

Envisioning a Chicago Area Waterway System for the 21st Century

Presented by: Scott Stuewe



Today's Questions

- What invasive species are a risk?
- What is the separation study?
- What is the project focus area?
- What are the challenges of the study?

Participant Goal: General understanding of the project and area and challenges with a physical separation

Two Facts

1. Over 100 years ago, the flow direction of the Chicago River was reversed creating an open connection
2. There is a bidirectional movement of aquatic invasive species between basins

Aquatic Invasive Species

Non-indigenous species, or "non-native", plants or animals that adversely affect the ecology of...

What invasive species are a risk?



Zebra Mussels



Round Goby



Spiny Water Flea

Asian Carp

What is the Separation Study?

Goal: Evaluate a physical separation of the Lake Michigan and Mississippi River Basins.

Re-writing History

- Challenging project
- Very unique study area
- Impacts millions of people
- Protect a \$7 billion fishery



Consultant Team



- SUBCONSULTANT LEGEND:**
- Carolyn Grisko & Associates (WBE/DBE) – Stakeholder Outreach / Public Involvement
 - Bergmann Associates – Lock, Dam and Canal Engineering
 - Greenleaf Advisors – Agency Coordination
 - DHI – Hydraulics and Hydrology
 - Vickerman & Associates, LLC – Navigation and Cargo Handling
 - Ecological Monitoring and Assessment (SBE) – Biology
 - Independent Consultants / Advisors

Study Objectives

- Establish baseline conditions
- Provide at least three options or alternatives for physical separation
- Estimate economic impact and cost benefits
- Provide summarized document

Creating Robust Options

- Improve ecology by preventing the transfer of aquatic invasive species
- Improve water quality
- Improve transportation (i.e., movement of goods, materials and people)
- Improve stormwater management

Study Process

1. Resource Group data gathering & information sharing
2. Review and Assess
3. **Option Development**
4. **Re-evaluate**
5. **Charrette – filter to 3 options**
6. **Full definition of 3 options**
7. **Analysis**
8. Final Report (December)

Guiding Principles
Criteria Analysis

Resource Group Engagement

- ✓ Alliance for the Great Lakes
- ✓ American Waterways Operators
- ✓ CMAP
- ✓ Chicago Wilderness
- ✓ Chicago's First Lady Cruises
- ✓ Council of Great Lakes Governors
- ✓ Friends of Chicago River
- ✓ Great Lakes Fishery Commission
- ✓ GLNPO (EPA)
- ✓ Great Lakes Sport Fishing Council
- ✓ Illinois DNR
- ✓ Illinois EPA
- ✓ Illinois International Port District
- ✓ International Joint Commission

✓ Held Meeting

• Scheduled

○ Scheduling

Interest Group Engagement

- ✓ Metropolitan Planning Council
- ✓ MWRDGC
- ✓ Midwest Generation, LLC
- ✓ NRDC
- ✓ Ninth Coast Guard District
- ✓ Northwest Indiana Forum
- ✓ Office of the Mayor (Chicago)
- ✓ Ports of Indiana-Burns Harbor
- ✓ Reor Viridis
- ✓ The Nature Conservancy
- ✓ USACE, Chicago
- ✓ USACE, Rock Island
- ✓ US EPA 5
- ✓ US Fish and Wildlife
- ✓ US GS
- ✓ Westrech Marina

✓ Held Meeting

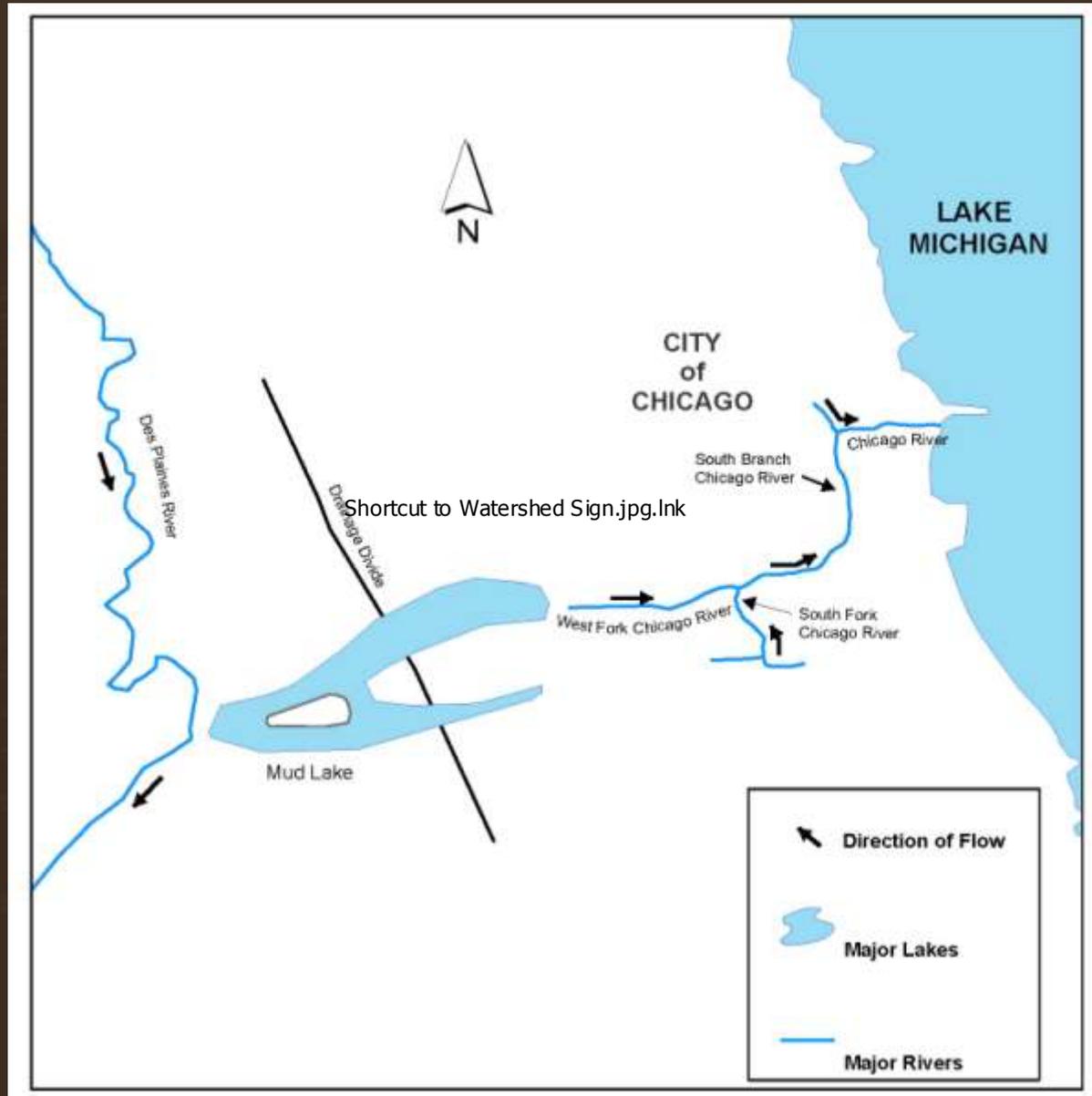
• Scheduled

○ Scheduling

What is the study focus area?

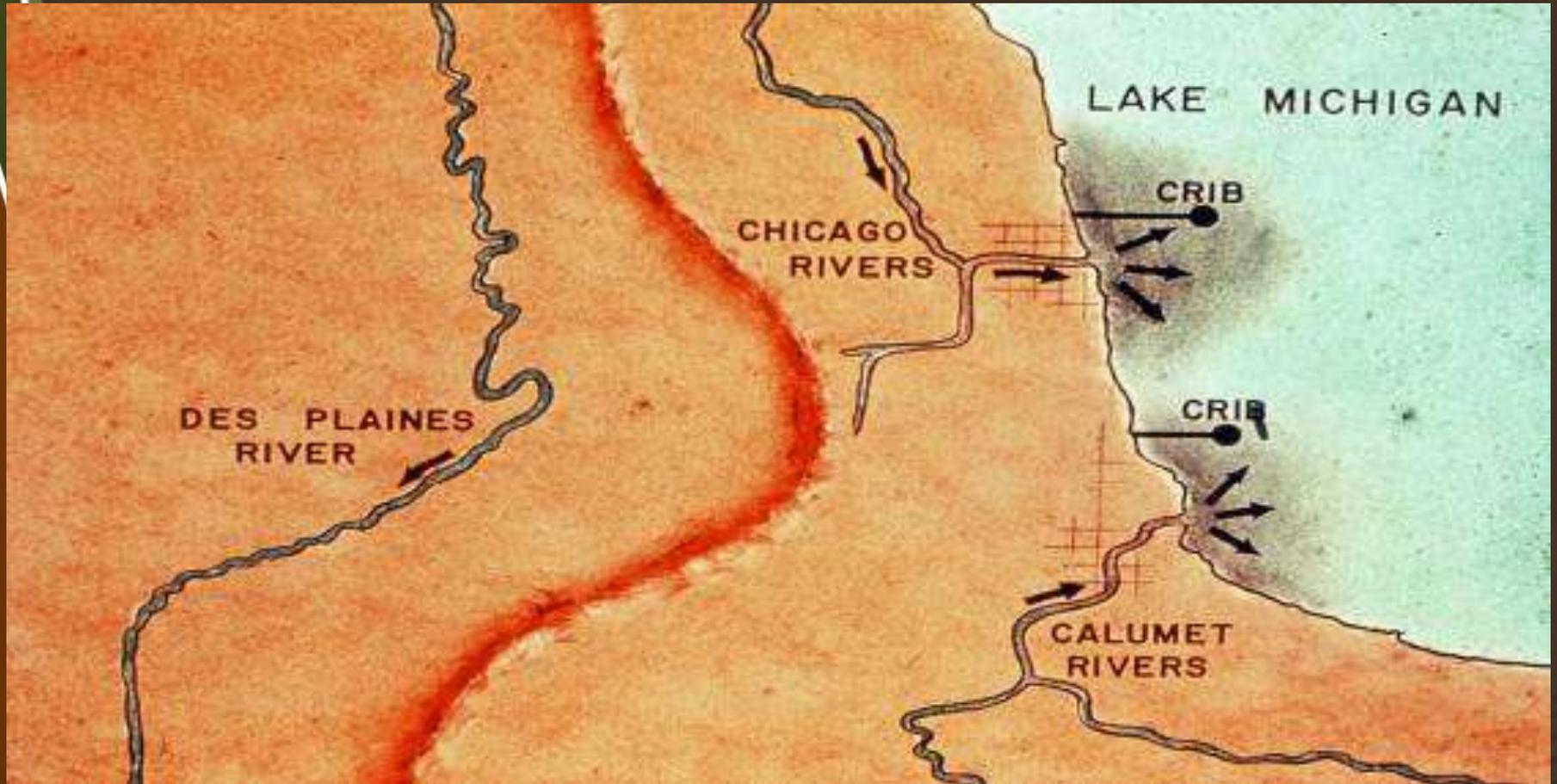
Chicago Area Waterway System-
“The CAWS” of “CAWS System”

Pre-1860

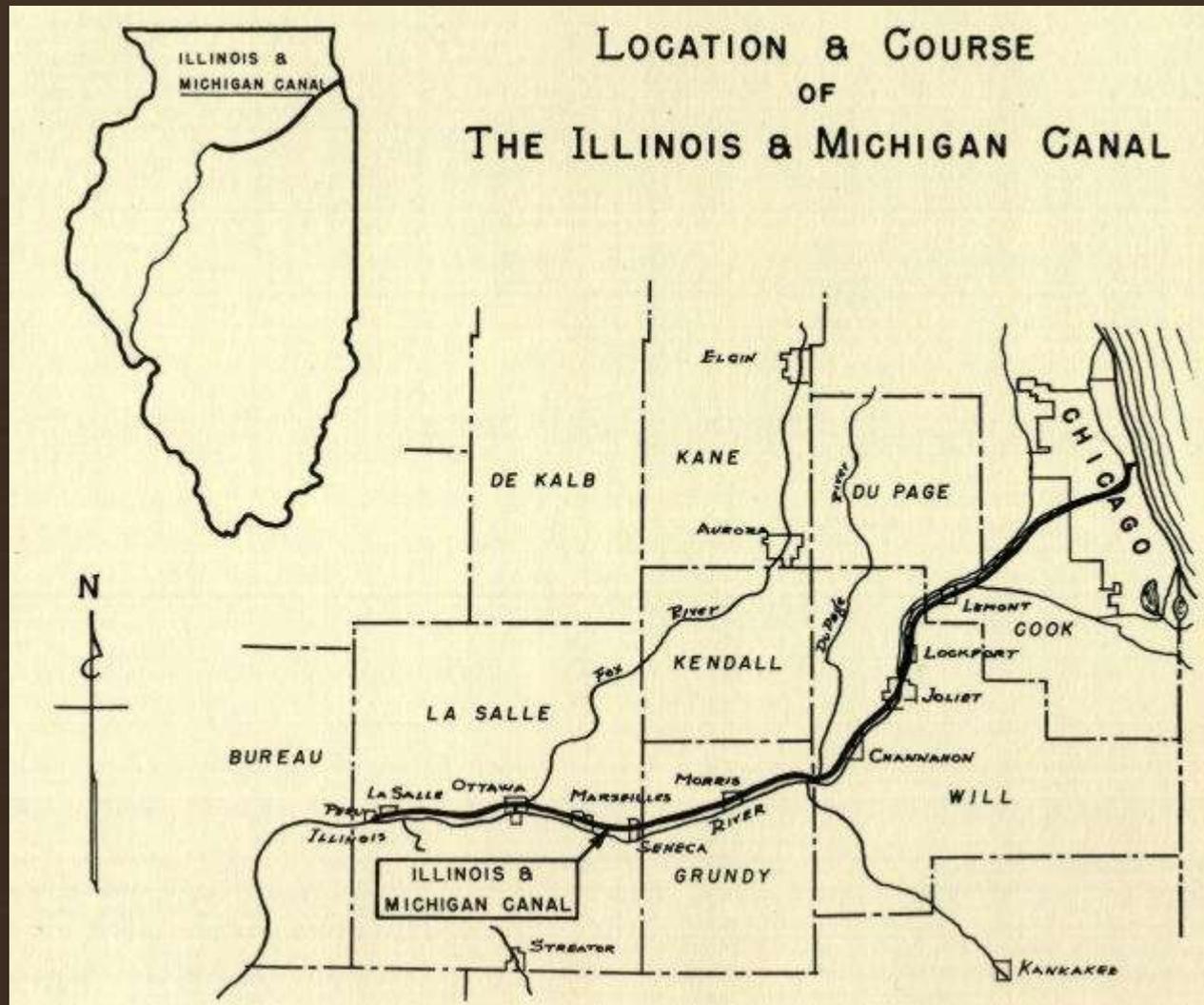




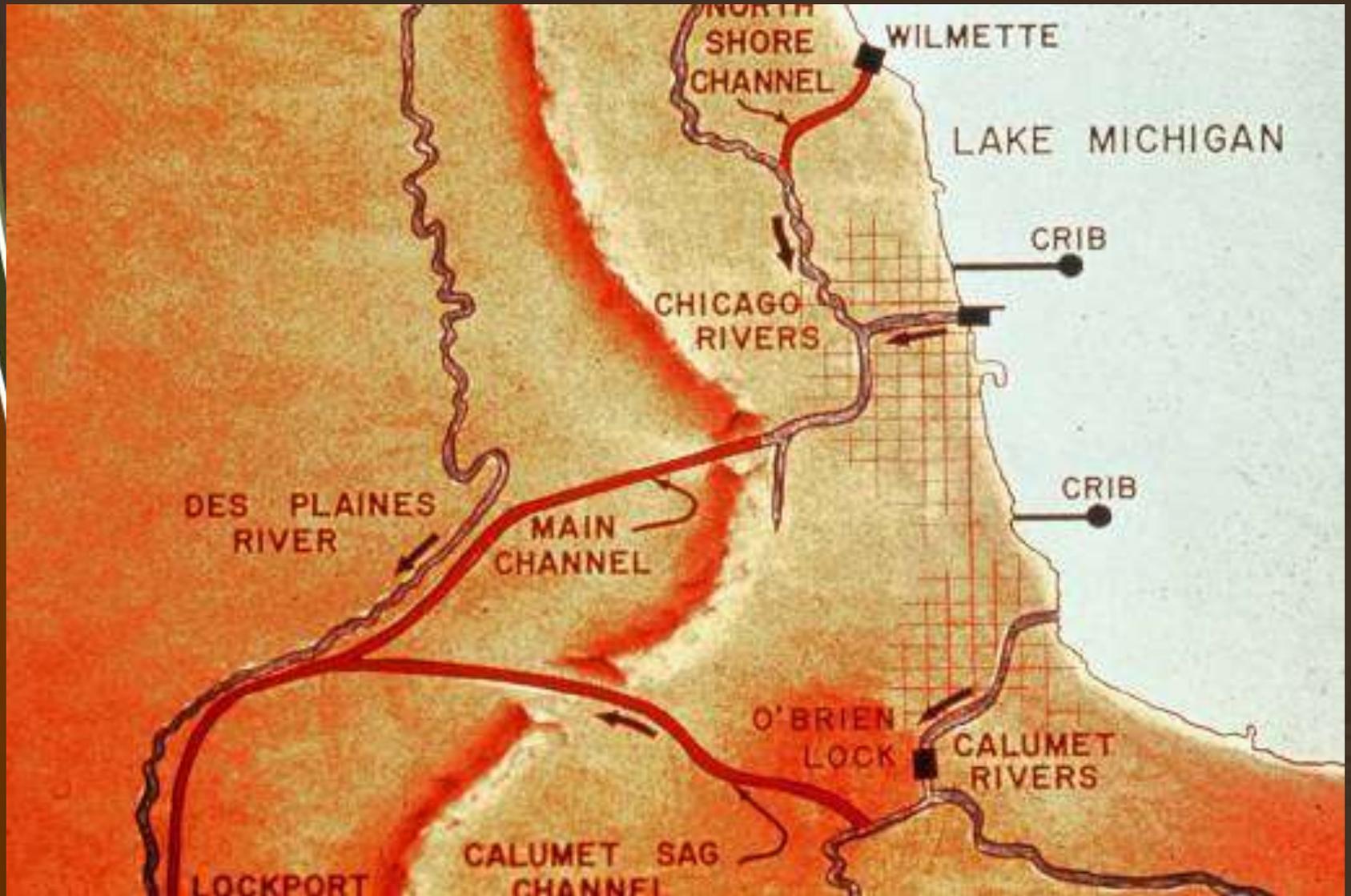
Pre-CAWS 1860-1900



CAWS not the I&M



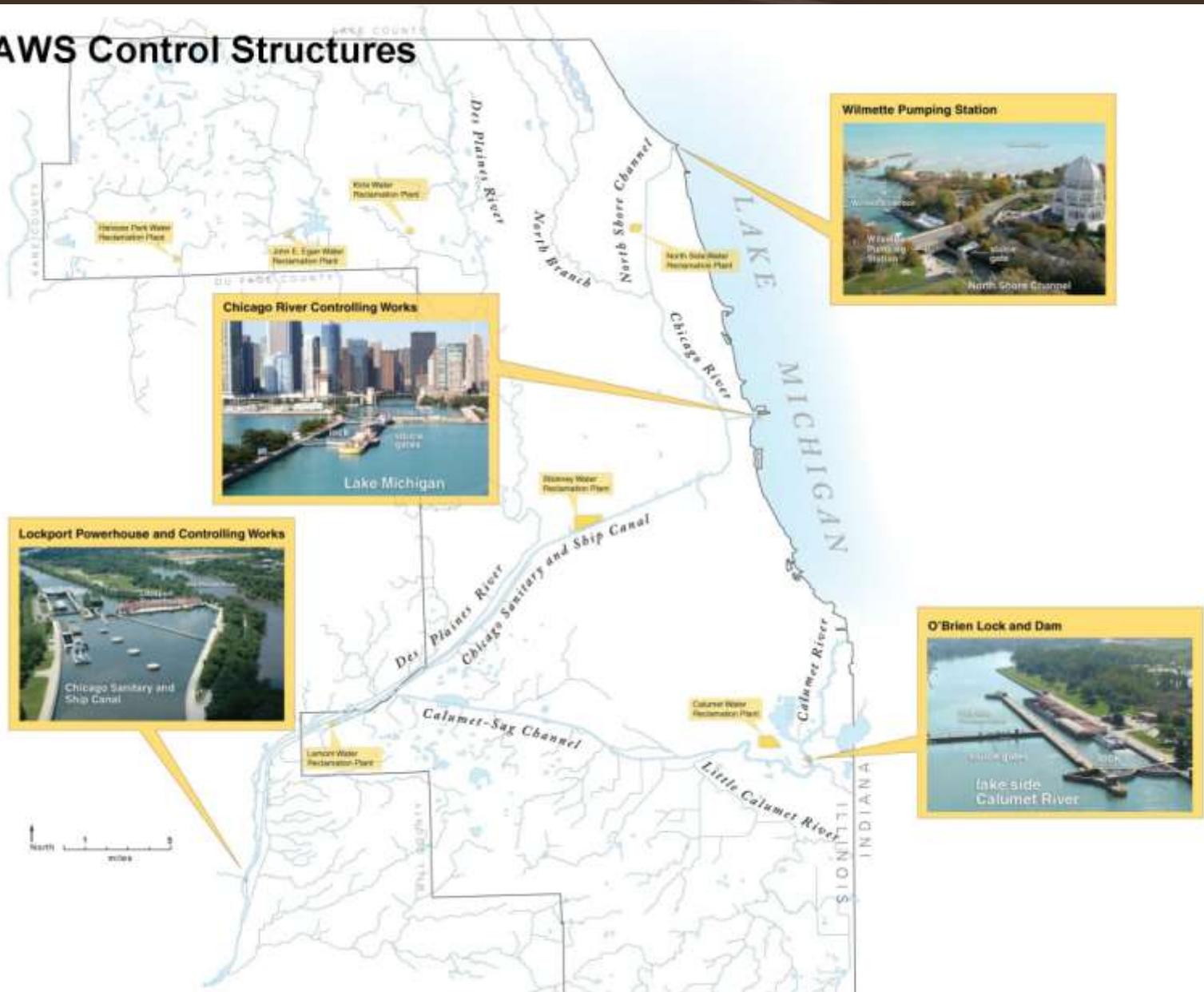
CAWS



Chicago Area Waterway System (CAWS)



CAWS Control Structures



Chicago Area Waterway System (CAWS)



What are the challenges of the study?

- Transportation
- Stormwater Management
- Water Quality Standards
- Ecological Health

Transportation Challenges

- Traffic
 - Recreational
 - Commercial
 - Industrial



Transportation Information

- Rail (cargo in and out of Chicago region)
- Truck (cargo in and out of Chicago region)
- Water (cargo in and out of ports/CAWS)
- Passenger boats
- Recreational boaters
- Bridge locations
- Air quality
- Existing plans (e.g. CREATE, Calumet)

Inland Ports Defined

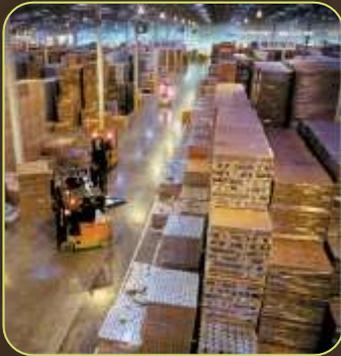
A Convergence of Logistics Trends



Short Sea Shipping Technology



Intermodal Rail



Logistics

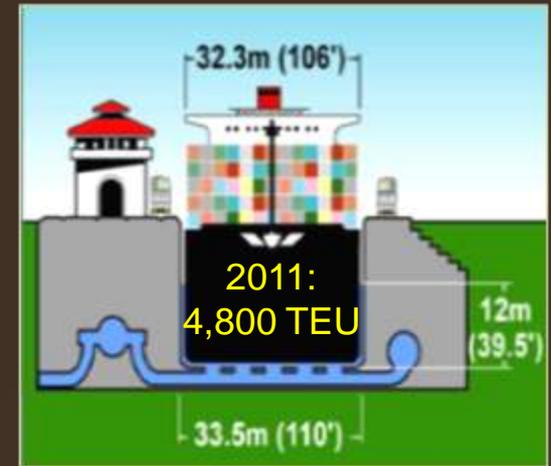


Automation

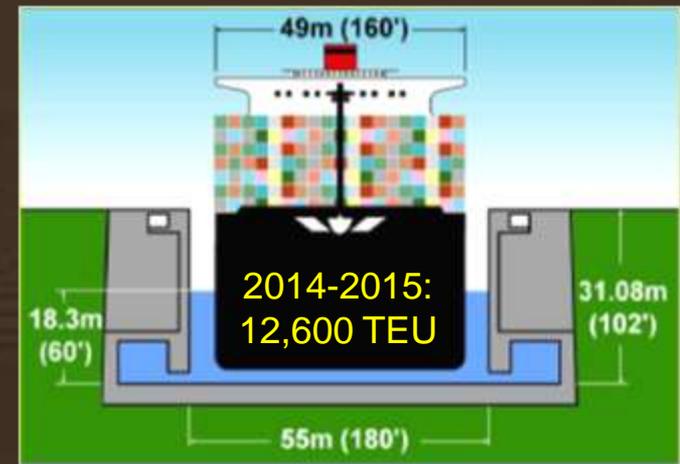


Distribution Center

Panama Canal Vessel Deployments Will Determine New US Logistics Patterns



2011



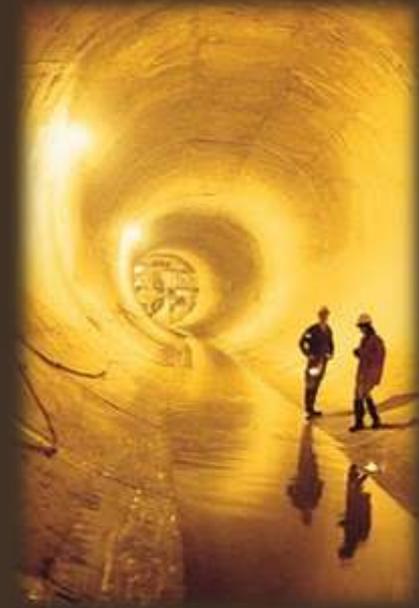
2014/15

CAWS & CREATE Systems Overlay



Stormwater Management

- CSO
- Volume
- Flooding
- Water Quality



Stormwater Information

- Flooding
- Water source flows/outlet flows
- Sewer atlas
- Backflow volumes to Lake Michigan
- CSO discharges
- Mathematical modeling (flow quantity)
- Existing plans (stormwater and CSOs)

Water Quality and Ecology

- Water Quality Standards
- Ecological Habitat



Water Quality Information

- Chemical water quality
- CSO discharges
- Industrial dischargers (NPDES)
- Backflow effects on water quality
- Existing water quality modeling
- Improvement plans (e.g. wastewater)

Ecological Information

- Physical habitat
- Water quality
- Biological communities
- Invasive species surveys
- Chemical sediment quality
- Climate change effects

Questions?

