumet Ecological Park Association, Calumet Heritage Partnership, Hammond Parks Foundation, Hegewisch Chamber of Commerce, Historic Pullman Foundation, Lake Calumet Ecosystem Partnership, Ridge Historical Society, Southeast Environmental Task Force, Wolf Lake Bi-State Gatherings

INDUSTRY: Acme Steel, Calumet Area Industrial Commission, Ford Motor Company, Southeast Chicago Development Commission, USA/Waste Management Corp

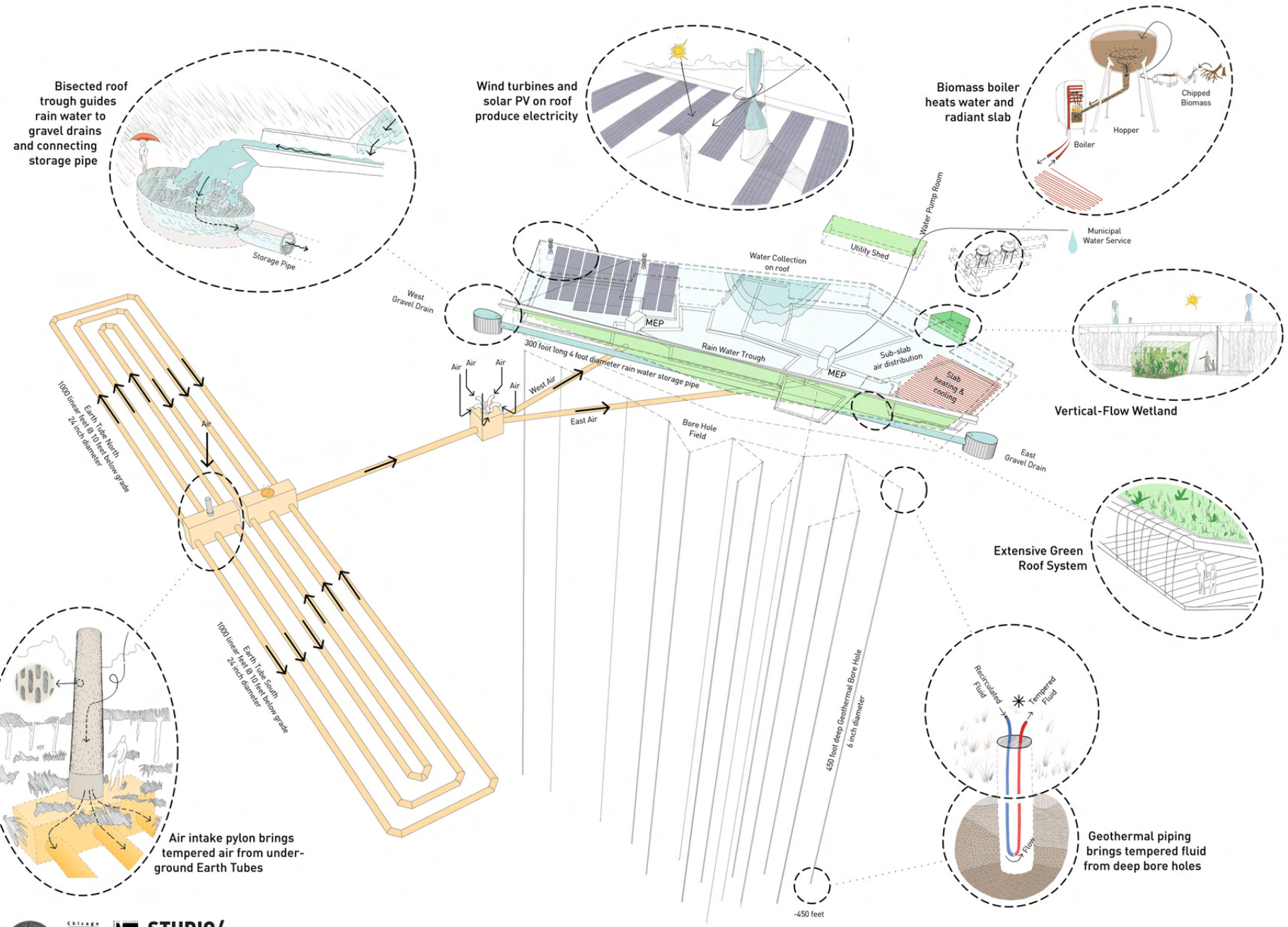
CHICAGO AREA CONSULTING FIRMS: V3 Consultants, Envirocom, Kudrna & Associates, TAMS Consultants, The Wetlands Initiative, Wolff Clements and Associates, Jacobs-Ryan Associates, Applied Ecological Services

FOUNDATIONS: Chicago's Environmental Fund, Gaylord and Dorothy Donnelley Foundation, Max McGraw Wildlife Foundation

MISCELLANEOUS: Institute of Nature and Culture, Nature, Polis and Ethics


SGA V01302008


IW-9
800
120

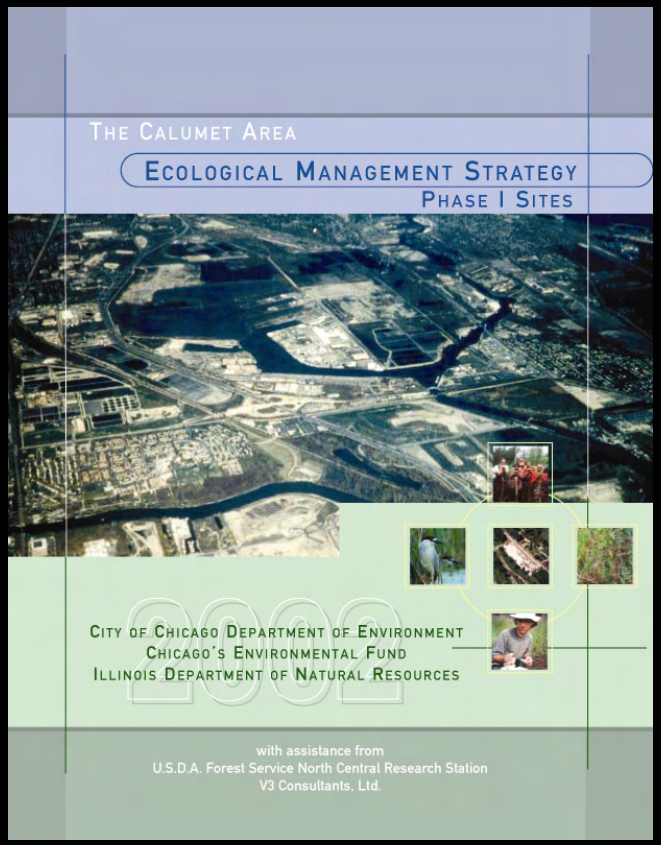


STUDIO/ GANG /ARCHITECTS

FORD CALUMET ENVIRONMENTAL CENTER

HOW IT WORKS

Calumet Area Ecological Management Strategy



- **Preserve**
- **Improve**
- **Create**

Chicago Department of Environment
Illinois Department of Natural Resources
Chicago's Environmental Fund
with assistance from
USDA Forest Service North Central Research Station
V3 Consultants and Jacobs/Ryan Associations

Calumet Hydrologic Master Plan

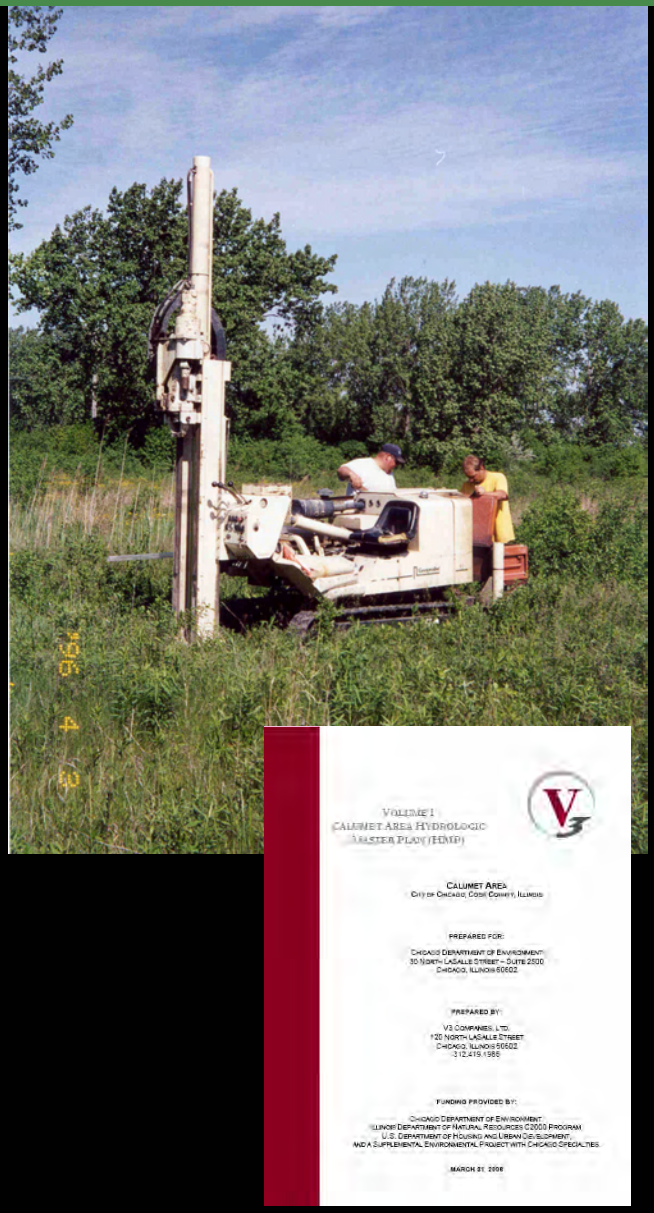
Timeline: Released September 2006

Funding: IDNR C2000 program, City of Chicago, Chicago Specialties Supplemental Environmental Project (SEP), US Dept of Housing and Urban Development

Advisors: George Roadcap (ISWS) and Michael Miller (ISGS)

Sites: Indian Ridge Marsh, Heron Pond, Deadstick Pond, Big Marsh, Lake Calumet, Conservation Area, Pullman Creek; later additions include Hegewisch Marsh and Van Vlissingen Prairie

Goal: To assess the hydrology of the region, connections between sites, status of water control structures, bathymetry of wetlands and topography of the area. To test general water quality at some sites (pH, DO, turbidity, etc.) Recommendations are provided.



Calumet Hydrologic Master Plan

Structure #	Functional	Adjustable	Adequate Discharge Capacity	Blockage Potential	Improvement Recommendations	EOPCC*	Priority
#1 – Deadstick Pond Outlet	Y	Y	Y	Low	Clear outfall channel and stabilize with rip-rap	$8,500	
#2 – Heron Pond Outlet	N/A	N/A	Y	Low	Construct concrete weir	$15,600	Y
#3 –IRM North Outlet	Y	N	Y	High	Inspect Culvert	$2,500	Y
					Rehabilitate 24" culvert: Cured-in-Place Liner…… or Pull in Place 20" HDPE	$31,500 $47,500	Y
					Replace manhole with water level control structure	$9,500	Y
					Install beaver leveler	$2,500	
#5 – Big Marsh Outlet	Y	Y	N	High	Construct secondary outlet	$27,000	Y
#7 – Coke Plant to IRM North	Y	N	Y	Low	None	N/A	
#8 – Railroad Marsh to Big Marsh	Y	N	Y	Low	None	N/A	
#14 – Coke Plant to Big Marsh	Y	N	Y	Low	None	N/A	
#15 – Conservation Area Outlet	Y	Y	N	Low	Rip-rap stabilization	$3,800	
					Construct secondary outlet	$14,000	Y
#17 –IRM South Outlet	N/A	N/A	Y	Low	Construct concrete weir	$15,600	Y

Table: Control Structure Assessment Summary.

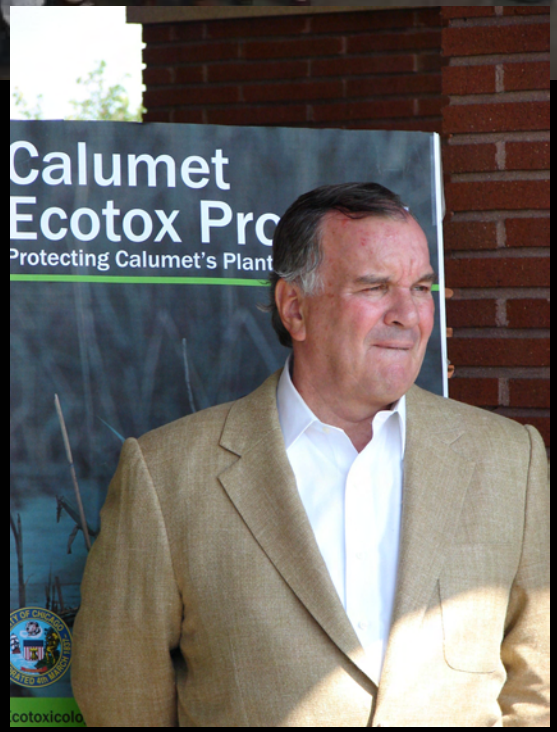
*Costs do not include engineering design or permitting fees.

Calumet Ecotox Protocol

Protecting Calumet's Plants and Animals

Multi-agency effort to create ecotoxicological standards for Calumet open space plans

- Chicago Department of Environment
- US Environmental Protection Agency
- US Fish and Wildlife Service
- Illinois Department of Natural Resources
- Illinois Environmental Protection Agency
- Illinois Natural History Survey
- Chicago Park District
- Forest Preserve District of Cook County
- Waste Management and Research Center



Calumet Ecotox Protocol

Protecting Calumet's Plants and Animals

- Technical and Management teams
- Establishes threshold, benchmark and background screening levels for soil, sediment and surface water
- Completed October 2006

REMEDIATION

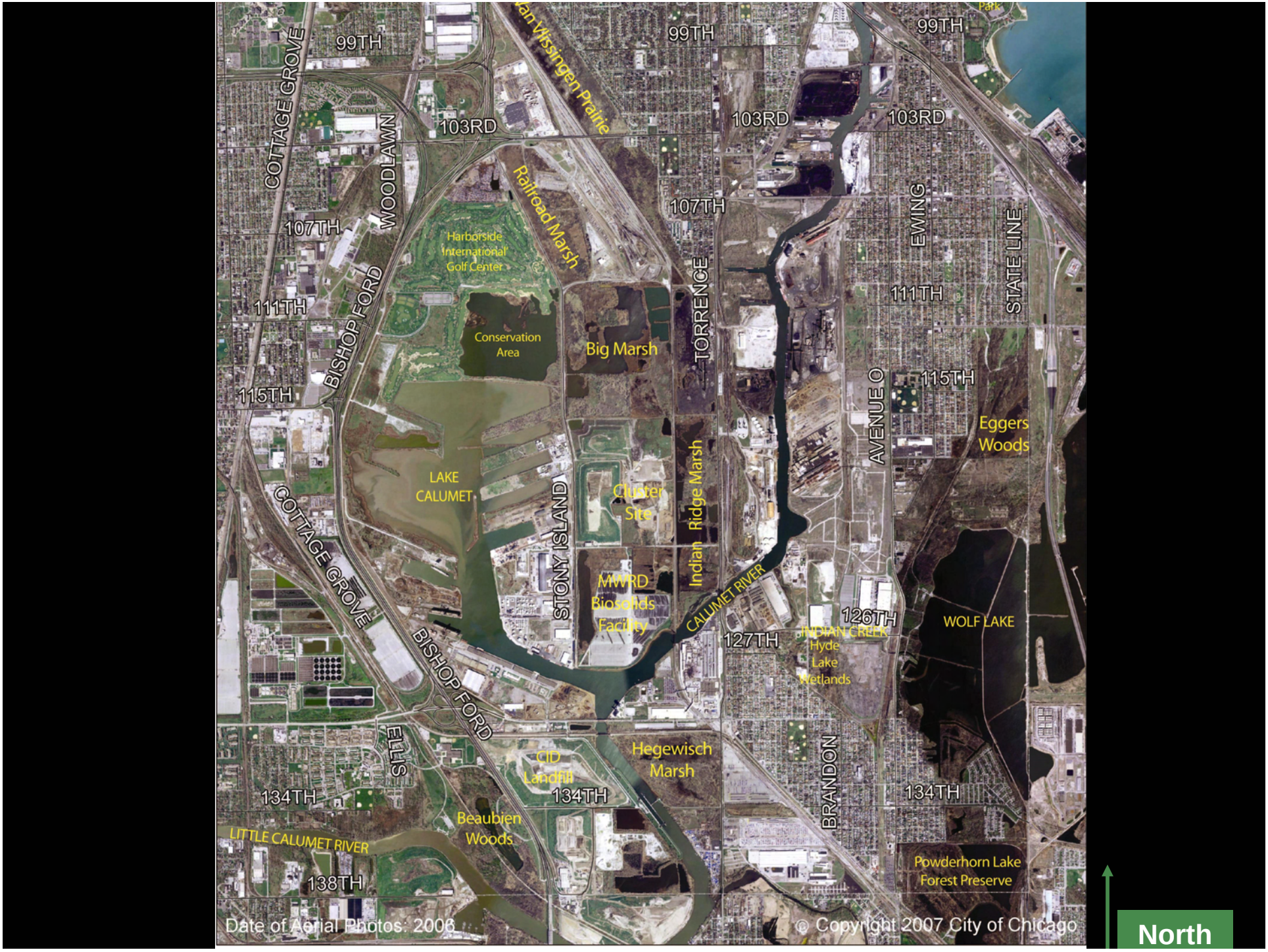
BENCHMARK

in between

THRESHOLD

Evaluate site-specific conditions to determine remediation approach

NO IMPACT

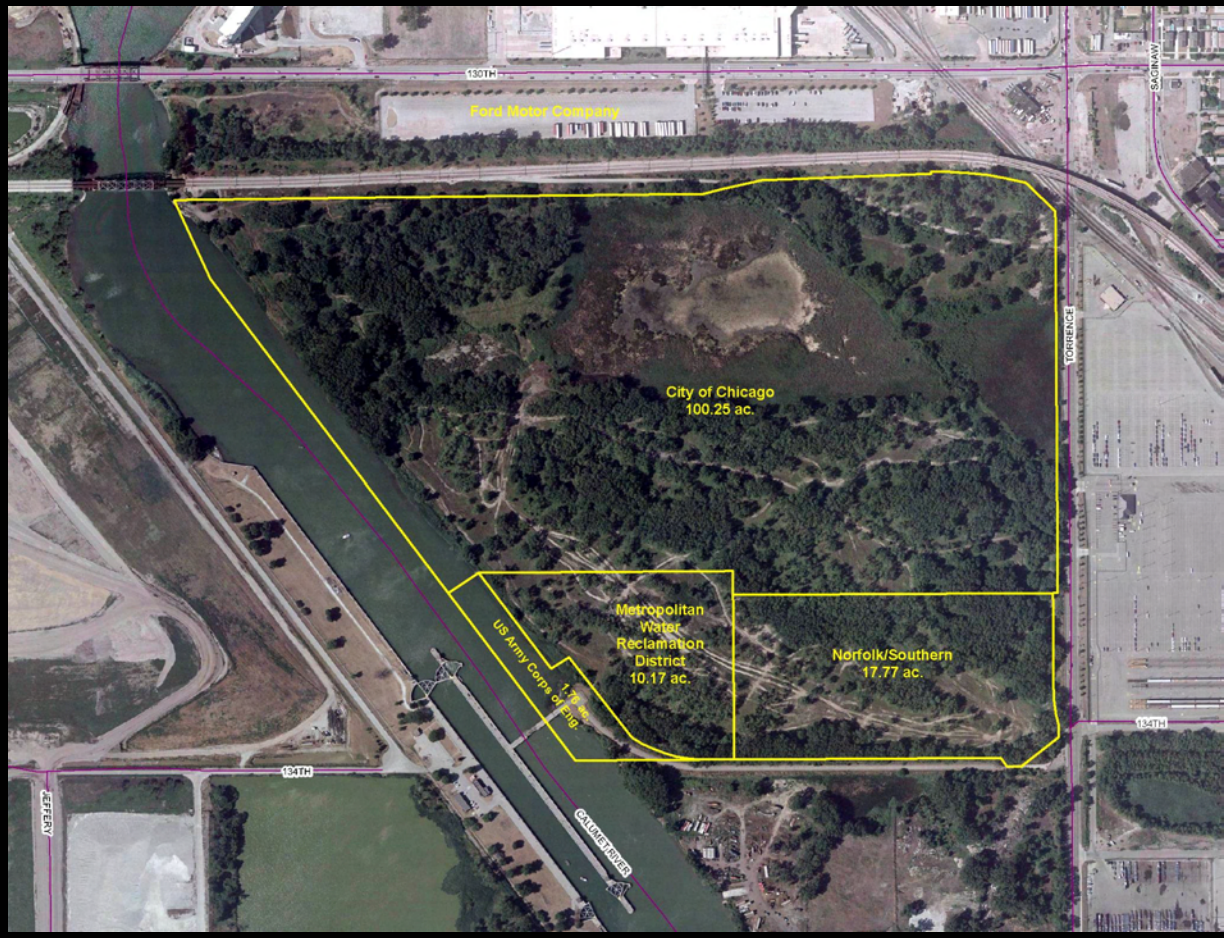

99TH
99TH
99TH
COTTAGE GROVE
WOODLAWN
103RD
103RD
103RD
Van Vissingen Prairie
Railroad Marsh
107TH
107TH
EWING
STATE LINE
Harborside International Golf Center
111TH
111TH
BISHOP FORD
Conservation Area
Big Marsh
TORRENCE
115TH
115TH
AVENUE O
Eggers Woods
LAKE CALUMET
Cluster Site
Indian Ridge Marsh
COTTAGE GROVE
STONY ISLAND
MWRD Biosolids Facility
CALUMET RIVER
126TH
WOLF LAKE
127TH
INDIAN CREEK
Hyde Lake Wetlands
BISHOP FORD
ELLIS
CID Landfill
Hegewisch Marsh
BRANDON
134TH
134TH
134TH
Beaubien Woods
LITTLE CALUMET RIVER
Powderhorn Lake Forest Preserve
138TH
Date of Aerial Photos: 2006
© Copyright 2007 City of Chicago
North

Site Planning Process

1) Review sampling data
2) Meet with community, government agencies and other partners to assess future use ideas (iterative) and regulatory requirements
3) Involve Calumet Ecotox Technical Team to assess need for additional sampling and bioavailability (iterative)
4) Evaluate whether any areas of site require removal of soil or fill
5) Restoration costs are often high due to sampling and remediation needs
6) Due to high cost of topsoil, evaluate potential use of biosolids or Peoria sediments as soil supplements
7) Obtain approvals for restoration plan and finalize costs
8) Finalize funding strategy
9) Conduct restoration / remediation
10) Transfer parcel for long-term ownership and management

Hegewisch Marsh

- Owned by City of Chicago, MWRD lease
- 130 acres
- State-endangered bird nesting habitat
- IDNR slated to be owner of 100-acre parcel
- Ford Calumet Environmental Center
- Relatively clean site
- Fill – dredge spoils, no soil needed
- Undergoing restoration



Van Vlissingen Prairie

- Land acquired via donation from Belt Railroad in 2001
- Wetland mitigation
- Future owner: TBD
- 131.6 acres
- State-endangered plant habitat
- Extensive areas of fill (7 to 10 feet deep)
- Estimated restoration without biosolids or Peoria sediments: $9M
- Site plans at 60%

Indian Ridge Marsh North and South

- Owned by City of Chicago
- 152.8 acres
- Future owner: TBD
- State-endangered bird nesting habitat
- USACE WRDA Section 1135 Program
- Design is at 50%, to be complete Spring 2009
- $5M provided by Corps; $1.25 match by City
- Isolated contamination issues
- Extensive areas of dredge spoils and fill
- Opportunity to use biosolids or Peoria sediments

Heron Pond

- Owned by City of Chicago
- 35.7 acres
- State-endangered bird nesting habitat
- Former gun club
- 30 acres of wetlands, 5.7 acres of upland
- Future owner: TBD
- Potential site for O'Hare Mitigation ($2.1 million for sampling, site plans and construction)
- Site plan and sampling will determine whether could use biosolids or Peoria sediments

Hyde Lake Wetlands

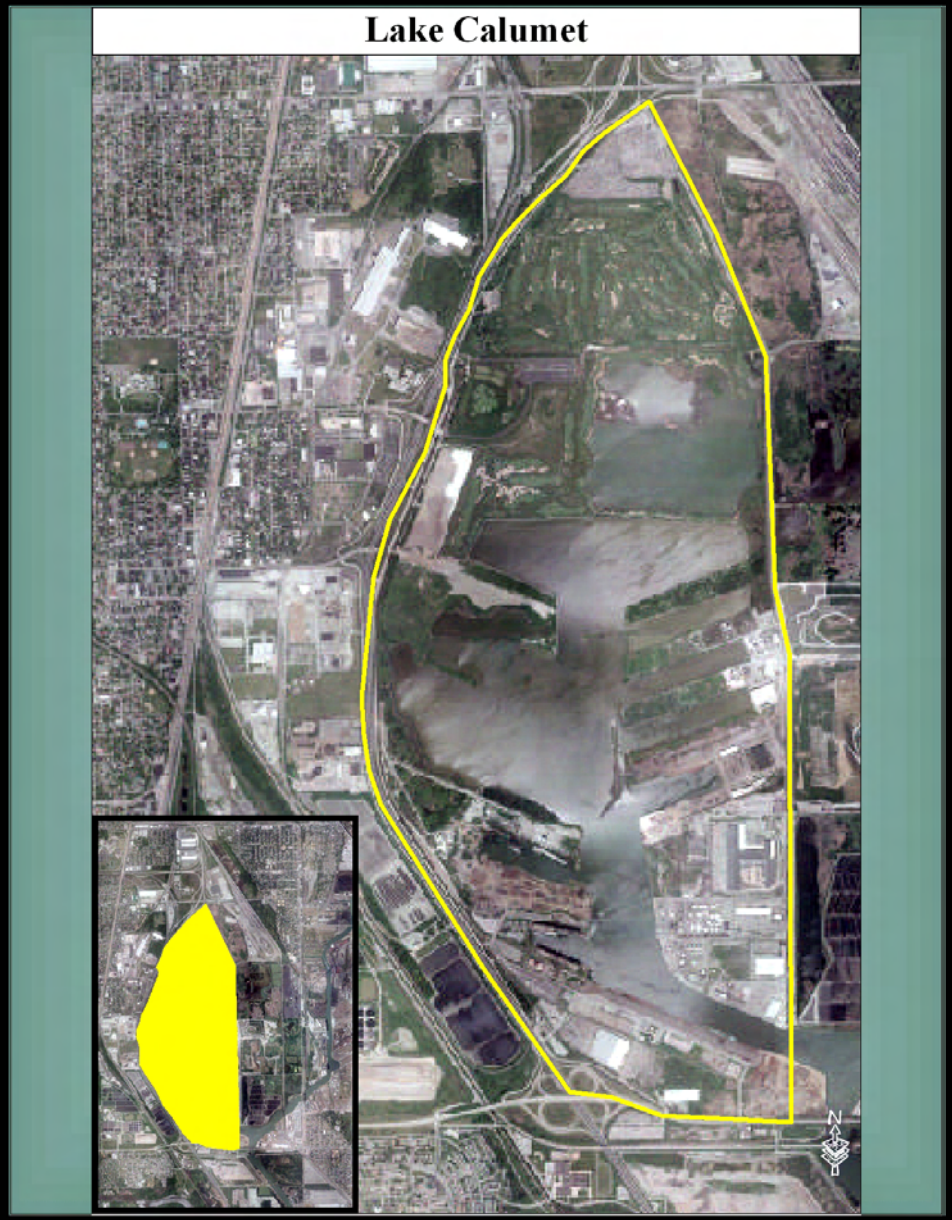
- Owned by City of Chicago
- Future owner: TBD
- 28 acres
- Potential site for O'Hare Mitigation ($2.1 million for sampling, site plans and construction)
- Site plan and sampling will determine whether could use biosolids or Peoria sediments

Deadstick Pond

- Owned by MWRD
- Roughly 40 acres
- USACE permit regulates water level at the site
- Valuable bird habitat – especially shorebirds
- Audubon and others interested in bird viewing platform on Stony Island
- No need for biosolids or Peoria sediments

Lake Calumet

- Owned / managed by Illinois International Port District
- Roughly 400 acres
- Conservation Area – mitigation
- West Shore of interest for habitat
- Access for large ships
- Unlikely need for biosolids or Peoria sediments



Big Marsh

- Owned by City of Chicago
- State-endangered bird habitat
- Future owner: TBD
- 298 acres, 87 acres open water, 68 acres common reed, 126 acres of upland fill
- Extensive areas of fill, particularly slag
- Opportunity to use biosolids or Peoria sediments

Cluster Site

- Ownership unclear
- Proposed for listing on Superfund's National Priority List
- Extensive contamination
- Surface water runoff will be routed to Big Marsh (with optional diversion to Indian Ridge)
- Roughly 200 acres
- Signifcant opportunity to use biosolids or Peoria sediments as landfill cap for enormous cost savings

- Sites difficult to restore

- Remediation and restoration are expensive

- To date, IDNR, FPDCC, CPD have not been able to accept management of sites due to budget and staff issues (and planning for all sites is not yet complete)

- Need to minimize costs of restoration while protecting ecological and human health receptors

- Goal: balance ecological needs with these realities

Nicole Kamins
312-744-5959
nkamins@cityofchicago.org