

Western Dredge Association
Midwest Chapter Meeting
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Dredging in the Great Lakes: Challenges & Opportunities

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Great Lakes Dredging Team

- Partnership of federal and state agencies created to assure that the dredging of U.S. harbors and channels throughout the Great Lakes, connecting channels and tributaries is conducted in a timely and cost effective manner while meeting environmental protection, restoration and enhancement goals.
- Forum for both governmental and non-governmental Great Lakes dredging interests to discuss the region's dredging needs.
- Supports timely, cost-effective and environmentally sustainable dredging practices at U.S. harbors and channels throughout the Great Lakes, connecting channels and tributaries.



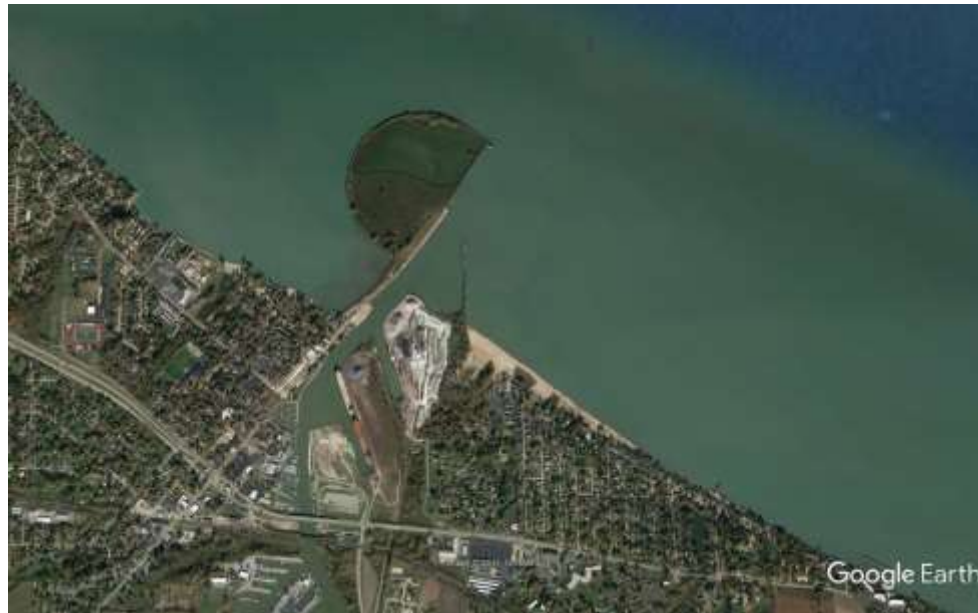
Great Lakes Dredging Team

- Members: Federal and State agencies, Lake Carriers, Contractors/Consultants, Academics
- Committees
 - Technical
 - Outreach
- Newsletter
- Website: greatlakesdredging.net
- Webinars
- Annual Meeting

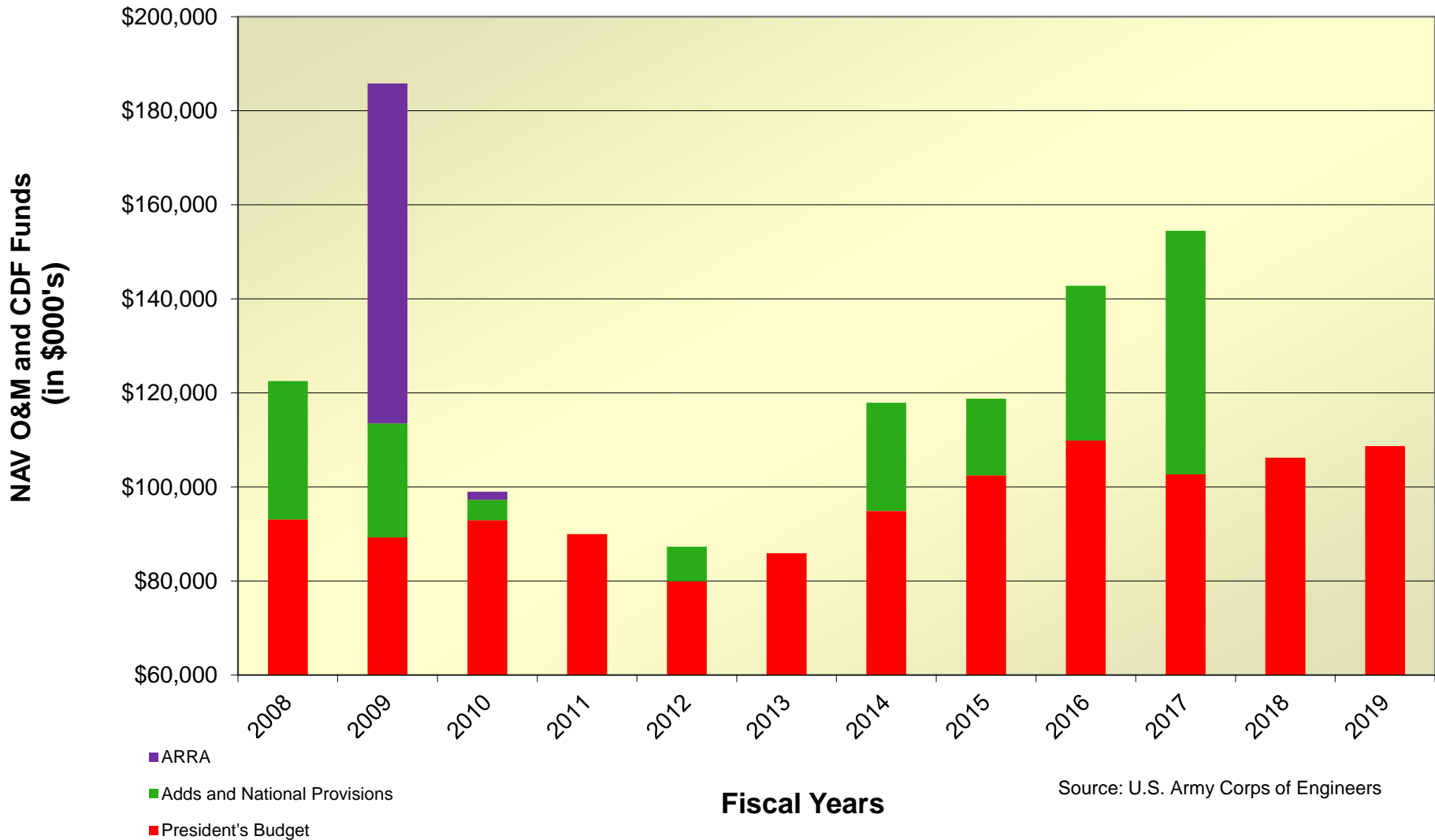


Historical Federal Channel Dredged Material Management

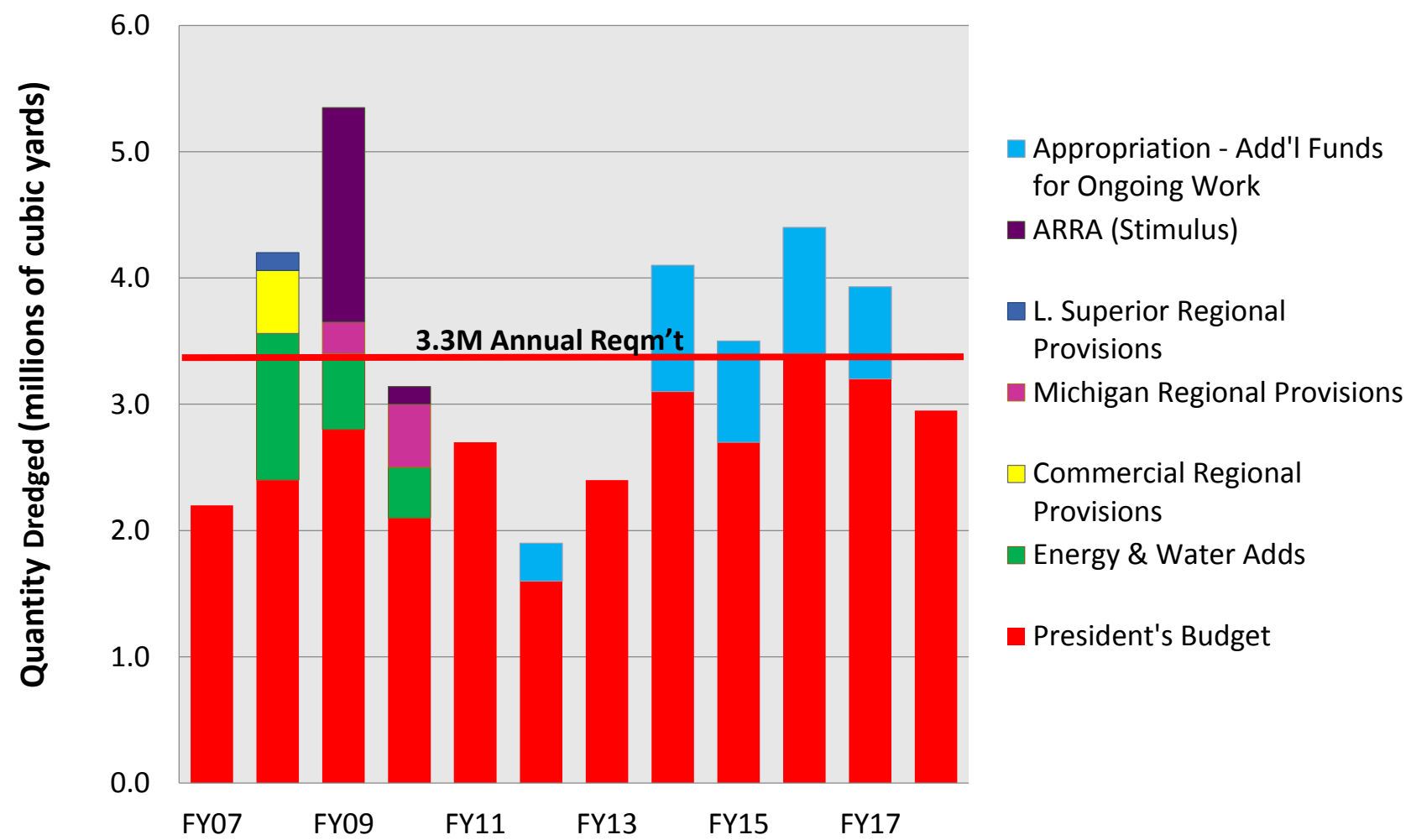
- U.S. ACE constructed and/or operated 45 CDFs to manage over 90 million cubic yards of dredged material from Great Lakes harbors and channels
 - Section 123 of the Rivers and Harbors Act of 1970 (Public Law 91-611), as well as project-specific authorities
 - Federal cost of \$300 million (unadjusted for inflation) and significant local cost-share



Great Lakes Navigation Funding History

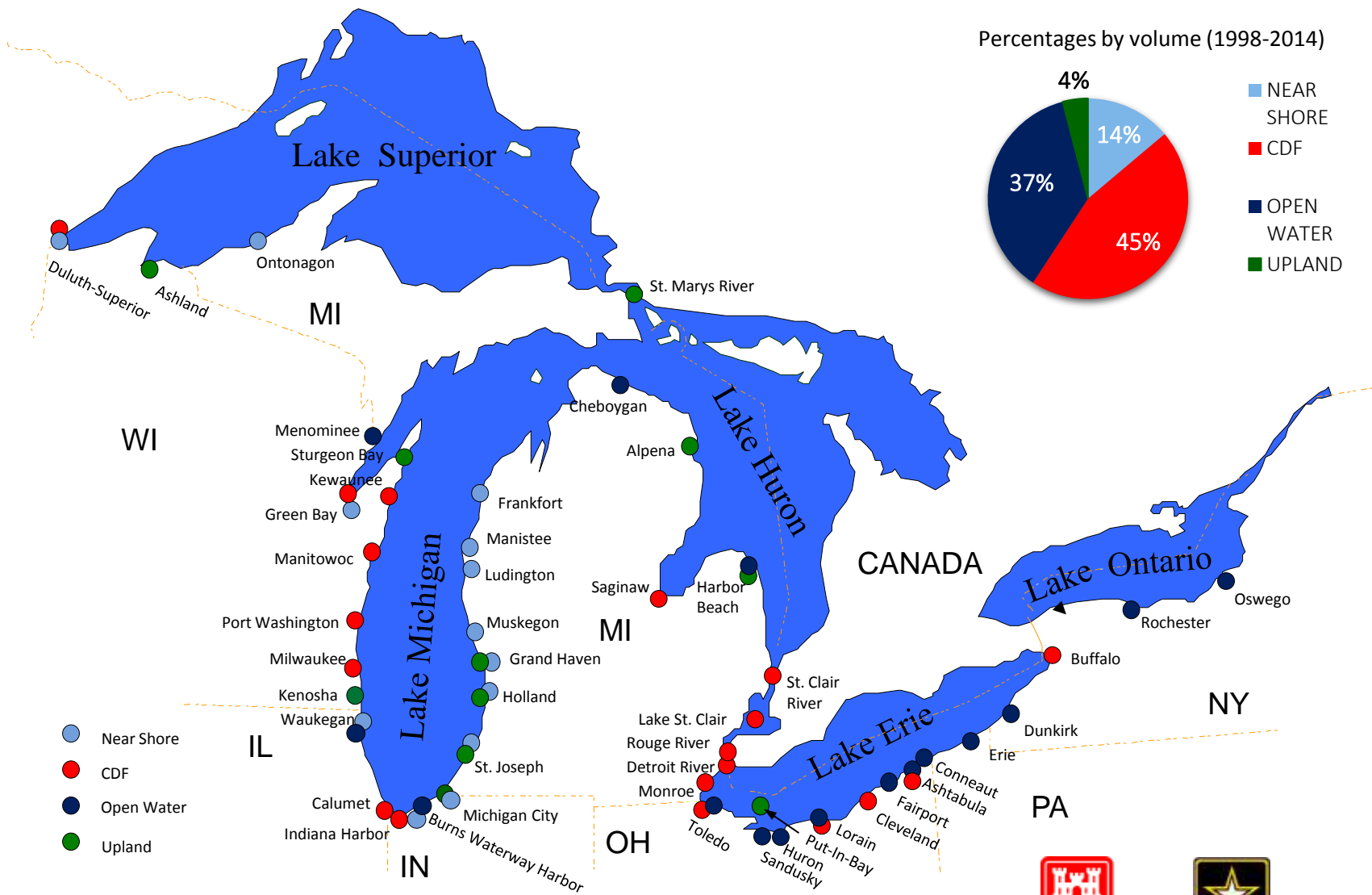


Dredging Funding Trends 2007-2018



Source: U.S. Army Corps of Engineers

Current Dredged Material Placement Methods



Source: U.S. Army Corps of Engineers

Material Management Evolution

- Channel maintenance and CDF placement helped address impacted sediment management
- Most CDFs are at or near capacity (remaining capacity reserves for “Incident Response”)
- Most materials now meet current federal standards for open-water placement (“least-costly, environmentally acceptable”)

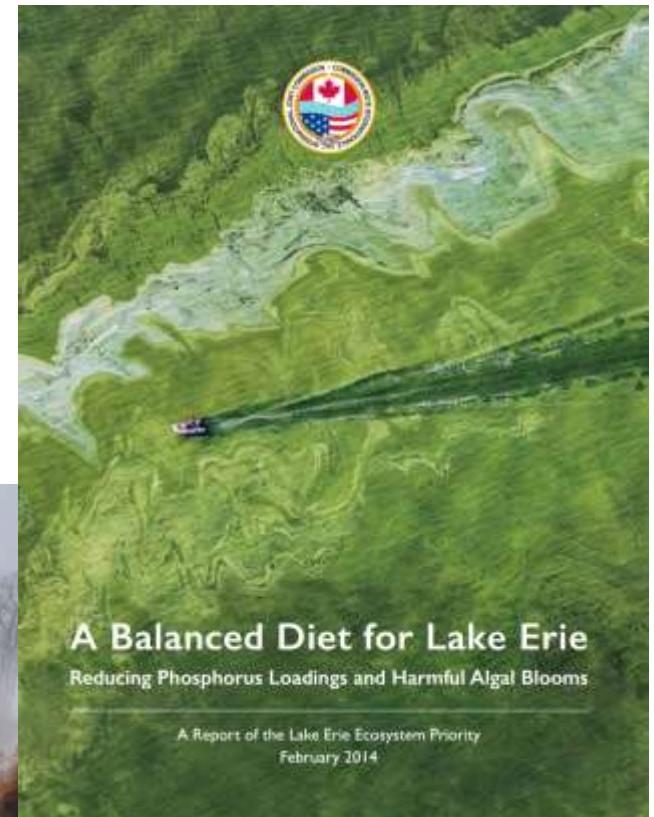


Physical Challenges

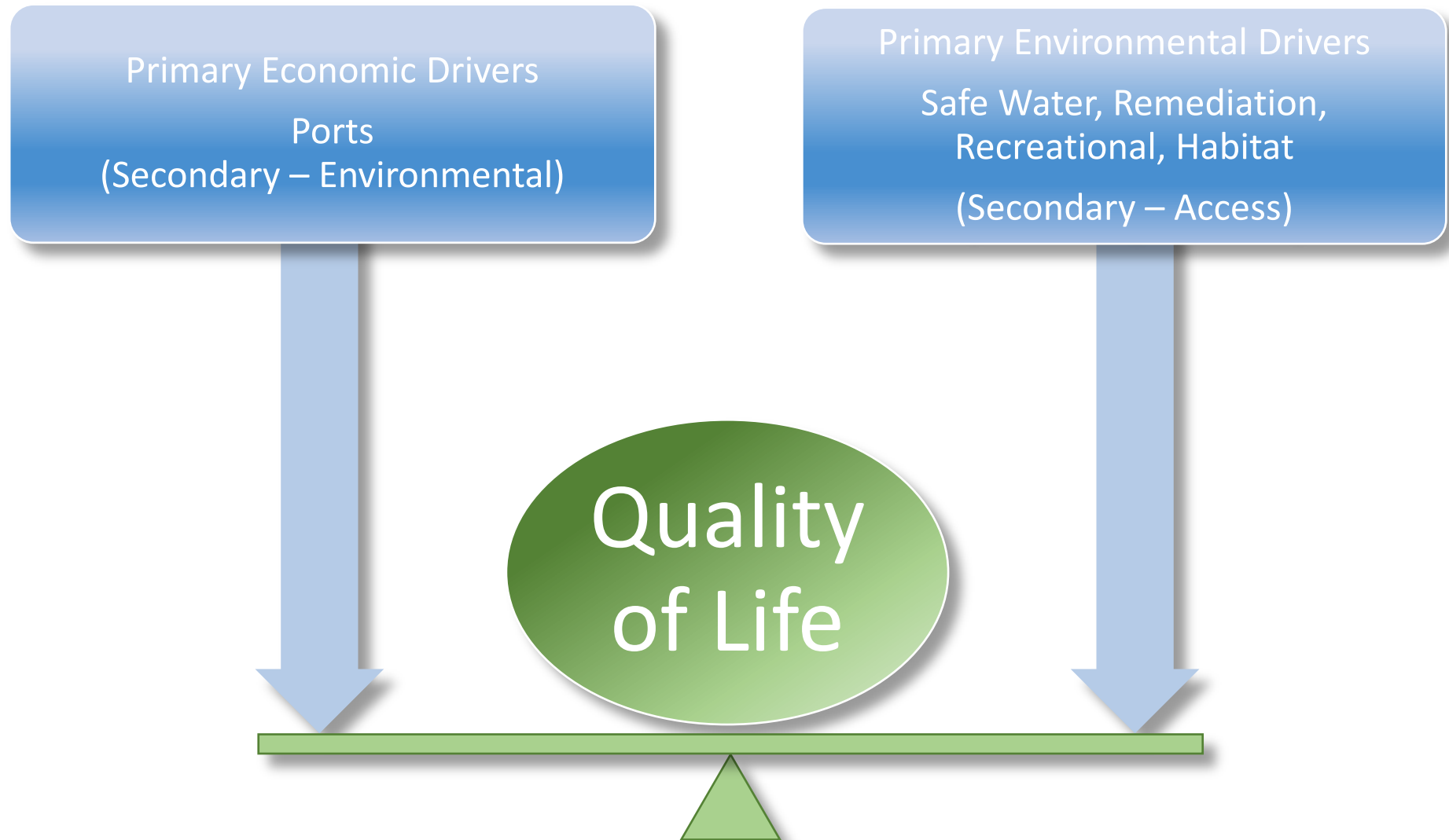
- Changing hydraulics –
Lake levels/storm intensity/turbidity
- Changing chemistry –
Nutrients, emerging contaminants



Photo courtesy of Marine Tech.



A Balanced Approach to Dredging Programs



Beneficial Use of Dredged Material

■ In-Water

- Submerged aquatic habitat restoration
- Emergent habitat restoration
- Remediation capping of “Hot Spots”

■ Nearshore

- Wetland restoration
- Shoreline protection
- Beach nourishment

■ Upland

- Brownfields, landfill caps, mine reclamation
- Agricultural improvements
- Structural fill

■ Products

- Manufactured soil
- Asphalt, concrete & construction materials



Opportunities – Funding

- Harbor Maintenance Trust Fund
 - More than \$18 billion from the HMTF over the next decade for the intended purposes of maintaining our commercial harbors
- Great Lakes Restoration Initiative
 - Federal agencies have drafted GLRI Action Plan II, which summarizes the actions that federal agencies plan to implement during FY15-19 using GLRI funding
- Great Lakes Legacy Act
 - EPA has invested over \$338 million to address contaminated sediment, leveraging an additional \$227 million from nonfederal sponsors
- The Water Infrastructure Improvements for the Nation (WIIN) WIIN Act/Water Resources Development Act (WRDA)
 - Pilot project – looking for 10 projects nationwide, local match
- State, NGO, USFW, and USDA initiatives
 - Brownfields, habitat, mitigation, filter strips, etc.

Mixed/Leveraged Funding Opportunities

- Address environmental needs with dredged materials and activities
 - Create habitat
 - Address brownfields
- Reduce sediment transport – no till, cover crops
- Install in-stream passive sediment/nutrient trap control structures
- “Engineering with Nature” – USACE WIIN Funding



Management Framework – Need for Smart Strategies and Investments

- Long-term capital improvement investments
- More funds for more efficient O&M
- Creative solutions and multiple options
- Nimble plans and management philosophies
- Integrated public programs
 - Federal: CWA, GLRI, GLLA, R&HA, etc.
 - State: brownfield redevelopment, infrastructure, etc.
- Collaborative approaches
 - Strong public and private partnerships & relationships – Industry, Ports
 - Other engaged stakeholders – NGOs, Academics, Agencies



Longer Term Planning & Implementation

- Lessons learned from multi-year contracts in the past
- Impediments that would need to be addressed
 - Regulatory, programmatic barriers
 - Contract structure
 - In past, risks too high, tight budgets
 - Time period too short – fluctuating fuel costs
- Direct benefits of multi-year contracts & permitting
 - More predictability
 - Private sector opportunities to reduce costs/provide efficiencies



Longer Term Planning & Implementation (Cont'd)

- Approaches/agreements that contractors or Port Authorities might be willing to enter into if there were multi-year agreements, for instance:
 - Investments in beneficial use efforts to commercialize materials
 - Equipment to promote material transport, recovery
 - Investments to create final use development of land forms
 - Brownfields
 - Harvest/redevelop CDFs
 - Create habitat (mitigation banking)



Management Framework – Need for Smart Project Implementation/Adaptive Management

1. Understand
2. Measure
3. Implement
4. Monitor
5. Be flexible and be ready for surprises – pleasant and not so much...
6. Adjust

Repeat 1-6

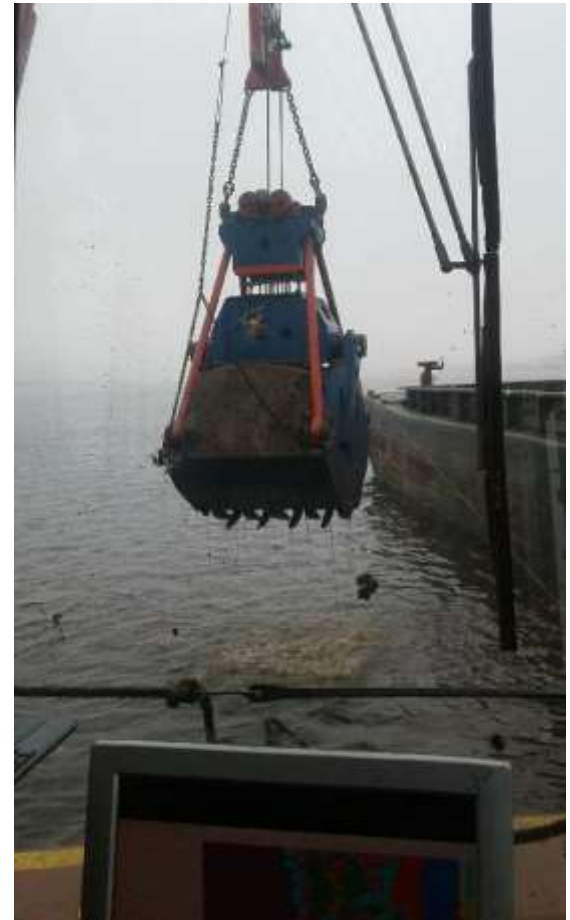


“Perpetual Management”

Continued Collaboration

- Maintain dialogue / open communication
- Establish a framework for continued monitoring and research for conditions, issues, solutions
- Increase understanding of how the lakes work, water level responses, etc.
- Understand better the economic impact of activities
- Provide focus for more efficient funding

*Celebrate Successes





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