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Ecological Separation of the Mississippi River and the Great Lakes

**Great Lakes ANS Panel
Maumee Bay State Park
April 27, 2010**



Assumptions

- Ecological separation means no movement of live organisms at all life stages via the Chicago Waterway System
- No interbasin movement of AIS is the long-term goal
- Key services of system should be maintained or enhanced



Lake Co.

Cook Co.

DuPage Co.

Will Co.

CITY of CHICAGO

LAKE MICHIGAN

Middle Fork

Skokie River

Wilmette Pumping Station

North Shore Channel

West Fork

Des Plaines River

North Branch Chicago River

Chicago River Controlling Works

Chicago River

South Branch Chicago River

South Fork South Branch

Calumet River

Lake Calumet

O'Brien Lock and Dam

Grand Calumet River

Chicago Sanitary & Ship Canal

Calumet-Sag Channel

Drainage Divide

Little Calumet River North

Little Calumet River South

Harts Ditch

Burns Ditch

USGS Romeoville Gauge

Lockport Powerhouse and Lock

4

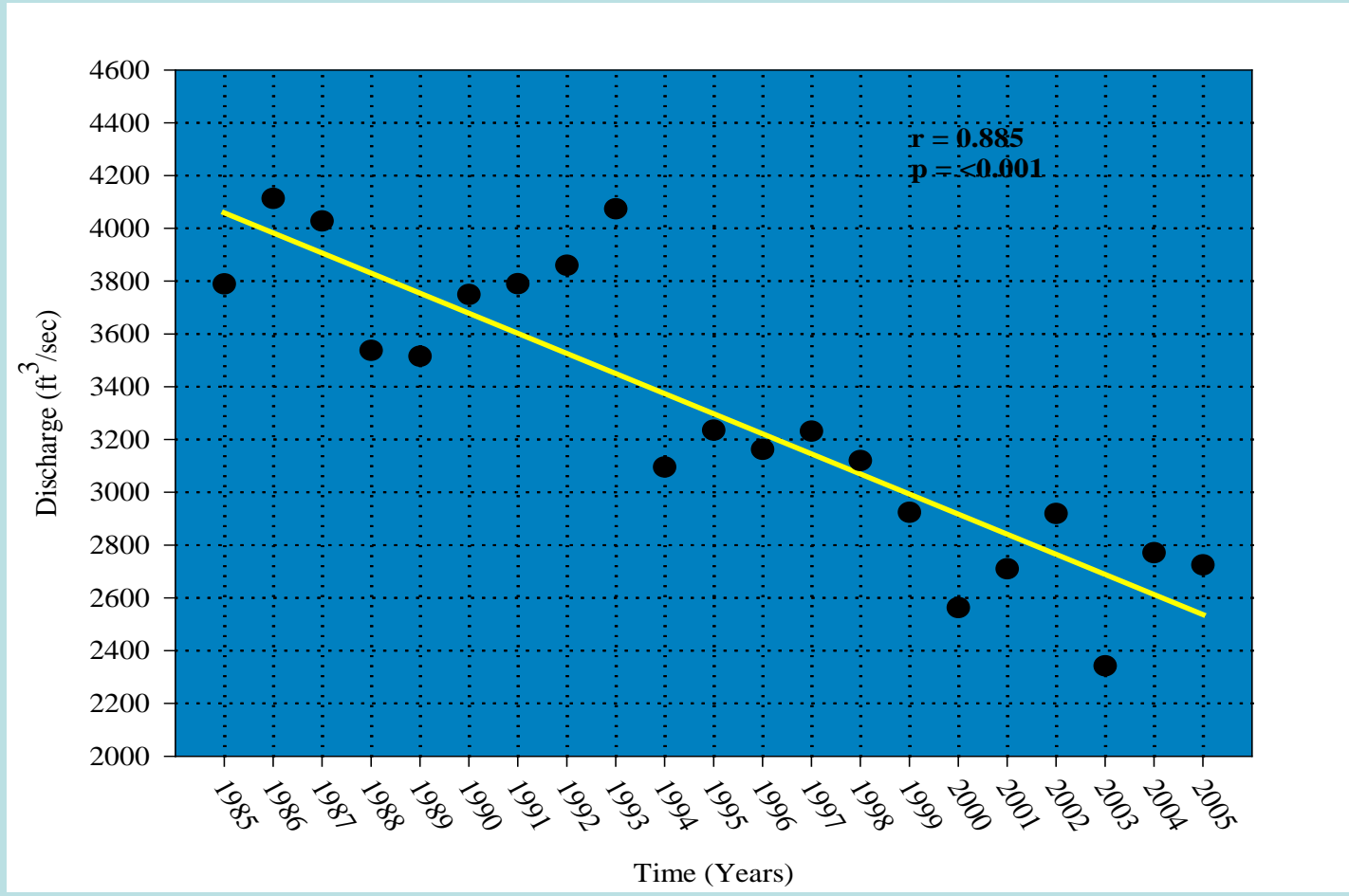
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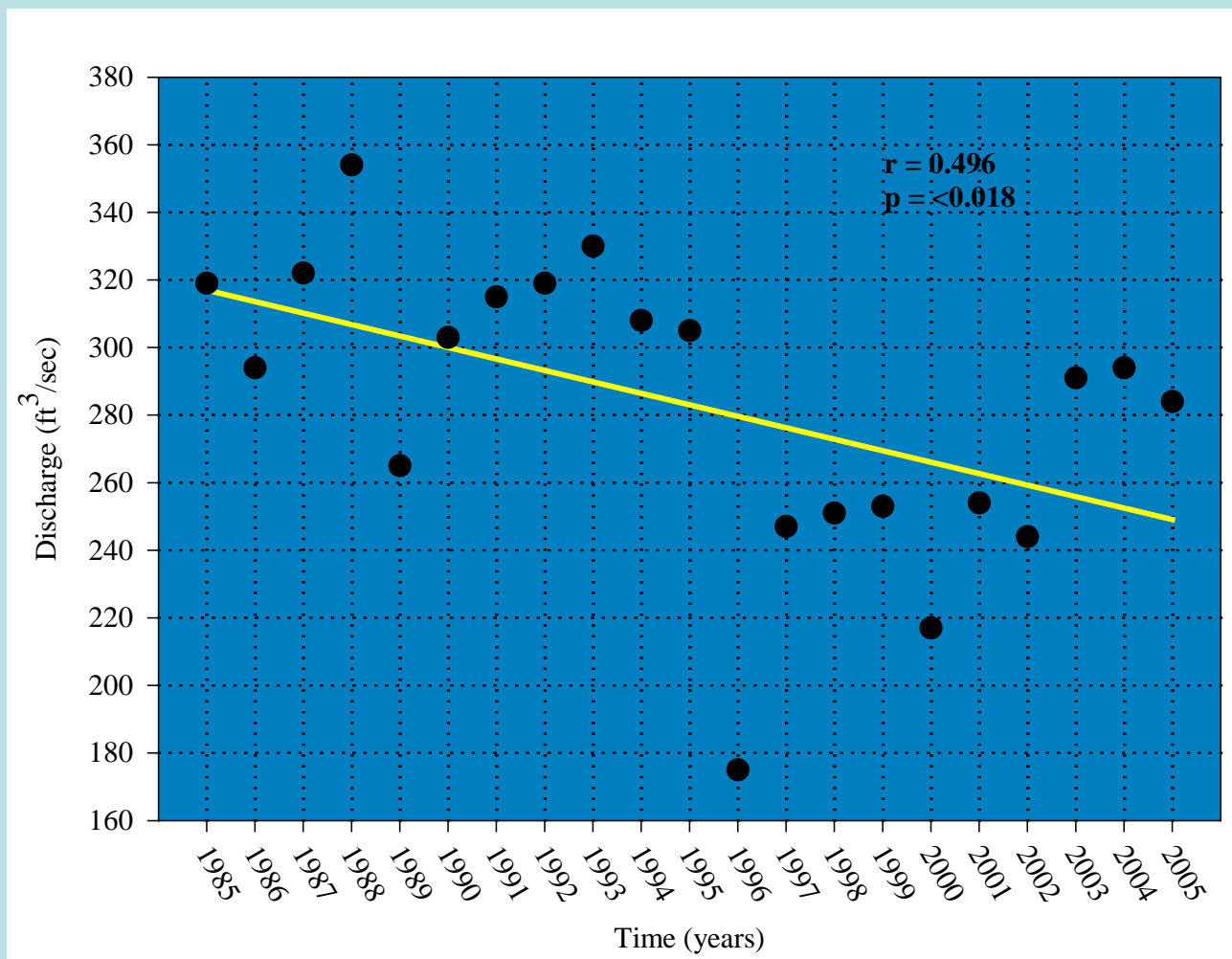


Total outflow as measured at Romeoville



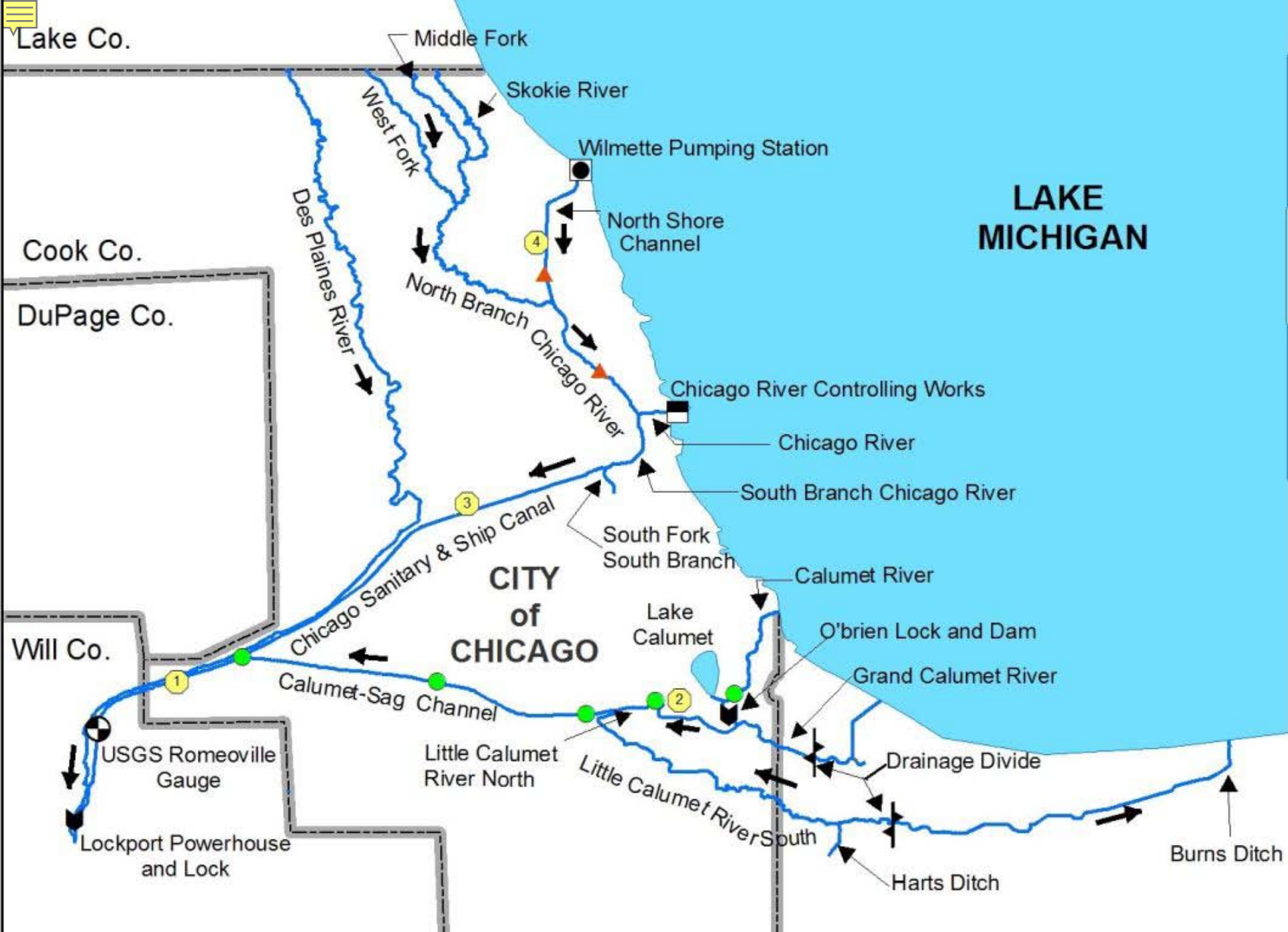


Discretionary diversions from Lake Michigan





- “Discretionary diversions” are dropping
- Sewage treatment and storage is improving
- CSOs to Lake Michigan are dropping
- The Chicago Waterway System can eventually require no direct diversion of Lake Michigan water for sewage management.
- BUT – demands for Lake Michigan water supply are growing







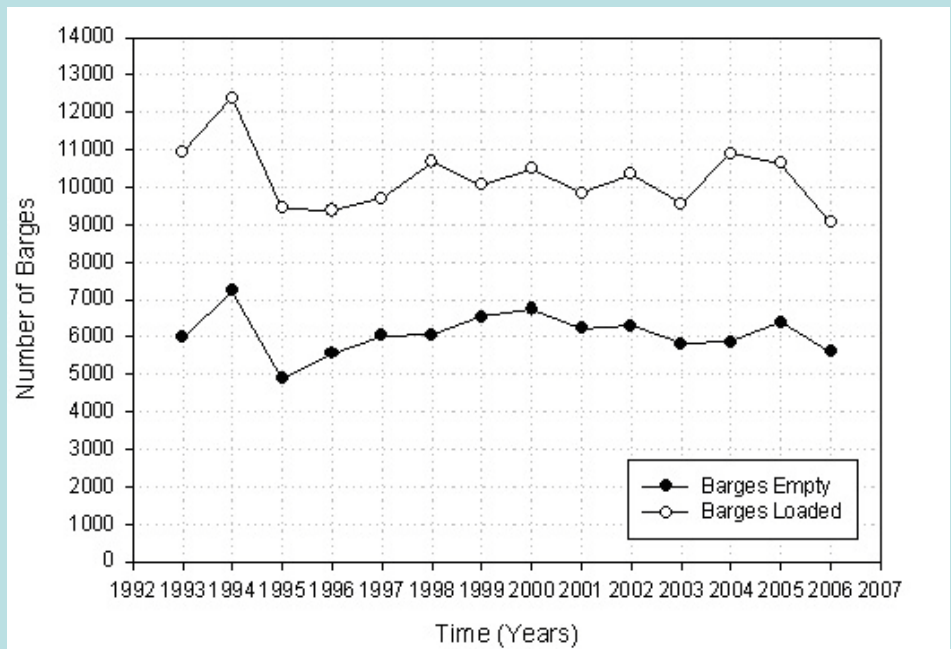
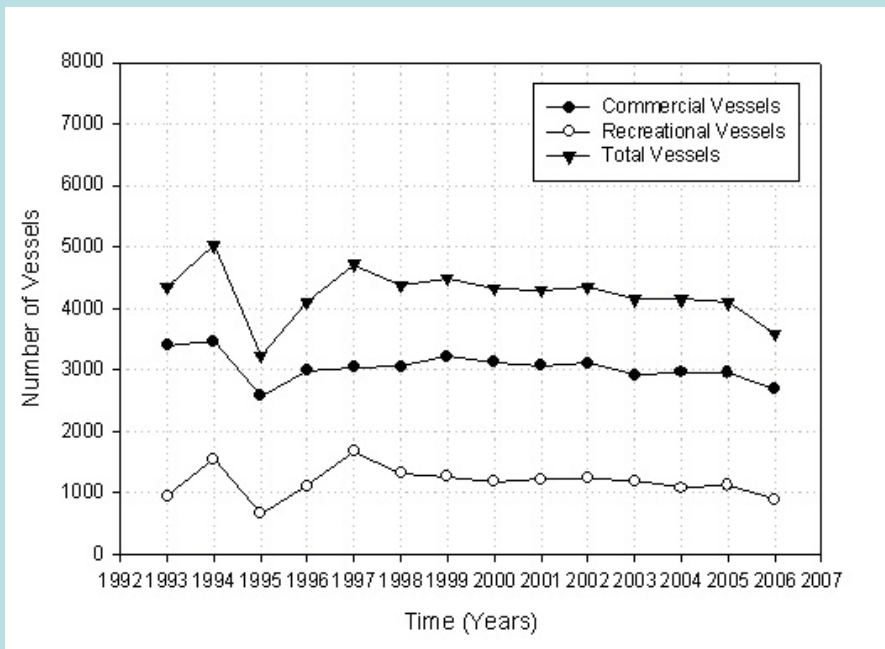
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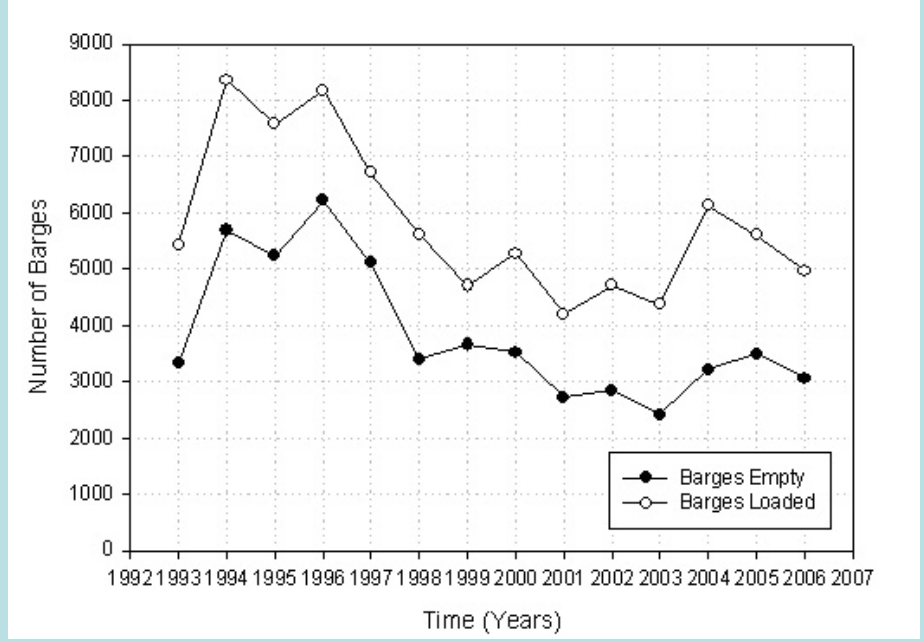
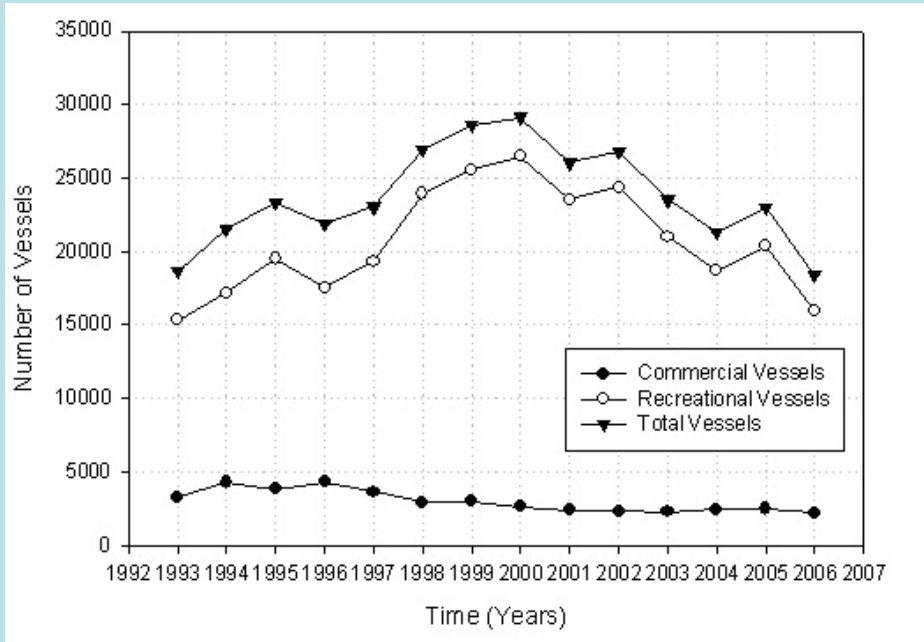
Lockages and barge traffic – Lockport



- ~1000 recreational boats enter/leave CWS from south but greatest commodity movement is here



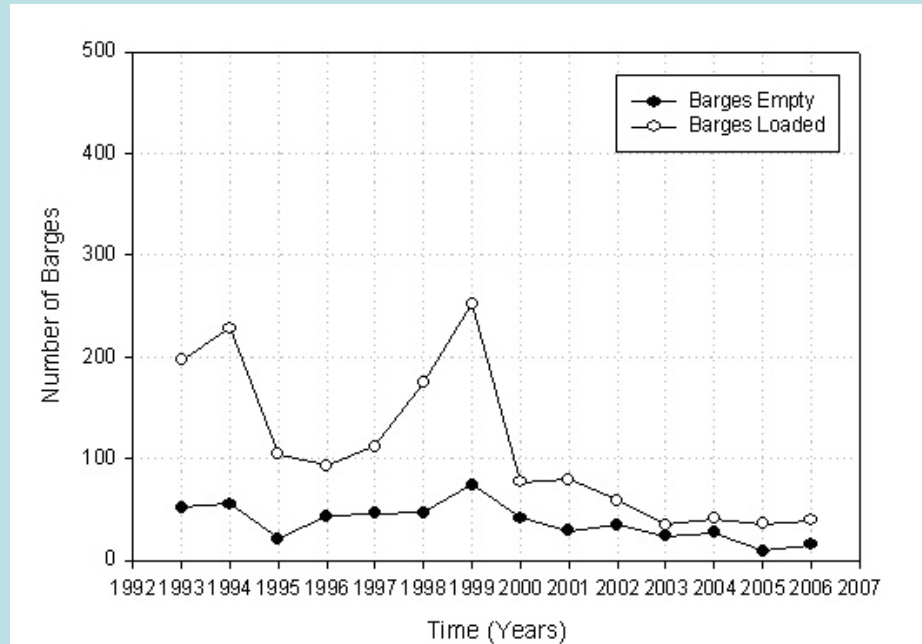
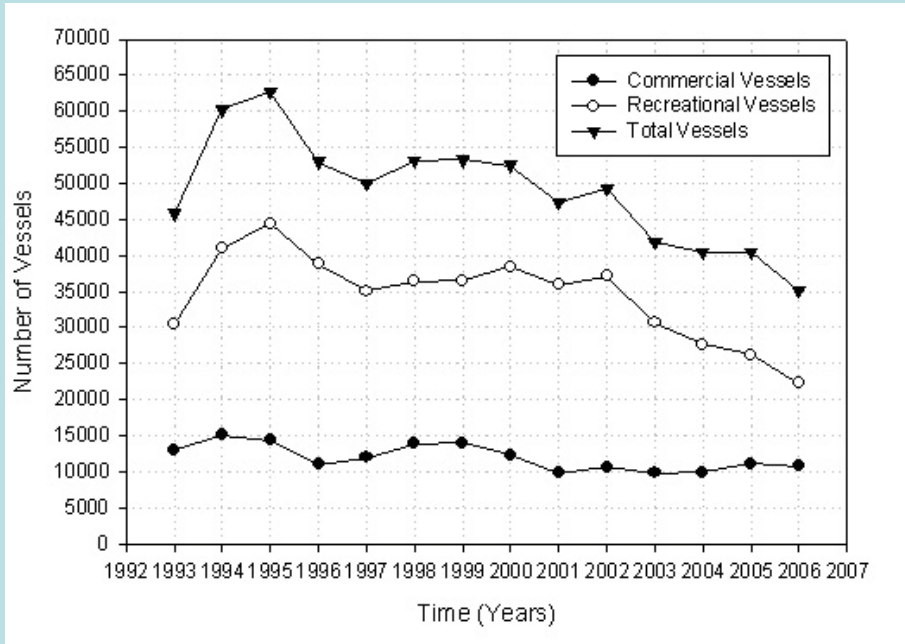
Lockages and barge traffic – O’Brien



- Access for inland marinas to Lake Michigan
- Access from deep draft to barge channels



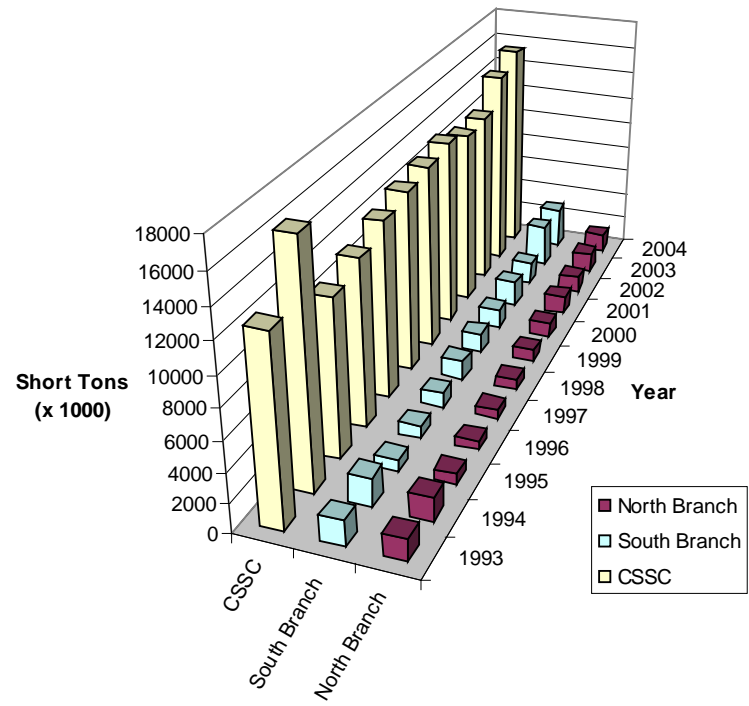
Lockages and barge traffic – Chicago River



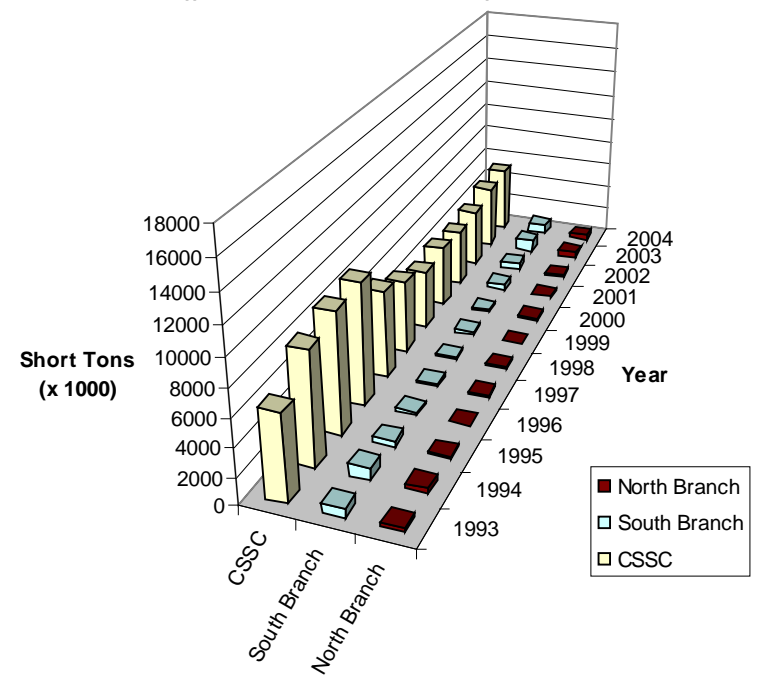
- Very little barge traffic via but...35-55K vessels via Chicago lock – recreational is dropping



Upbound Tonnage Chicago Sanitary and Ship Canal to North and Main Branch Chicago River (Inbound/Outbound/Thru)



Downbound Tonnage North and Main Branch Chicago River to Chicago Sanitary and Ship Canal ((Inbound/Outbound/Thru)

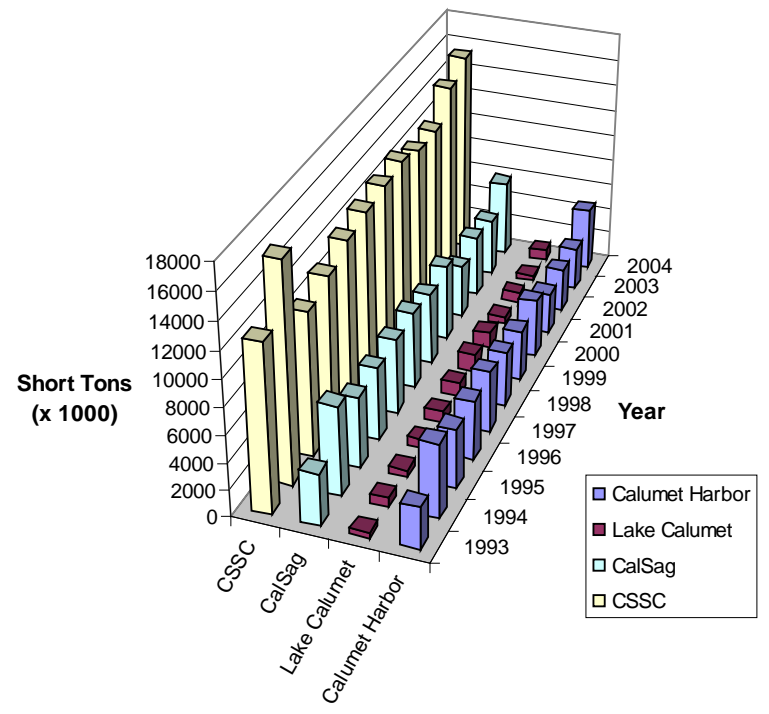


Direction of Travel

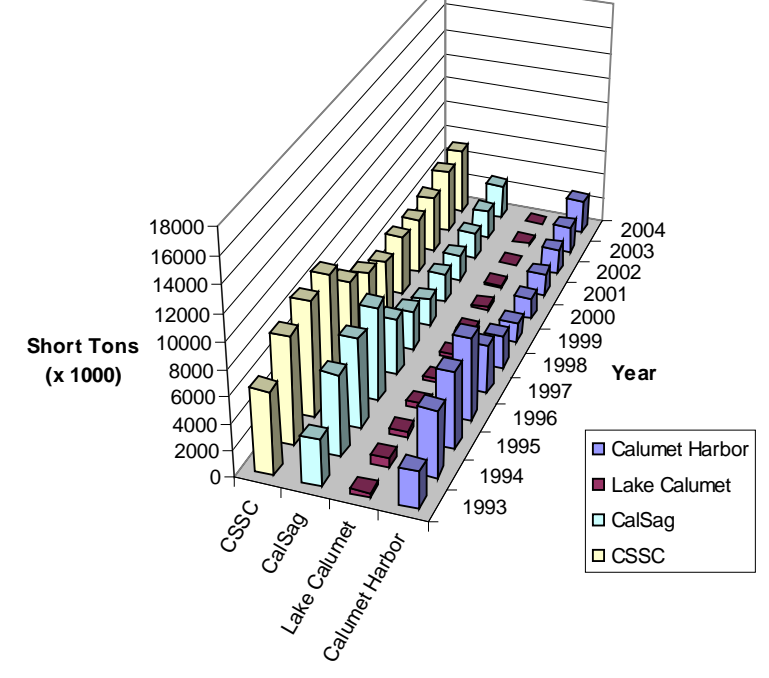




Upbound Tonnage Chicago Sanitary and Ship Canal to Calumet River and Harbor (Inbound/Outbound/Thru)



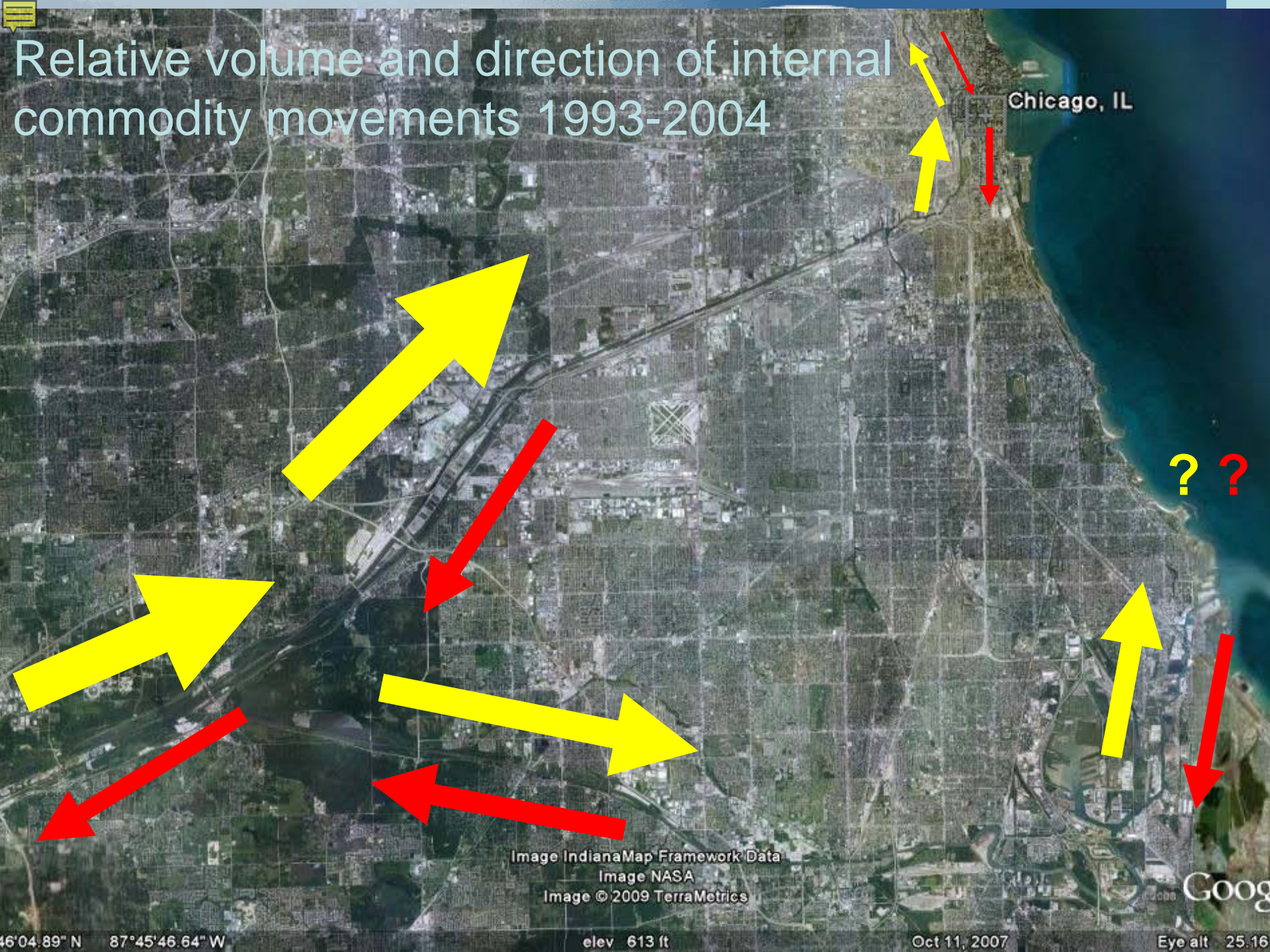
Downbound Tonnage Calumet River and Harbor to Chicago Sanitary and Ship Canal (Inbound/Outbound/Thru)



Direction of Travel



Relative volume and direction of internal commodity movements 1993-2004







Policy Challenges

- Changes in flow affects multiple jurisdictions (State of Illinois, State of Indiana, MWRDGC, USACE)
- New state and federal legislation required at a navigation “tipping point”
- Treatment and movement of stormwater/sewage is MWRDGC mandate
- Multiyear funding source and budget



Next Steps

- “How” rather than “if” we can separate the basins
- Complete USACE interbasin study for Chicago by 9/30/2011
- Analyses: logistics, transportation, hydrology, economics – what’s the “100 year vision?”

A photograph of the Chicago skyline, featuring the Willis Tower prominently in the center. The city buildings are reflected in the water of Lake Michigan in the foreground. The sky is clear and blue.

Acknowledgements

- This work was authored by Joel Brammeier, Scudder Mackey and Irwin Polls and funded by the Great Lakes Fisheries Commission and the Great Lakes Fishery Trust
- Additional support, guidance and critique has been received from the U.S. Army Corps of Engineers, International Joint Commission, Metropolitan Water Reclamation District, and the City of Chicago
- Data provided by USACE, USGS, MWRD, Indiana DEM, Illinois DNR
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