

2011 Great Lakes System Dredged Material Management Strategy

June 10, 2011



US Army Corps of Engineers
BUILDING STRONG®



Historical Perspective

Dredged material nearly exclusively disposed via open water placement

1960

1970

45 Great Lakes CDFs constructed and/or operated by USACE at a cost of \$900M (2009 dollars)

1980

1990

2000

Execute sustainable DMM solutions

1970 - River and Harbor Act and Flood Control Act of 1970 (PL 91-611) passed

1988 - Federal Standard defined

1996 - Section 201 of the 1996 WRDA requires cost-sharing

Current CRITICAL situation. DMM strategies must be developed.



Current Dredged Material Placement Methods

- Open Water Placement
- Beach Nourishment / Near Shore Placement
- Upland Placement
 - ▶ Often employed in harbors without nearby open-water placement sites
 - ▶ Common placement sites include brownfield sites, farm fields, construction sites, reclaimed mines
- Confined Disposal Facilities
 - ▶ There are currently 20 active CDFs on the Great Lakes
 - ▶ Existing CDFs are over 80% full



The Federal Standard for Placement of Dredged Material

- USEPA-Corps Section 404 testing/evaluation requirements
- “Federal Standard” determines general placement or disposal method
- “Base Plan” recognizes site-specific considerations
- Added costs due to non-Federal conditions that cannot be reasonably accommodated are a non-Federal responsibility
- USACE “cooperate to the maximum extent practicable...to prevent violation of Federally approved state WQ standards and to achieve consistency to the maximum degree practicable with an approved CZM program.”



Open-Water Placement

State Policies

- ▶ **IL, IN, NY & PA:** allowed in compliance with federal laws & regulations
- ▶ **MN & WI:** prohibited with limited exceptions for beneficial use
- ▶ **MI:** prohibited if sediment is contaminated; MI DEQ practices and positions limit open water placement
- ▶ **OH:** No promulgated regulation or laws, but OEPA has withheld Sec. 401 WQ Certifications for disposal in shallow west basin of Lake Erie. Objections focused on Toledo.



Evaluation of Harbor Conditions

- PCBs are a typical contaminant analyzed in most USACE Great Lakes harbor sediments
 - Bulk sediment criteria for PCBs can be shown to have changed over time
- Evaluation methods for PCB testing have changed over time

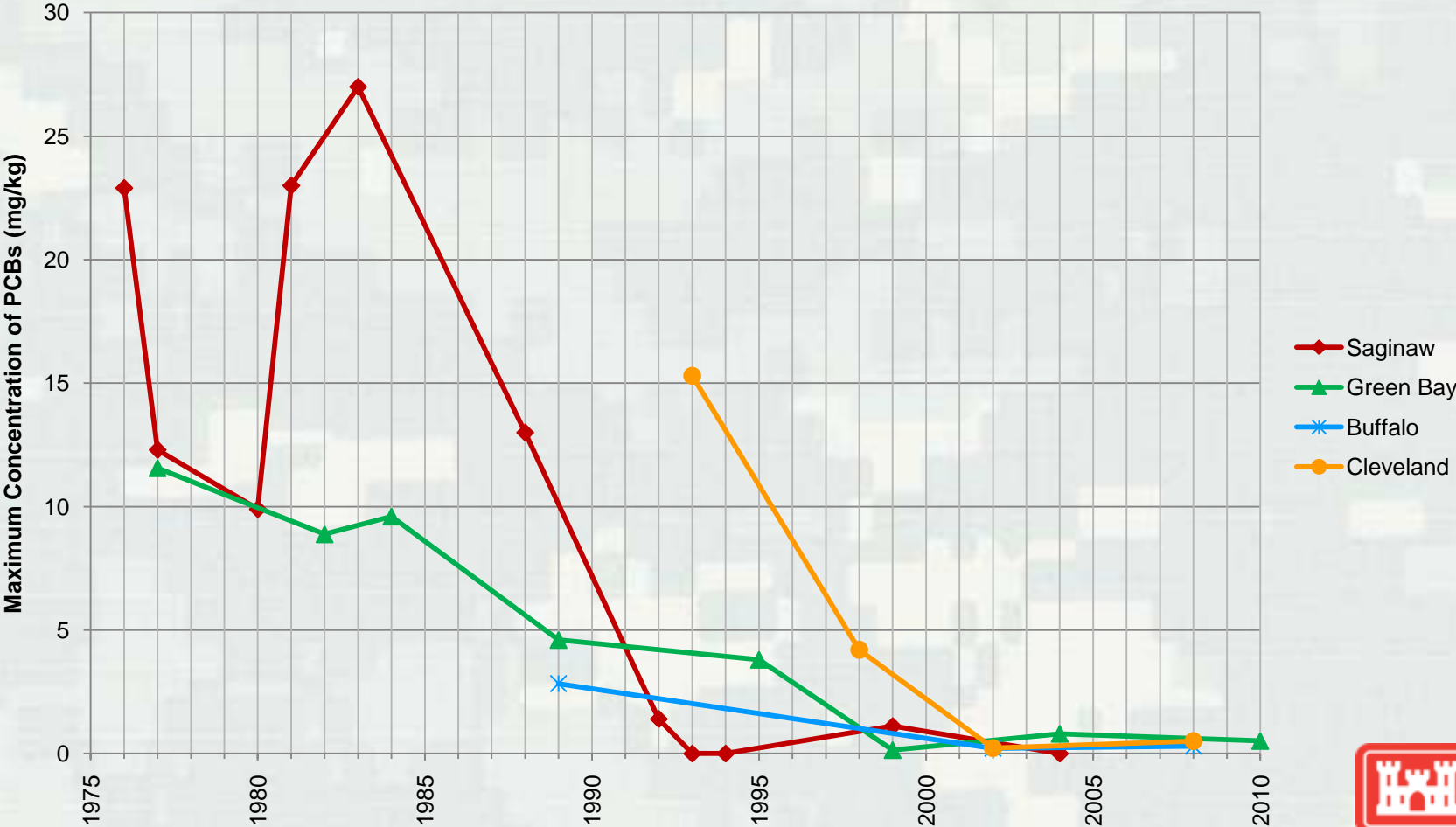
Historic Methods of PCB Testing

<i>Method</i>	<i>Year</i>	<i>PCBs (mg/kg)</i>
USEPA "Jensen Criteria"	1977-1989~	10
USEPA policy for Ashtabula Harbor	~1989-1993~	1
USEPA/USACE guideline (predicted)	~1993-present	0.1

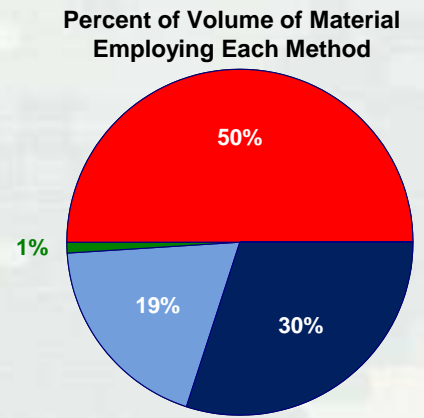
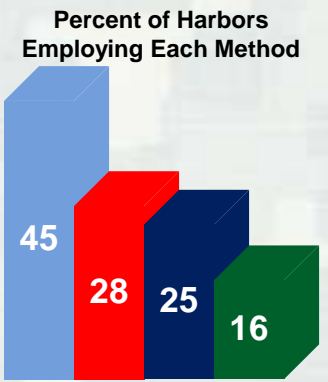
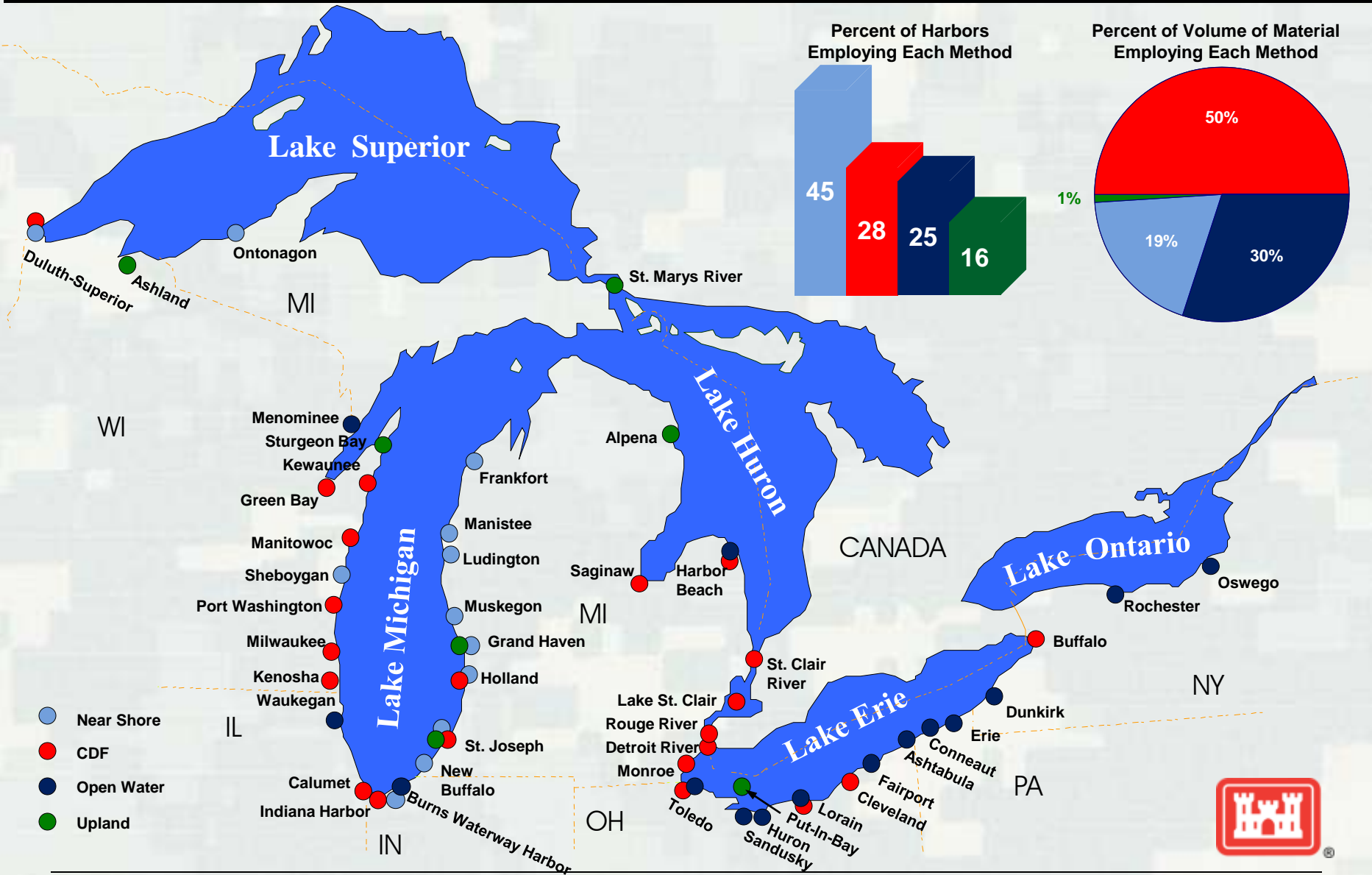


Evaluation of Harbor Conditions

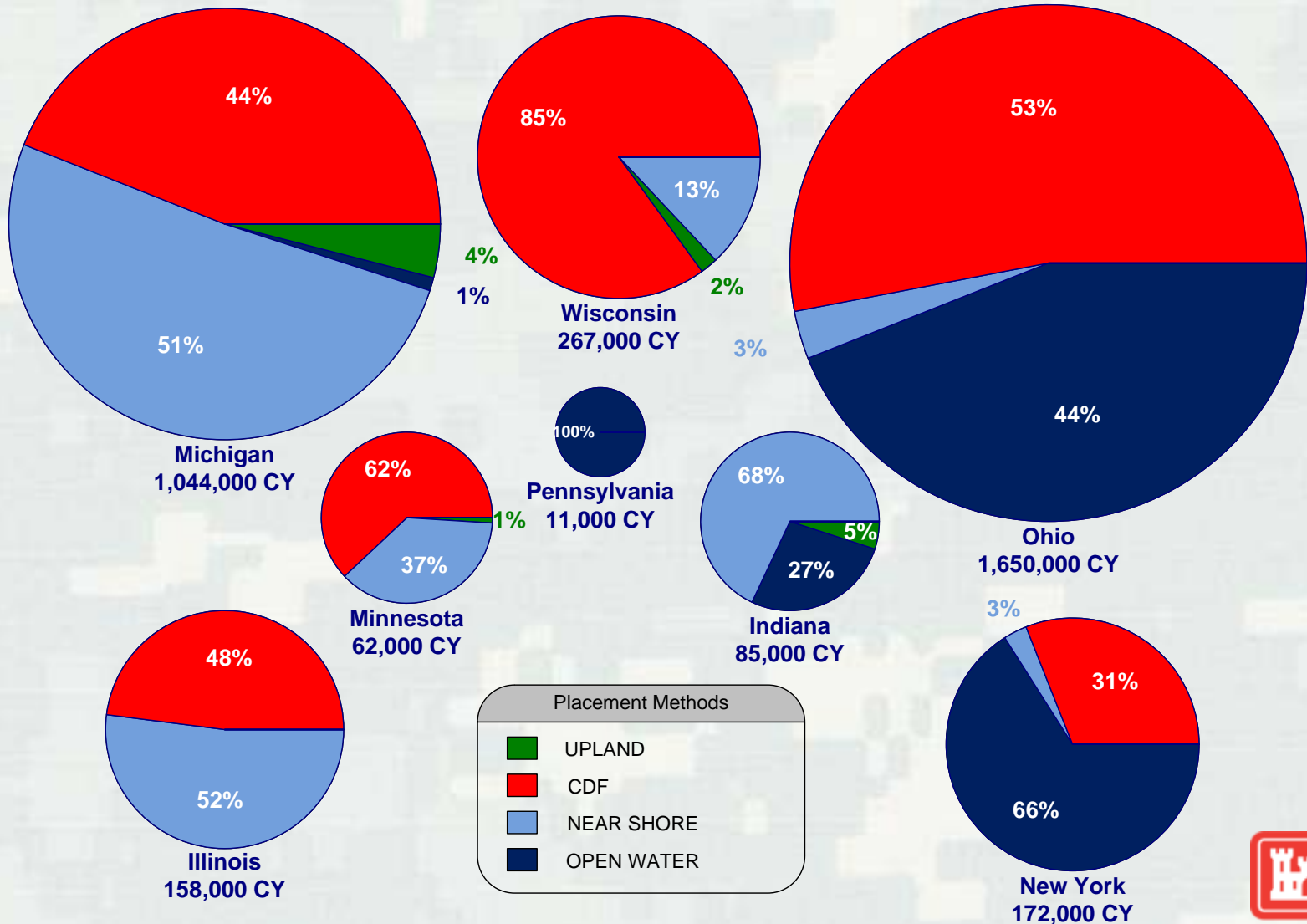
Great Lakes Harbors Maximum Concentrations of PCBs



Current Dredged Material Placement Methods

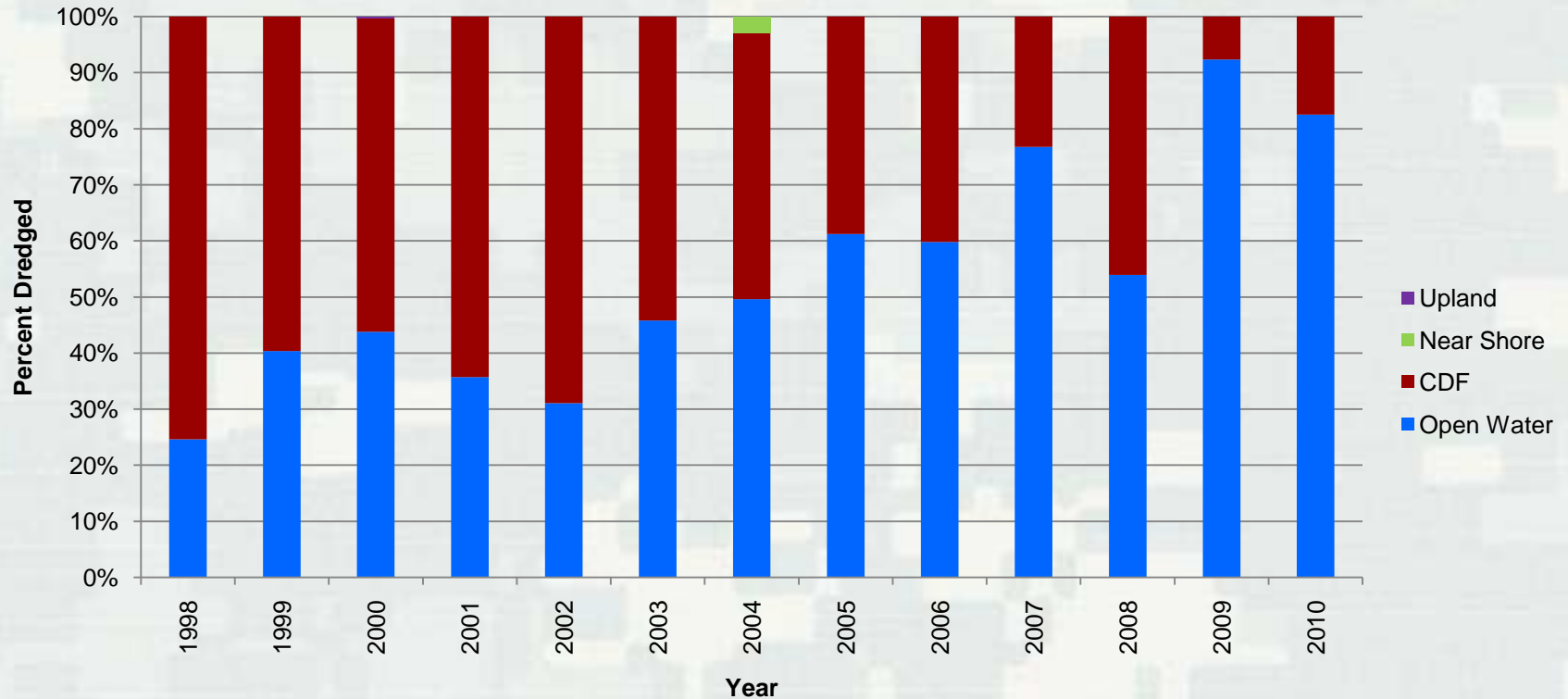


Current Dredged Material Placement Methods by State



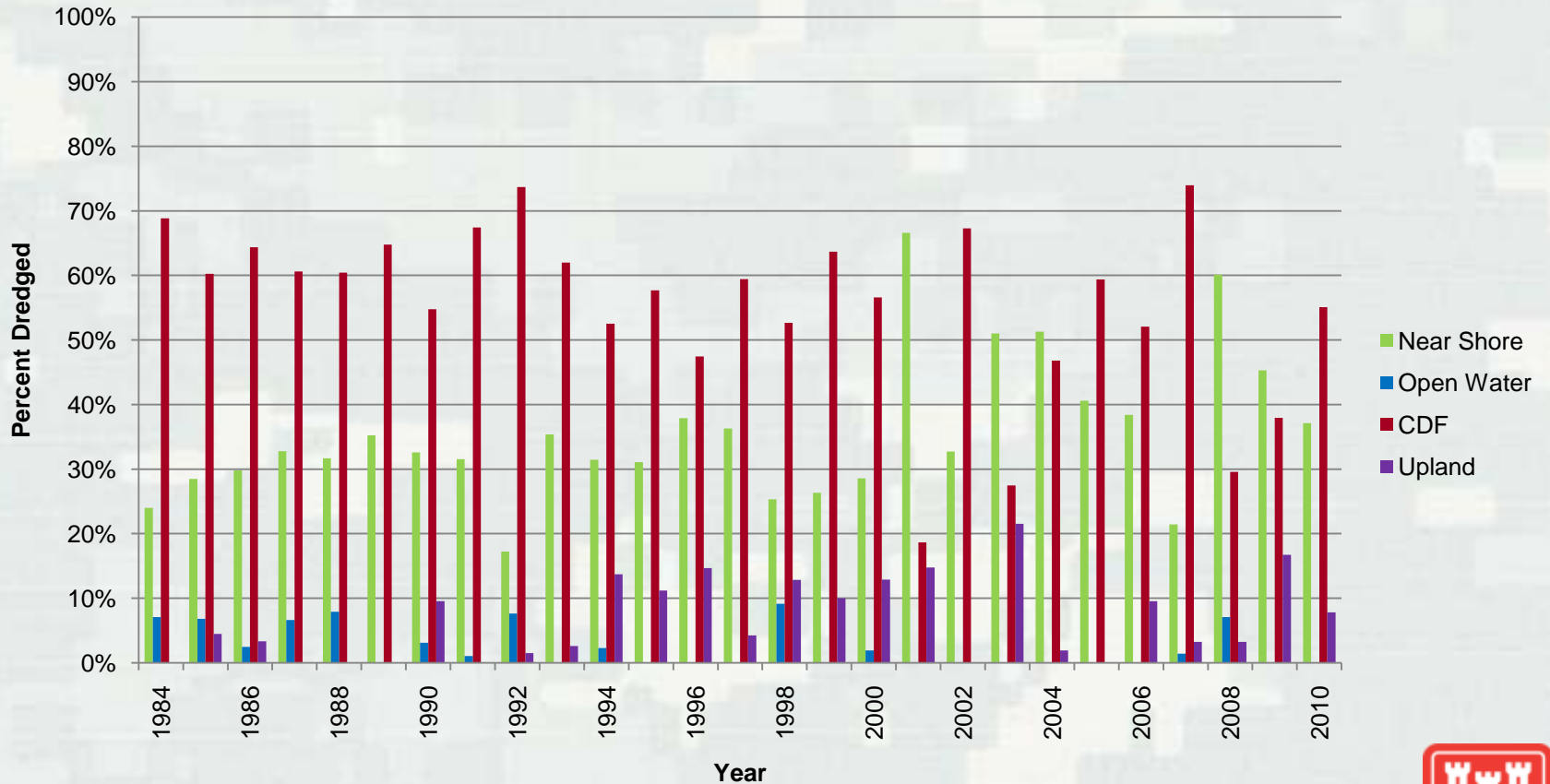
Historic Material Placement Methods in Ohio

Dredged Material Placement in Ohio (1998-2010)

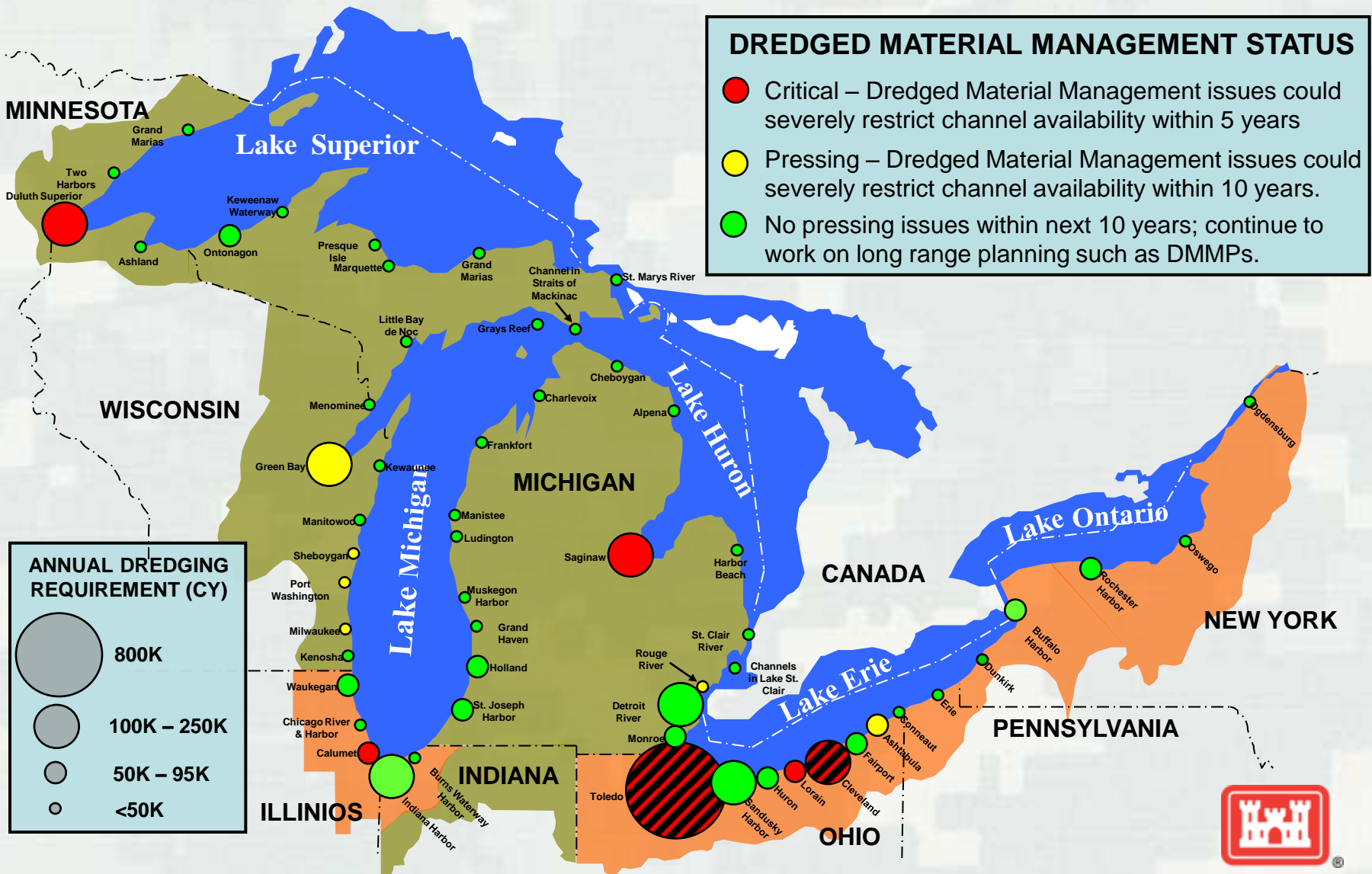


Historic Material Placement Methods in Michigan

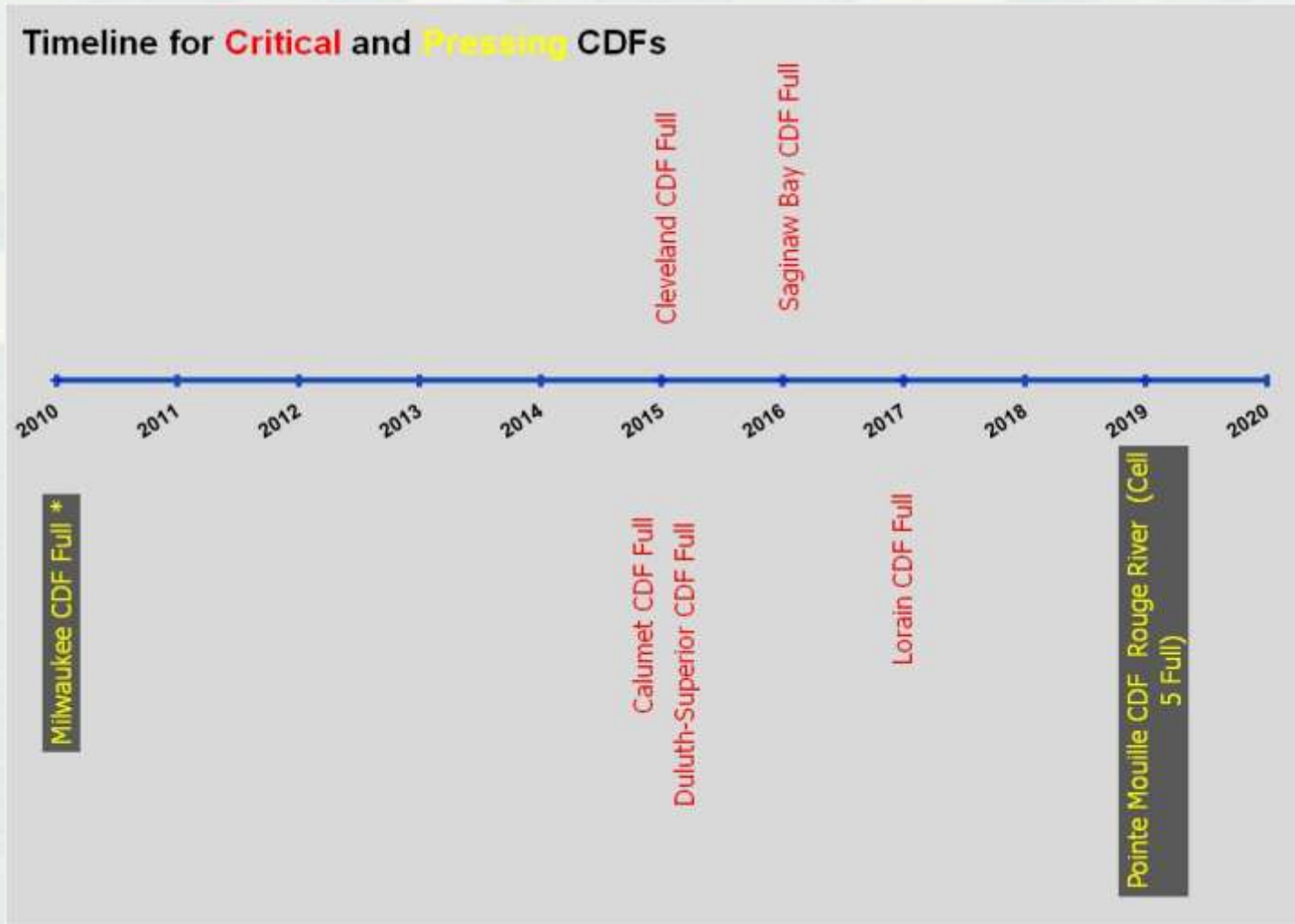
Dredged Material Placement in Michigan (1984-2010)



Current Dredged Material Management Conditions



Timeline for Critical and Pressing CDFs in GLNS



Extending CDF Life through O&M CDF Fill Management Activities

Where established management practices for a CDF include:

Regularly recurring **dike re-shaping and raising**,
Dewatering associated with each dredging cycle, or
Regular **excavation, transportation and
placement of material** from CDF

*...these measures will be considered O&M with no
change in Fed/non-Fed responsibilities (limit ~ 1-2
dredging cycles)*



Summary

- Relying on new CDF construction, in general, is not viable;
- Recognize that state and local governments must be active participants in search for new solutions to dredged material disposal and placement needs.

- Strategies
 1. **Extend CDF Life** through Fill Management
 2. Create CDF Capacity through **Beneficial Reuse and Use**
 3. **Reduce Material** Entering Federally Maintained Navigation Channels
 4. Engage State Agencies in Solutions to participate in studies or expert elicitation to **improve basis for environmental dredging windows**
 5. **Reinforce the Federal Standard** for open-lake placement to maintain efficiency of the Crops dredging program while protecting the environment.
 6. Foster Partnership with USEPA to **Leverage Funding** for Projects Supporting Environmental Goals and Navigation Benefits



QUESTIONS?

