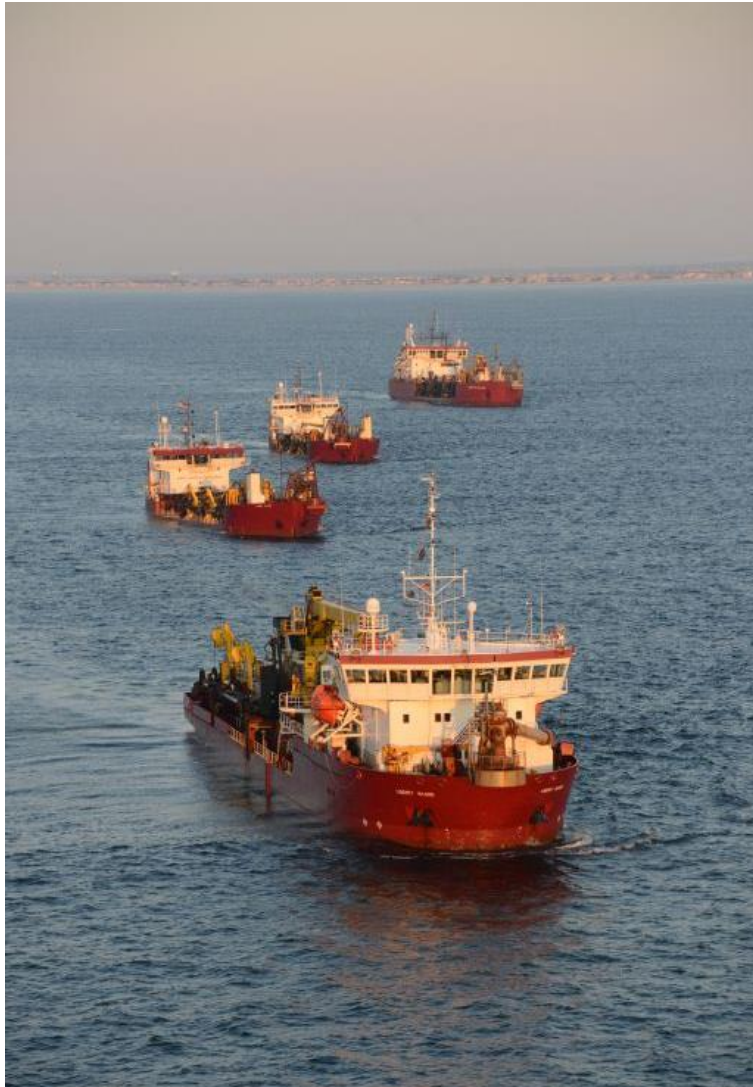




ENVIRONMENTAL WINDOWS, A CLOSER LOOK





IN IT FOR LONG HAUL

Discussion on windows gaining momentum at multiple levels in many parts of country

- Florida
- NC
- NE
- Gulf
- West coast
- GL

Science not agendas





CHALLENGING ISSUES

- Turtles
- Piping plovers
- Flounder
- Sturgeon
- Red Knot
- Turbidity
- Hard bottoms
- Human beach users

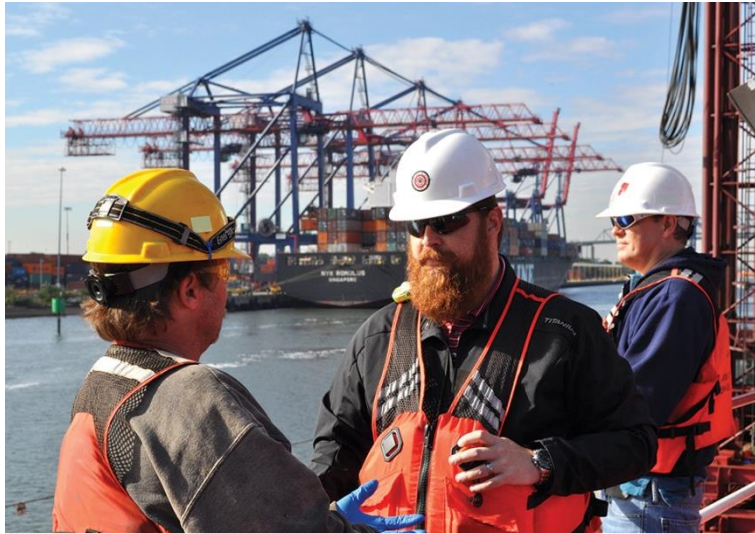
All these push work into compressed schedules in wrong time of year.



WHY IS THIS IMPORTANT

- Costs are huge, worthy of attention
- Execution of projects important
- Safety is paramount
- Added restrictions = Added cost
- How to attract investment in innovation
- We are the ones who do the work and bond it.
- We support research and clarity
- We understand our role





ID RESEARCH NEEDS

- Identify necessary research
- Identify funding
- Use dredges as research sites
- Need real data for real decisions
 - Turtle trawling
 - Turbidity
 - Fines
 - Rock Mitigation



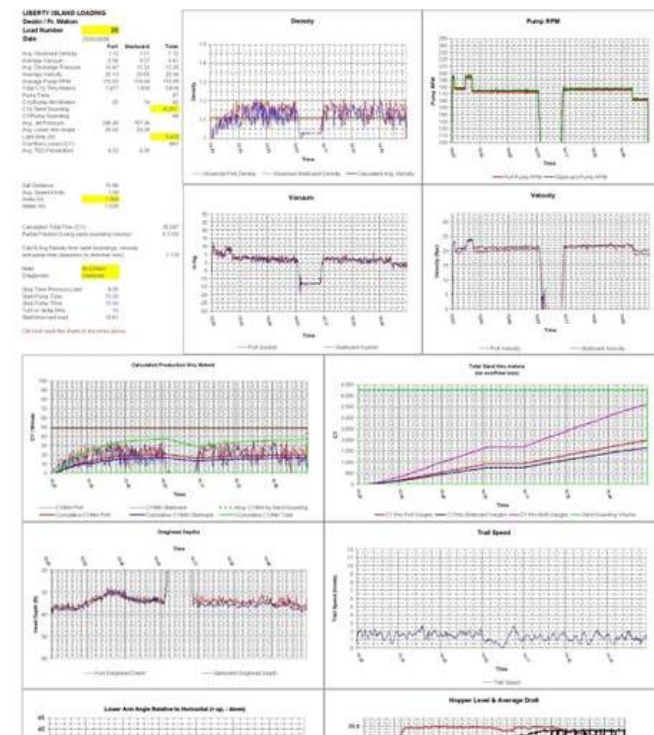


INNOVATIONS/ BEST PRACTICES

- Drag heads
- Cutter heads
- Placing methods
- DQM (location data only)
- New equipment
- More HP
- Contracting



- Instrumentation
- Engineering world-class hardware
- Analysis of the dredging cycle





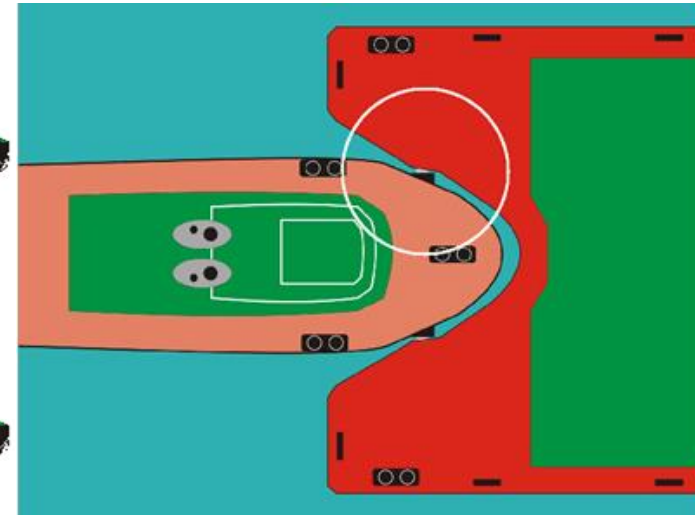
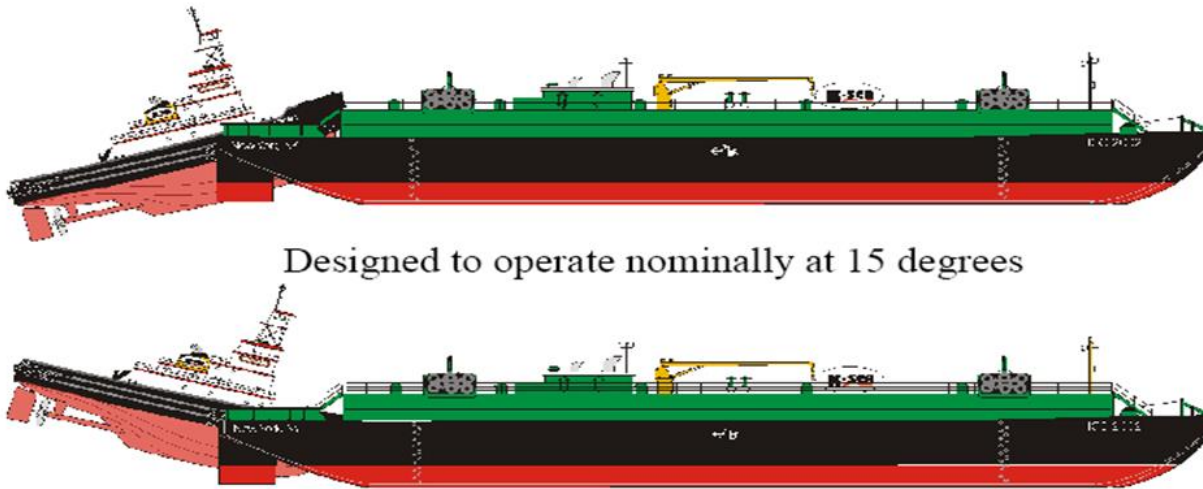
Placing Sand Filling in Lincoln Park Extension.
For Commissioners of Lincoln Park.
Great Lakes Dredge & Dock Company.
Photo Chicago Arch. Photo. Co.,
July 28th, 1931. Contract 15698. R-3237.







The ATB is the latest in a series of hopper dredge innovations that began at Great Lakes nearly 100 years ago.

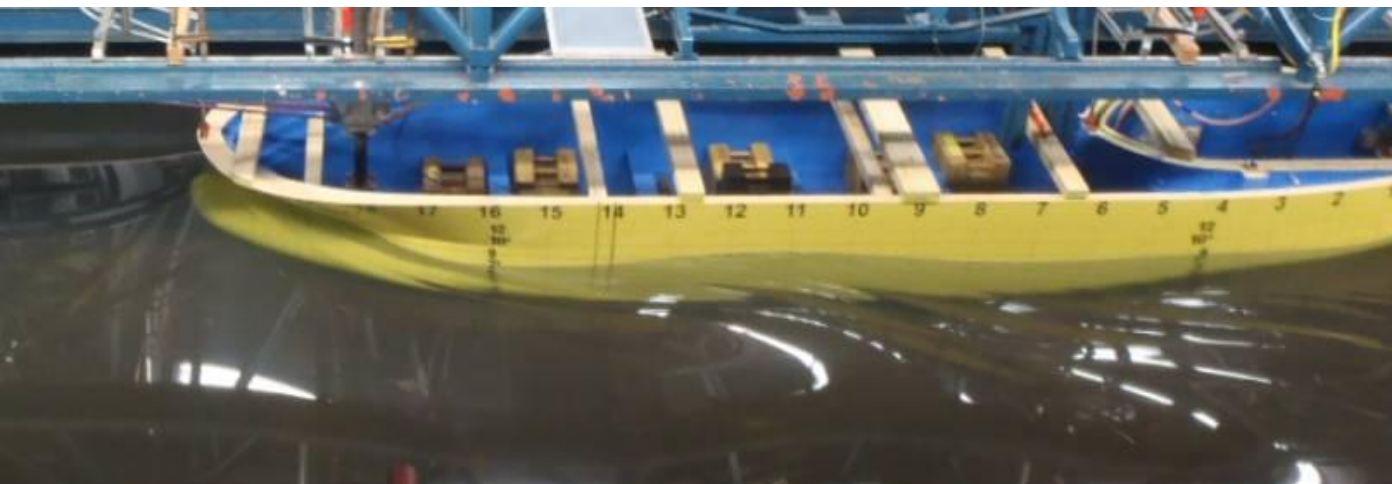


- Above left is a profile view of one ATB connection system, showing the motion that takes place.
- Above right is a plan view showing the connection.

Below are comparative model test photos of the Liberty Island and ATB, in the loaded condition at max speed.



The Liberty Island with her newly-installed bulbous bow.



The ATB. Note the difference in bow wave.



DREDGERS PART OF THE TEAM

- Creative, entrepreneurial
- Engage us early before permits
- Utilization is important to all
- Marketplace is very dynamic and unformed, we have stake in it.







GREAT LAKES DREDGE & DOCK COMPANY, LLC

Thanks!

*Remember the worst answer to any question
about dredging is an anecdote.*

Have a dredging question? Ask a dredger.

