# Great Lakes Navigation Update

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US Army Corps of Engineers
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# Great Lakes Navigation Session

**Great Lakes Navigation Program** — **Mike O'Bryan**

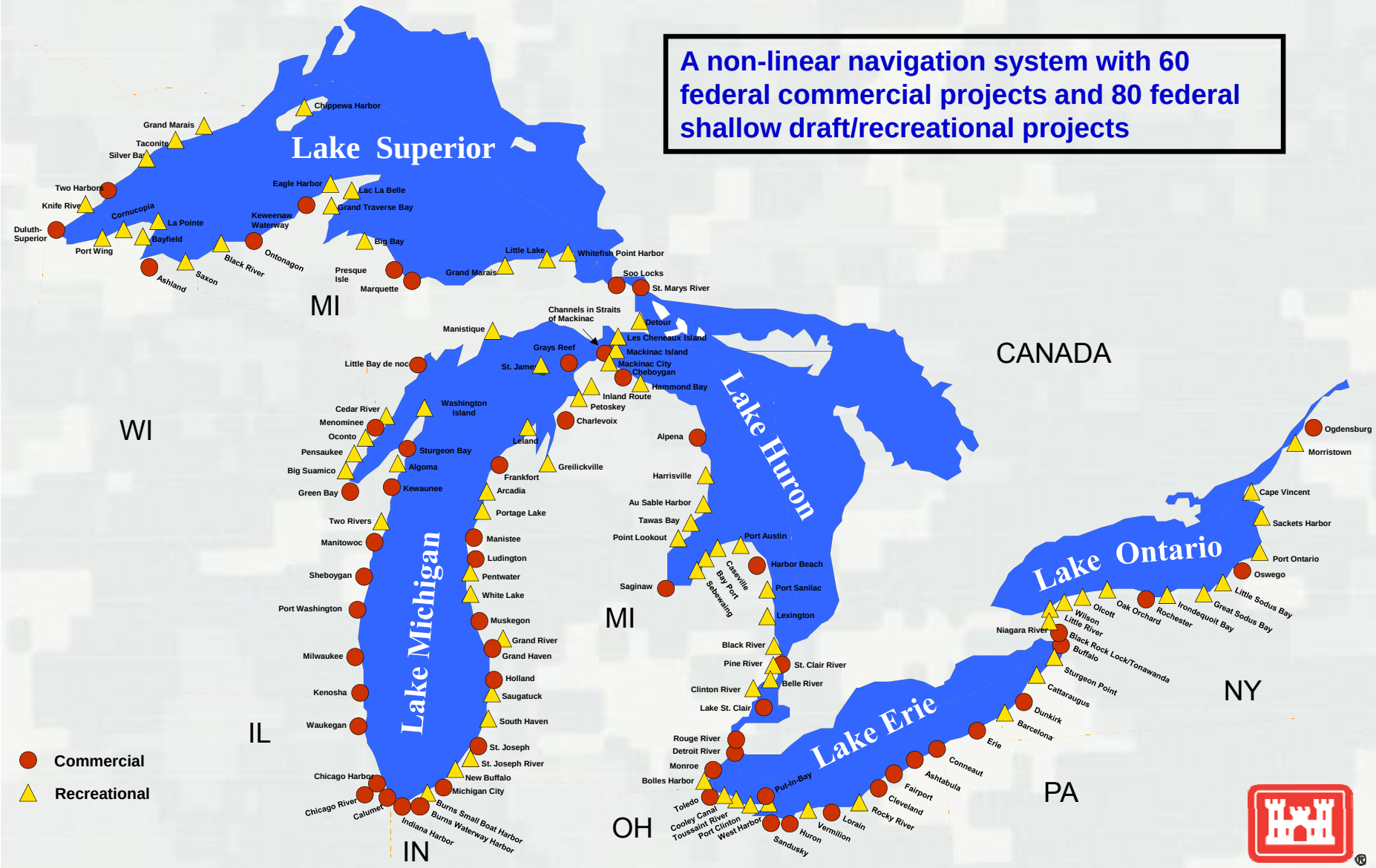
- Great Lakes Navigation Funding Status
- FY13 Navigation Program
- Low Water/Dredging Implications
- Dredged Material Management
- Navigation Structures – Risk Communication
- Soo Locks Reliability

**District Operations Chiefs** — **Josh Feldmann**, **Shamel Abou-El-Seoud**, **Dave Wright**

– Key Project Updates

# Federal Projects on the Great Lakes

**A non-linear navigation system with 60 federal commercial projects and 80 federal shallow draft/recreational projects**



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# Corps Great Lakes Navigation Funding Status

# FY13 Corps Funding Status

- Congress has not passed an Energy & Water appropriations bill for FY13.
- The Corps is operating under a Continuing Resolution Authority (CRA), with funding levels no greater than FY12.
- CRA funding generally follows FY13 President's Budget. Projects that did not receive funding in FY12 are not eligible for funding under the CRA.
- It is possible that we will have a year-long CRA in FY13.

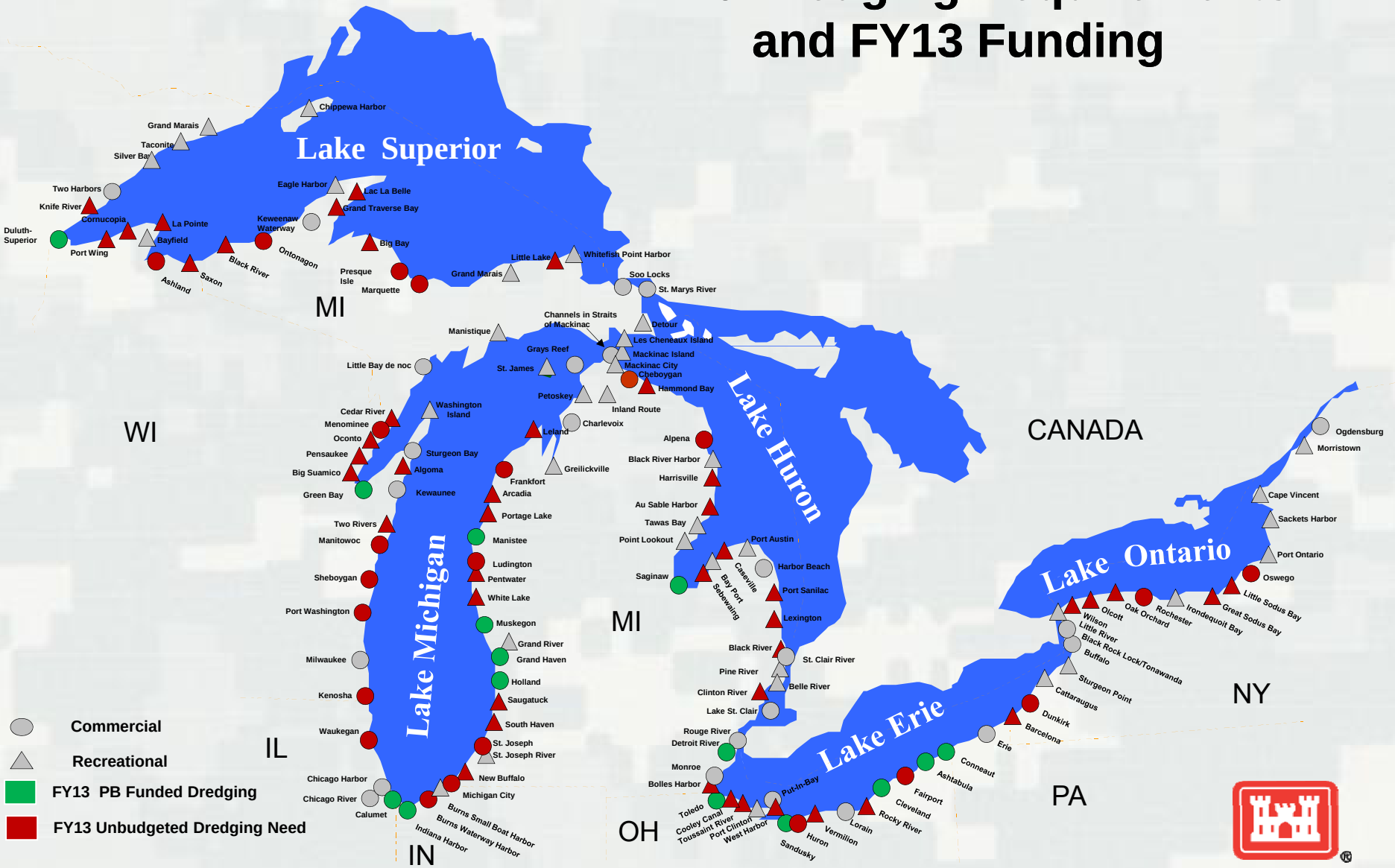
# FY 13 President's Budget
# Great Lakes Navigation

$85.9M  Great Lakes Navigation Operations & Maintenance

Key Items in FY13 President's Budget

$31.0M in Dredging (15 projects - 2.4M cubic yards)
$12.0M in Dredged Material Management
$3.1M in Soo Asset Renewal

# FY13 Dredging Requirements and FY13 Funding

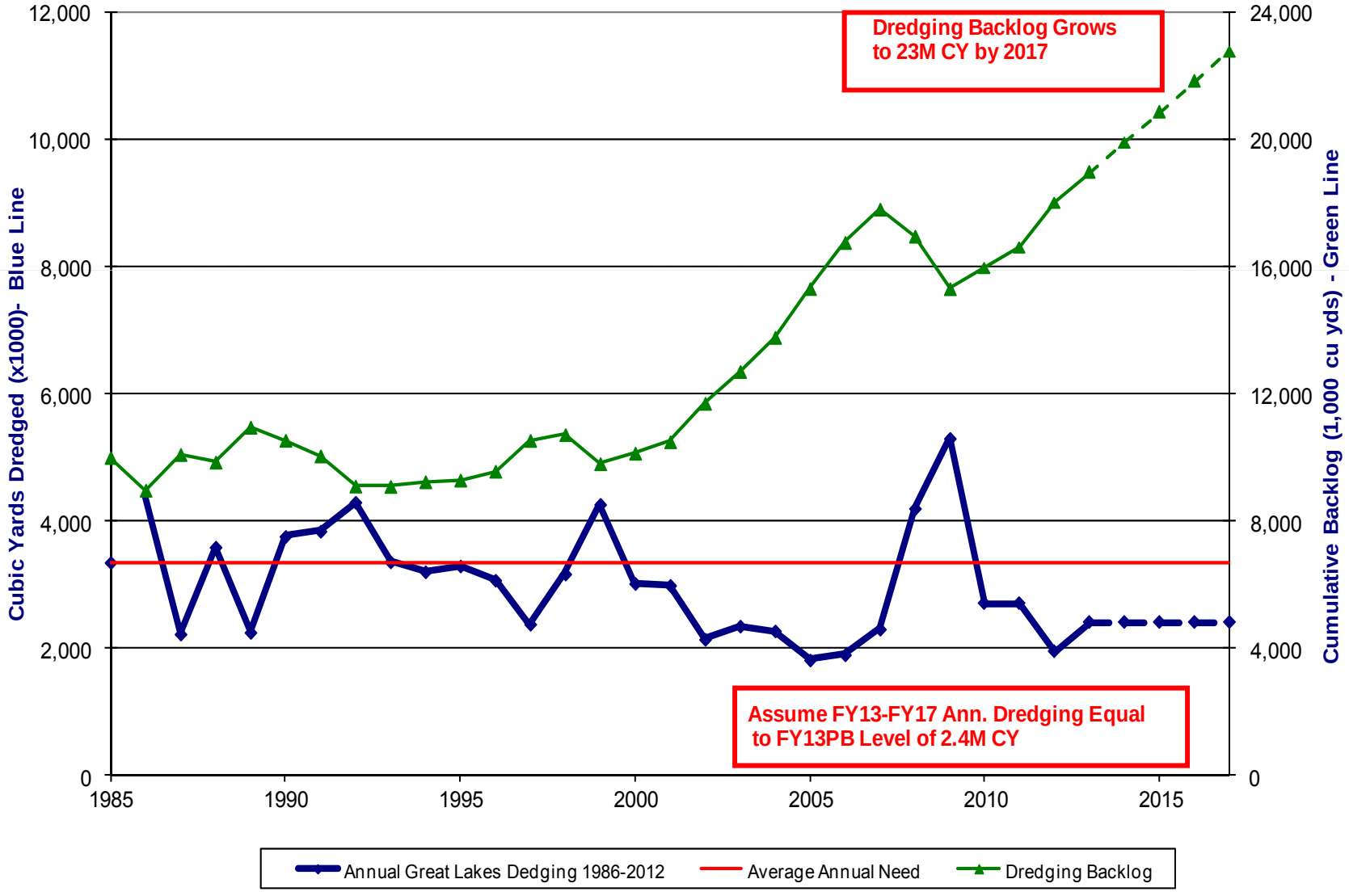


# FY 13 President's Budget
# Dredging Projects

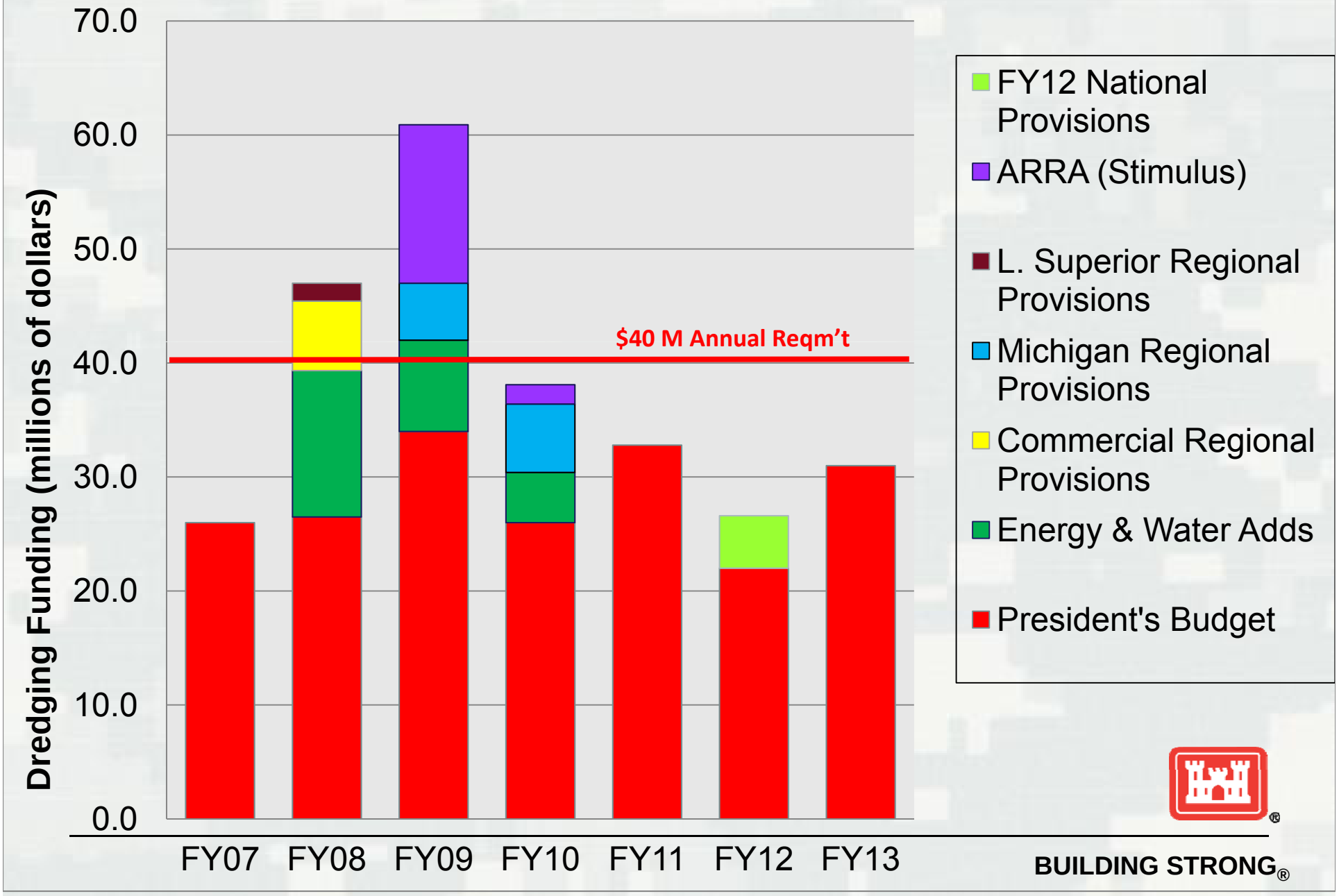
Duluth-Superior
Green Bay
Calumet
Indiana Harbor
Holland
Grand Haven
Muskegon
Manistee

Saginaw River
Detroit River
Toledo
Sandusky
Cleveland
Ashtabula
Conneaut

# Backlog Growth Under Constrained Dredging Funding 2013-2017



# Dredging Funding Trends 2007 - 2013

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# Harbors Affected by Hurricane Sandy

Burns Waterway
Waukegan
Michigan City
St. Joseph
Muskegon
Holland

Cleveland
Lorain

- President signed Sandy Supplemental on January 29. Included $821M for dredging and repair needs nationwide due to Sandy. Funds have not been allocated by HQ yet to specific projects.
- Great Lakes Districts have submitted our needs.

# Great Lakes Water Levels

# Water Levels on Great Lakes

• All the Great Lakes are below their long term averages. Lake Michigan-Huron set new monthly record low levels in December and January and an all-time low in January.

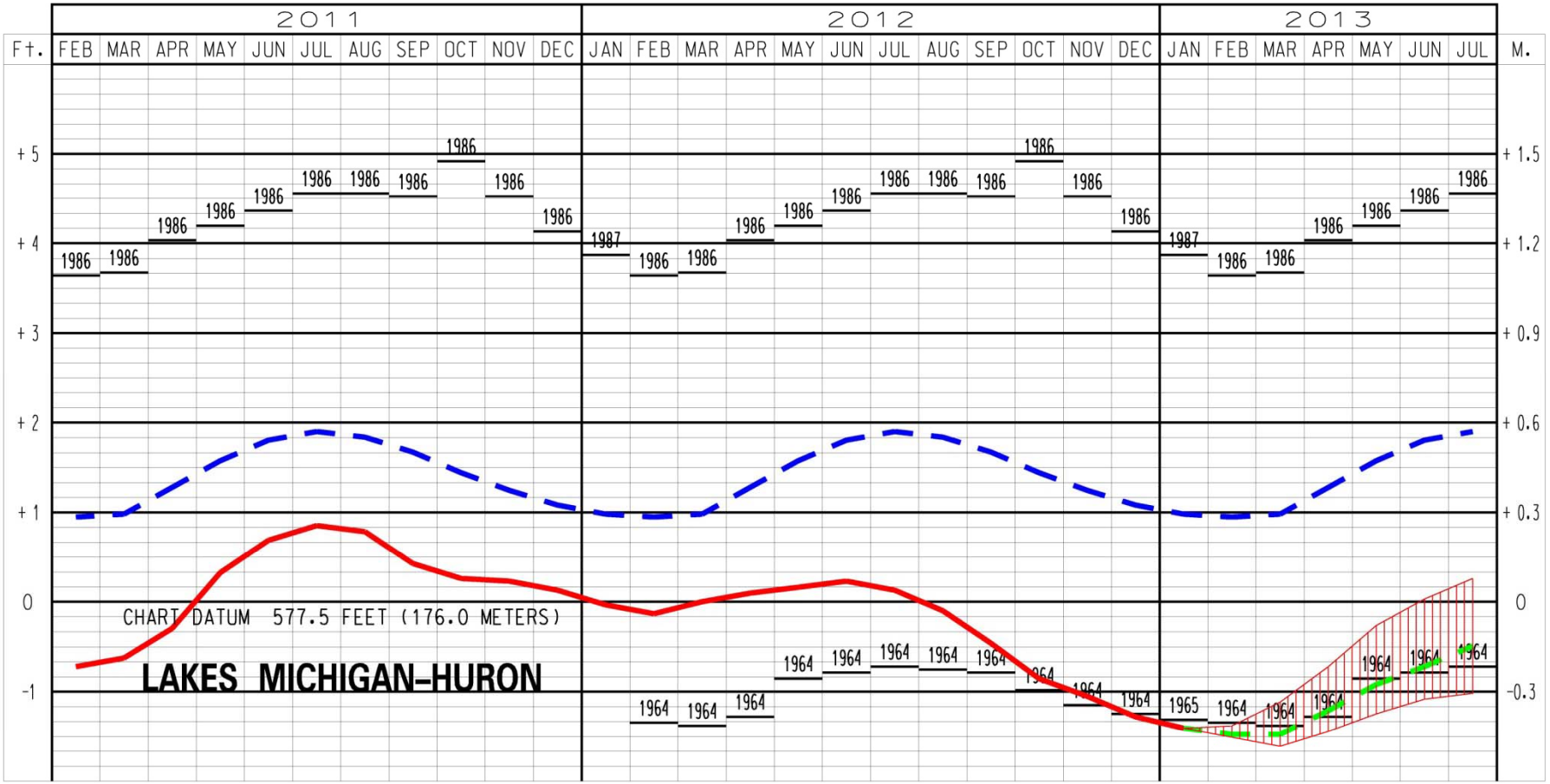
• Levels on Lakes Superior and Michigan-Huron have been below average for over 14 years, the longest stretch in their recorded histories.

• Lake Erie has dropped two feet in the past year and had no seasonal rise in 2012 - first time the lake had no seasonal rise.

• The most probable forecast shows Lake Michigan-Huron setting new record lows again in February and March, and remaining near record low levels from April – July and most likely well beyond that.

• Lakes Superior and Michigan-Huron are expected to be 12 and 18 inches below chart datum, respectively, at the open of the 2013 navigation season in March.

# LAKES MICHIGAN–HURON WATER LEVELS – FEBRUARY 2013




## LEGEND

LAKE LEVELS

RECORDED

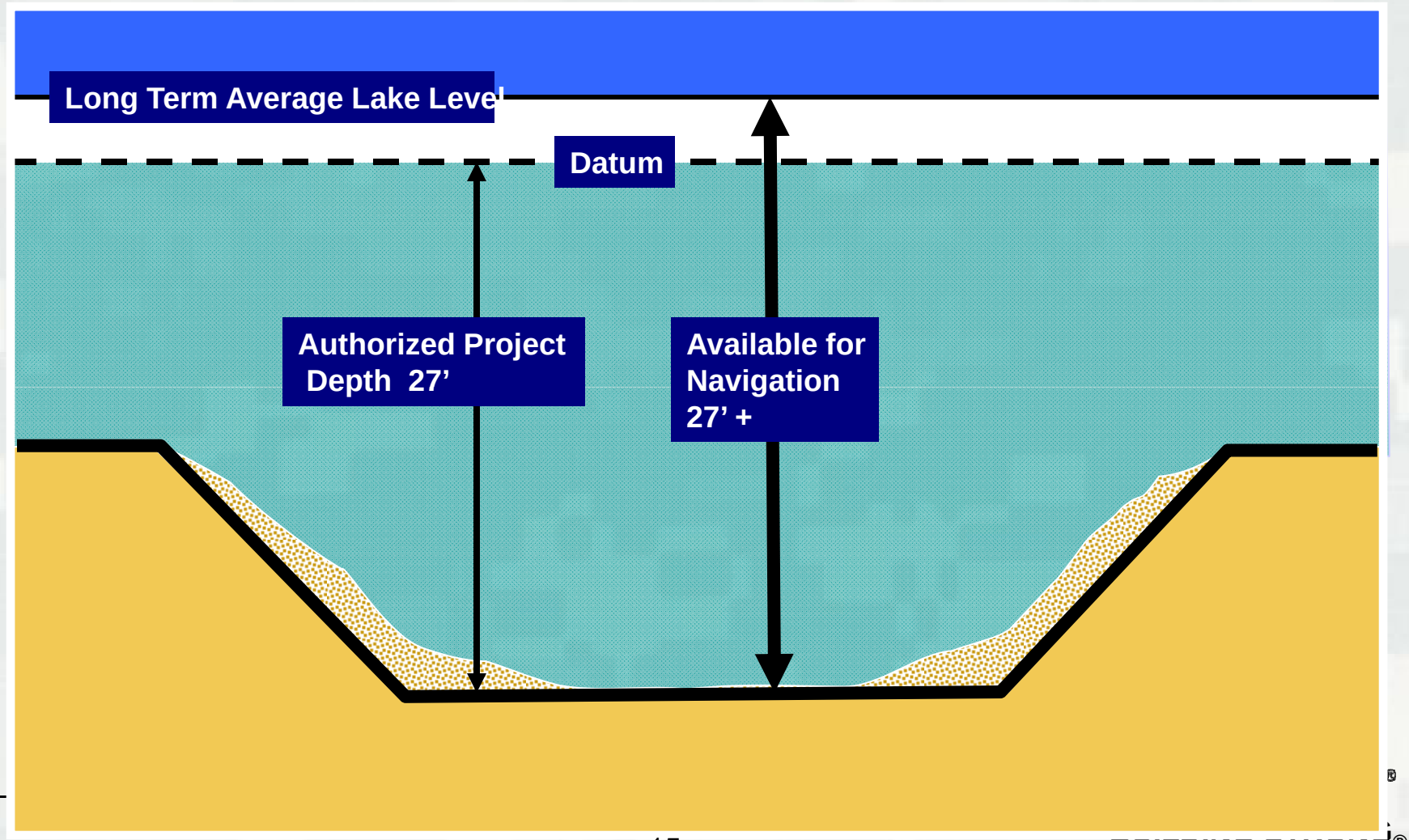
PROJECTED

AVERAGE **

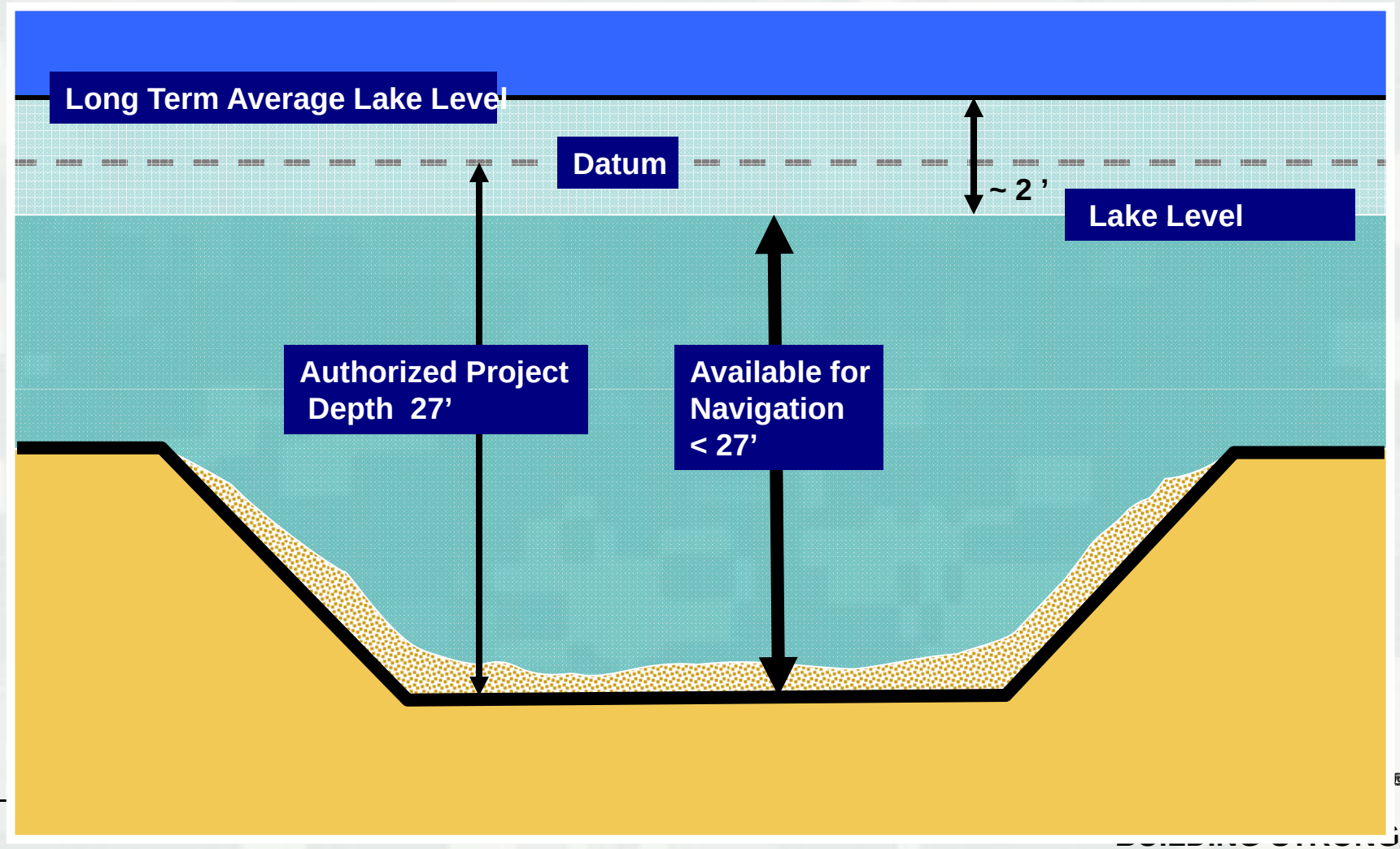
| | | | | |
|---|---|---|---|---|
| MAXIMUM ** | 1985 | 1985 | 1973 | 1973 |
| MINIMUM ** | 1936 | 1934 | 1926 | 1934 |

** Average, Maximum and Minimum for period 1918-2011

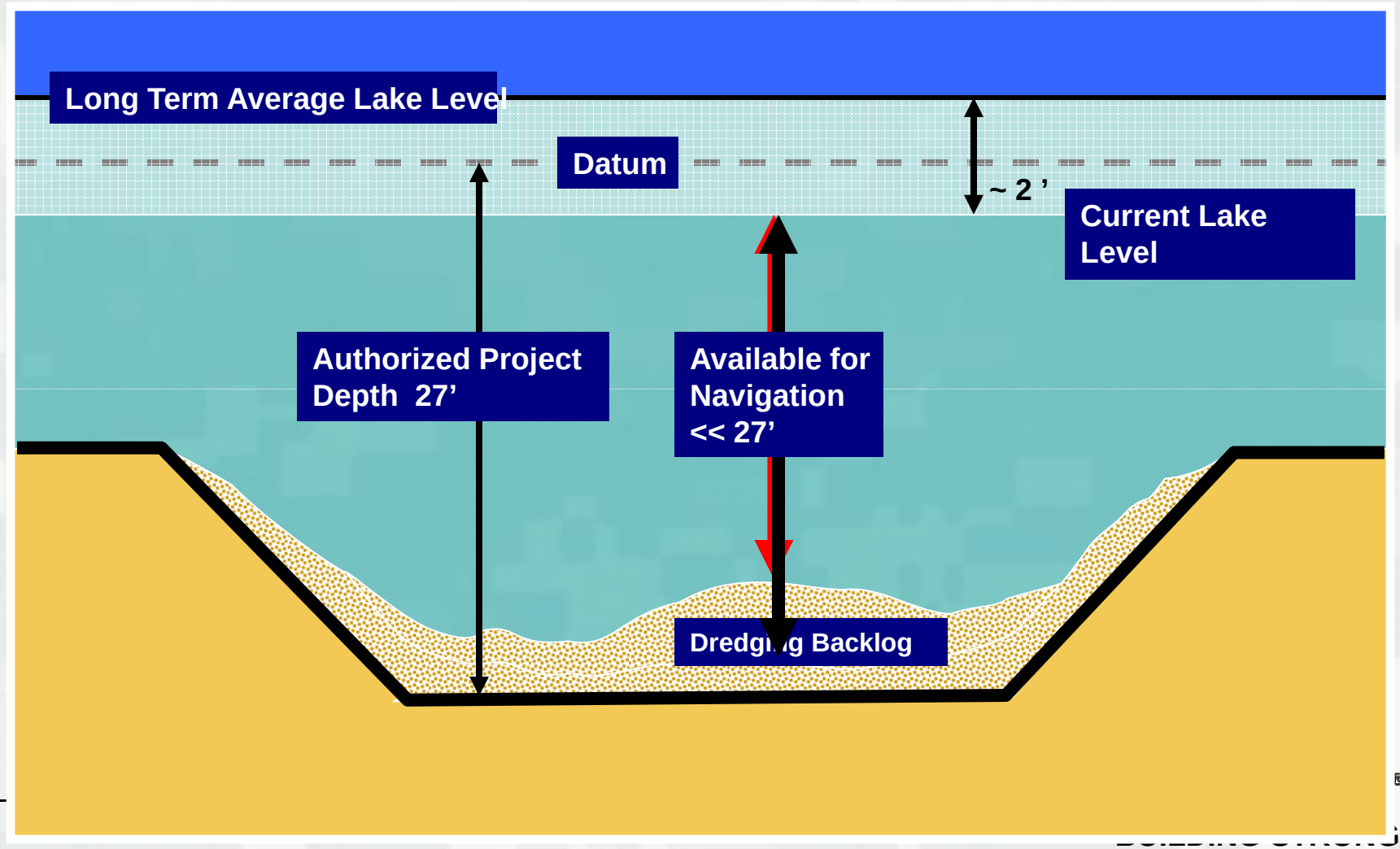
# Historical Water Levels
# "Normal" Conditions



# Conditions: 1999 to present
# Water Level Below Datum



# Current Condition
# Below Datum w/Dredging Backlog



# WRDA 2000 Section 343 Authority

- The Corps has the authority to dredge below project depths under certain circumstances

- WRDA 2000 Section 343:

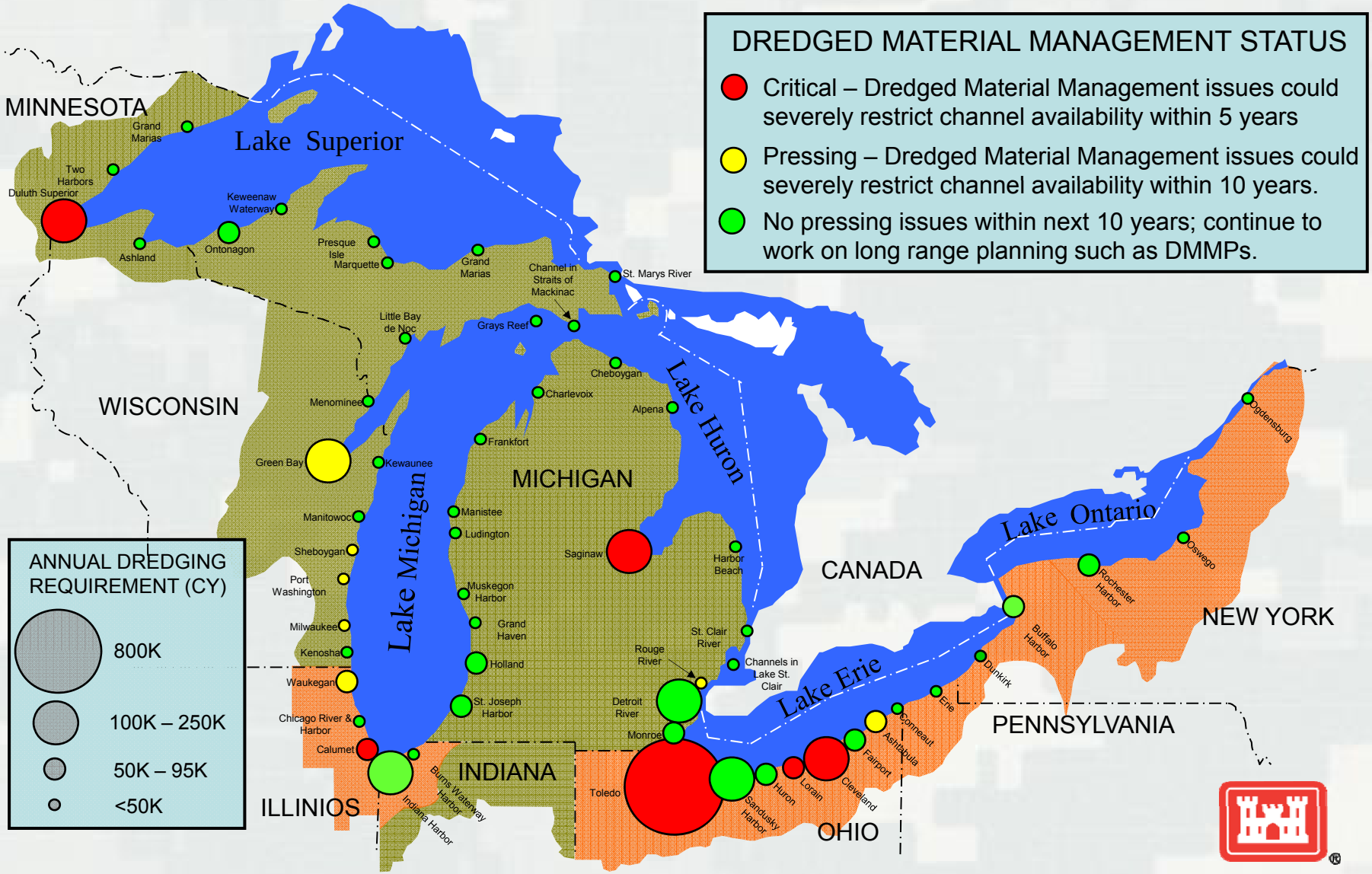
> (b) Dredging Levels.--In operating and maintaining Federal channels and harbors of, and the connecting channels between, the Great Lakes, the Secretary shall conduct such dredging as is necessary to ensure minimal operation depths consistent with the original authorized depths of the channels and harbors when water levels in the Great Lakes are, or are forecast to be, below the International Great Lakes Datum of 1985.

- This provides authority; O&M funding for the additional dredging would also be needed

# Great Lakes Projects Requiring Dredging due to Water Levels Below Low Water Datum (LWD)

# Dredged Material Management

# Current Dredged Material Management Conditions



# Where is Dredging Restricted by Dredged Material Placement?

# Dredged Material Management Initiatives

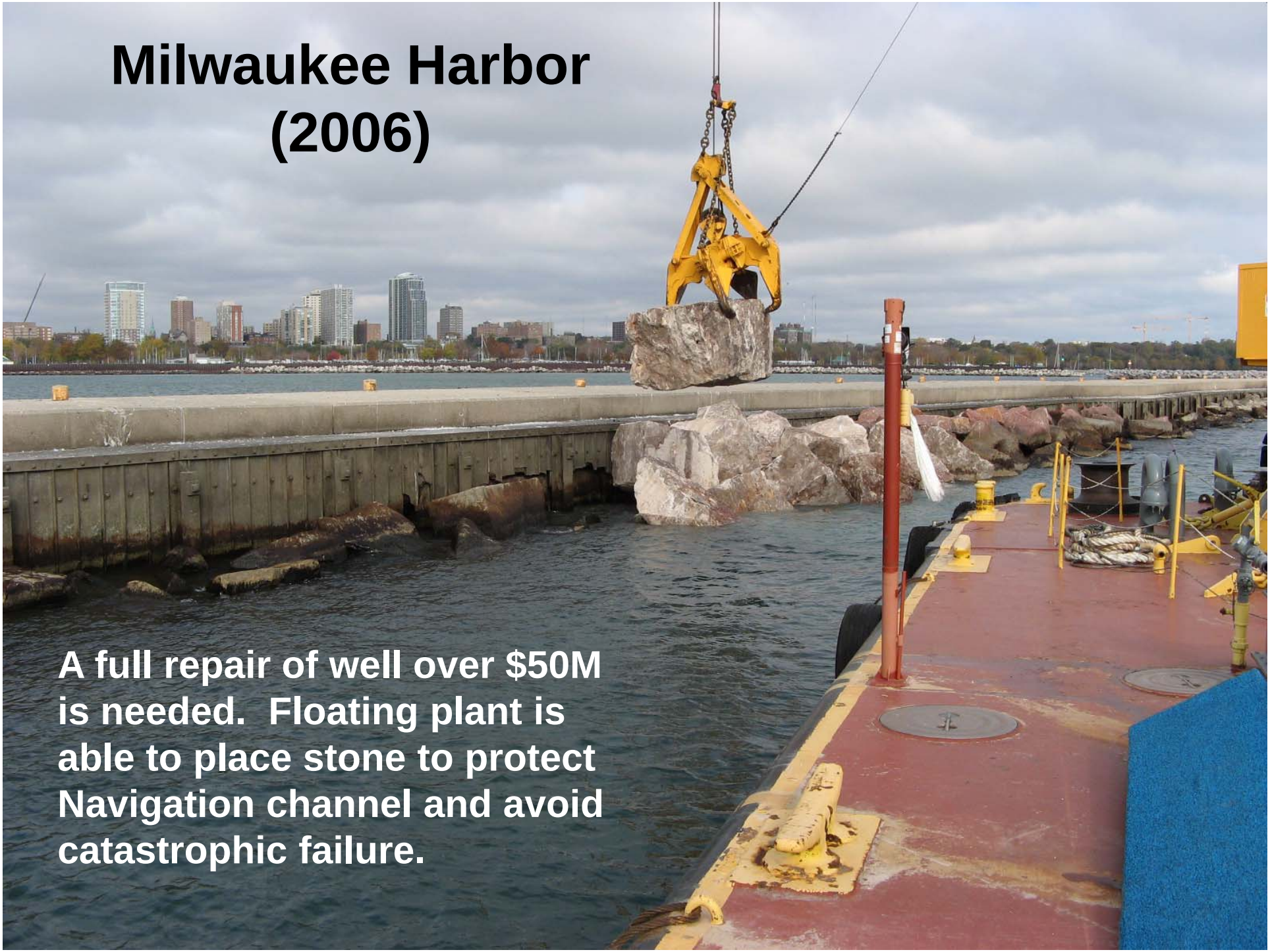
Initiatives underway to reduce requirements/increase efficiencies:

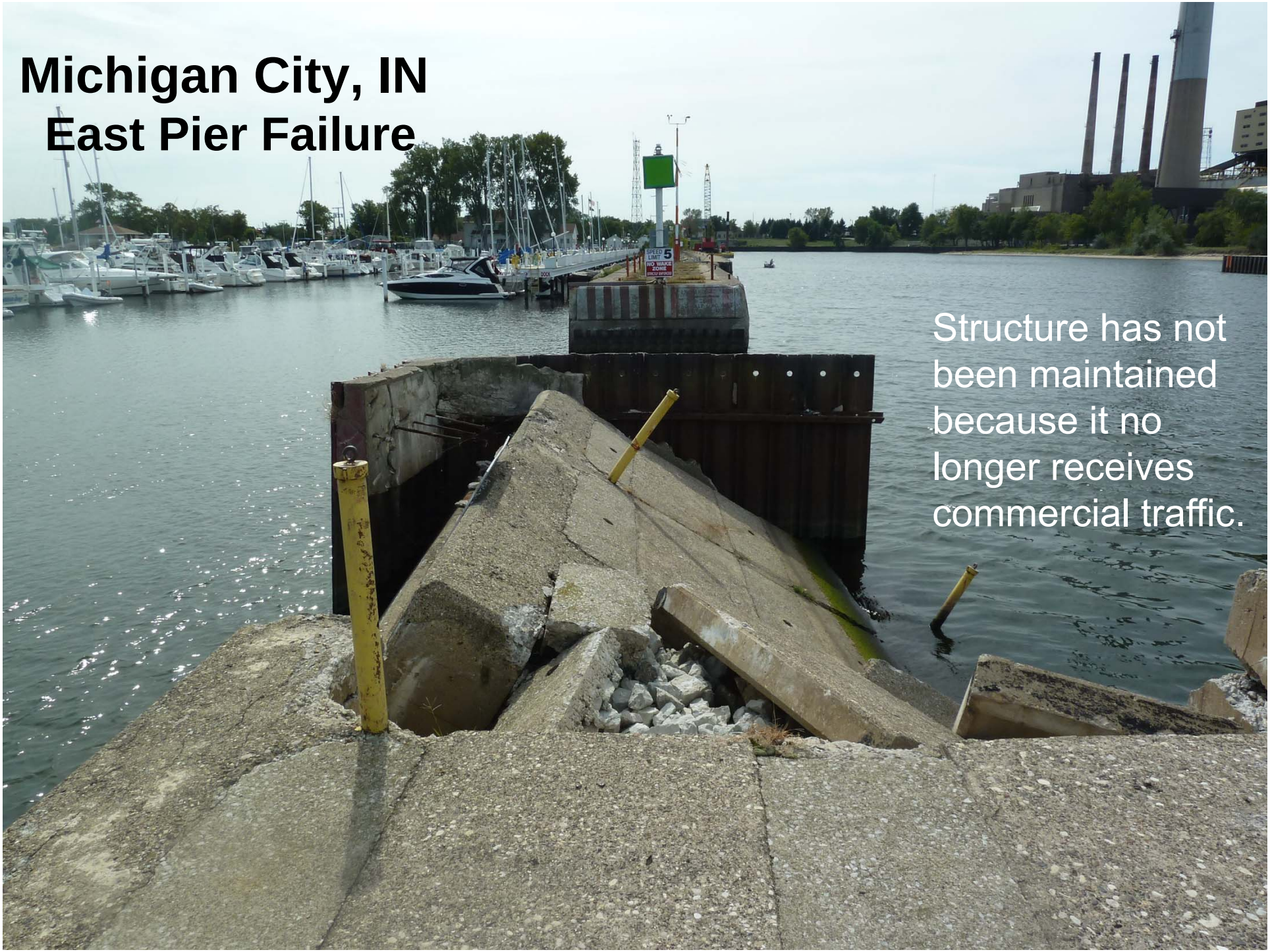
- ✓ Leverage EPA funding from **Legacy Act and GLRI** (both dredging and dredged material management)
- ✓ Work with states and local sponsors on finding beneficial uses of dredged material and reuse for CDF material
- ✓ Work with states on acceptability of testing protocols for open lake placement

# Navigation Structures - Communicating Risk

# BURNS WATERWAY HARBOR

**Increased wave climate in a harbor is unsafe for ships. Note the vulnerability of the commercial docks to the lake – only protection is the breakwater.**


Milwaukee Harbor
(2006)
A full repair of well over $50M is needed. Floating plant is able to place stone to protect Navigation channel and avoid catastrophic failure.


Michigan City, IN
East Pier Failure
Structure has not been maintained because it no longer receives commercial traffic.

# Cleveland Harbor, OH

**Significant Deterioration of Breakwater**
**Loss of Cross Section and Structure Height**

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# Regional Risk Communication Meetings


## Regional Meetings

| | |
|---|---|
| #1 | 15 Aug2011 |
| #2 | 8 Nov 2011 |
| #3 | 18 Jan 2012 |
| #4 | 18 Jul 2012 |
| #5 | 30 Aug2012 |
| #6 | 15 Oct 2012 |
| #7 | N. MI (May 13) |
| #8 | MN/W. UP (June 13) |
| #9 | E. UP/N. MI (July 13) |
| #10 | UP/N. WI (Aug 13) |
| #11 | East Ont (Sep 13) |

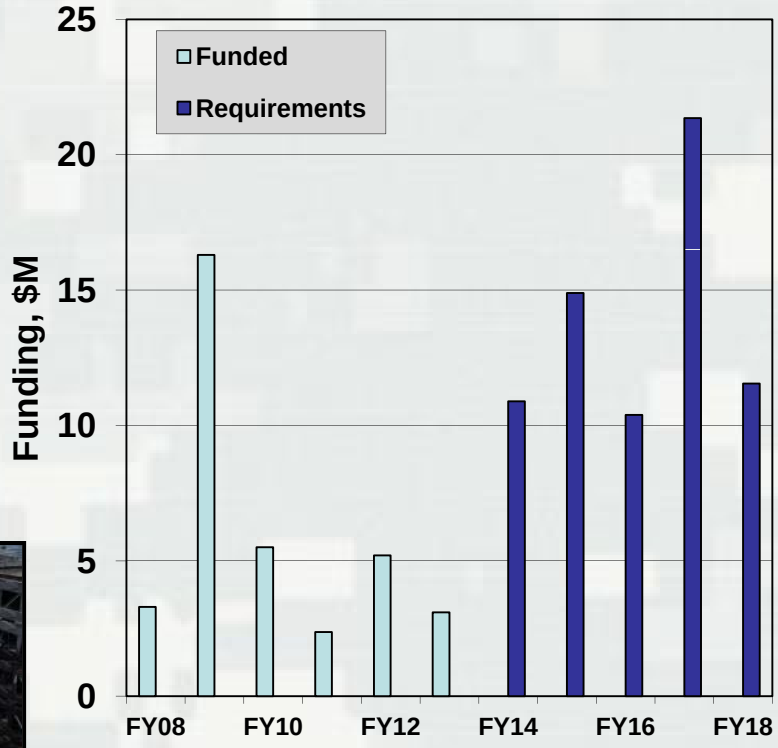
# Soo Locks Reliability

# Soo Locks Asset Renewal Long-Term Plan

Asset Renewal Plan will maximize reliability and reduce risk through 2035

- $35.9M funded to date through FY13
  - New hydraulics, stop logs, utilities
  - Crib Dam construction
  - Compressed Air System
  - Mac Lock modernization design

- Remaining funding required $69 million over 5 years
  - Poe and Davis Pump Well Valves
  - Poe Electrical Rehabilitation
  - MacArthur Interlocks and Controls Upgrade



# New Replacement Lock

- WRDA 2007: Construction at 100% federal expense
- Inconsistent with Administration policy due to BCR of 0.73
- Currently conducting a partial benefits reanalysis to determine if some benefit categories were not captured or if insufficient information was used. If there is a large enough increase in benefits, a BCR revisit may be in order.

# Extension of Shipping Season

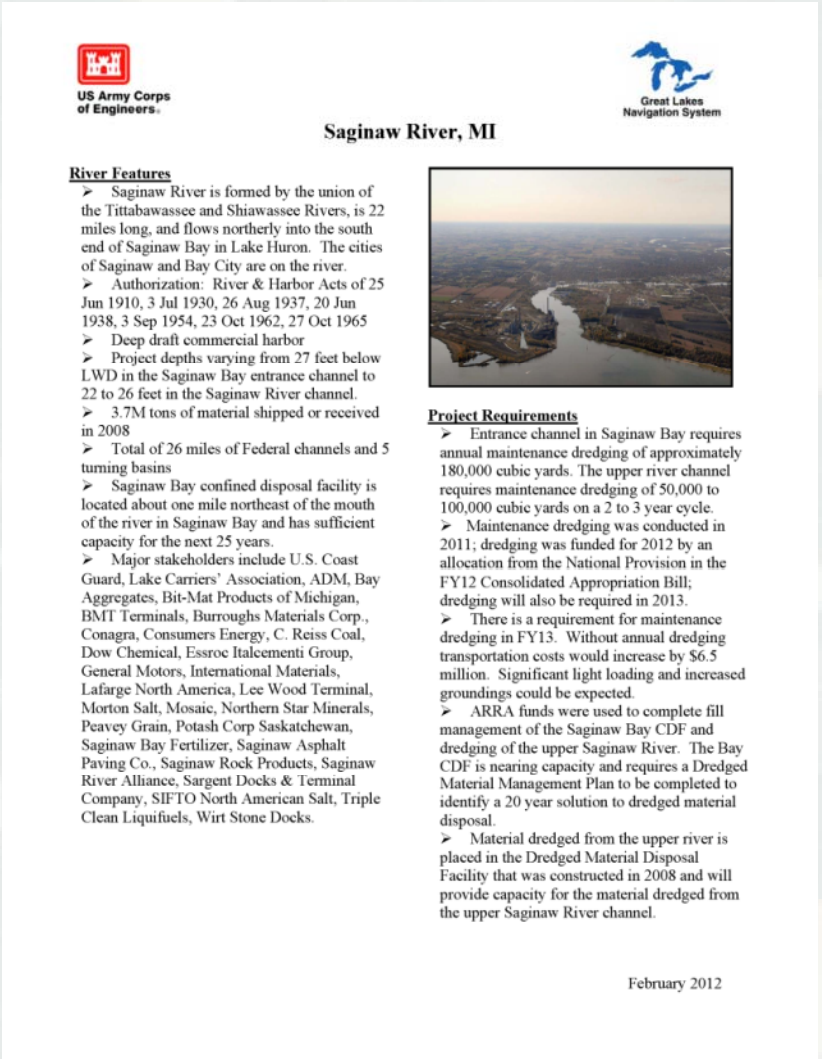
- In May 2012, LCA requested an extension to the opening and closing dates of up to 10 days each.
- In Nov 2012, Corps began a process to determine the potential costs associated with the changes in a fixed operation season as well as any detrimental impacts to operations.
- Letters were sent to our four partners, USCG, MDNR, MDEQ, USFWS for comments.
  - USCG - Expansion increases risk of vessel damage. Further concerns with service life extension project (SLEP) maintenance for USCG 140's from 2014-2020. Recommendation-streamline process for industry making one time extension requests.
  - MDEQ/MDNR – Need to discuss in more detail the long-term impacts and what criteria would be required to determine the new operating schedule. Recommend science based decision tool that would facilitate an annual determination of the opening and closing dates.
  - USFWS – would like to meet to discuss in greater detail; no immediate concerns.
  - USACE- Verifying costs of extended season navigation
- USACE will meet with the four partners to discuss the way forward.

# Communication

- Great Lakes Brochure
- Web Site: www.lre.usace.army.mil/greatlakes/navigation
  - ► Fact Sheets will be updated after FY14 President's Budget is released
  - ► Presentations
- Mailing Lists – send information to glnavigation @usace.army.mil

# Identifying Needs of Harbor Fact Sheets

- Identifying the Economic and Social Impacts Related to Maintaining the Authorized Project
- Identifying Other Critical Factors (Subsistence Harbor, Infrastructure Protected by Harbor)
- We will continue to refine the information with your help!



US Army Corps of Engineers

Great Lakes Navigation System

**Saginaw River, MI**

**River Features**

- Saginaw River is formed by the union of the Tittabawassee and Shiawassee Rivers, is 22 miles long, and flows northerly into the south end of Saginaw Bay in Lake Huron. The cities of Saginaw and Bay City are on the river.
- Authorization: River & Harbor Acts of 25 Jun 1910, 3 Jul 1930, 26 Aug 1937, 20 Jun 1938, 3 Sep 1954, 23 Oct 1962, 27 Oct 1965
- Deep draft commercial harbor
- Project depths varying from 27 feet below LWD in the Saginaw Bay entrance channel to 22 to 26 feet in the Saginaw River channel.
- 3.7M tons of material shipped or received in 2008
- Total of 26 miles of Federal channels and 5 turning basins
- Saginaw Bay confined disposal facility is located about one mile northeast of the mouth of the river in Saginaw Bay and has sufficient capacity for the next 25 years.
- Major stakeholders include U.S. Coast Guard, Lake Carriers' Association, ADM, Bay Aggregates, Bit-Mat Products of Michigan, BMT Terminals, Burroughs Materials Corp., Conagra, Consumers Energy, C. Reiss Coal, Dow Chemical, Essroc Italcementi Group, General Motors, International Materials, Lafarge North America, Lee Wood Terminal, Morton Salt, Mosaic, Northern Star Minerals, Peavey Grain, Potash Corp Saskatchewan, Saginaw Bay Fertilizer, Saginaw Asphalt Paving Co., Saginaw Rock Products, Saginaw River Alliance, Sargent Docks & Terminal Company, SIFTO North American Salt, Triple Clean Liquifuels, Wirt Stone Docks.

**Project Requirements**

- Entrance channel in Saginaw Bay requires annual maintenance dredging of approximately 180,000 cubic yards. The upper river channel requires maintenance dredging of 50,000 to 100,000 cubic yards on a 2 to 3 year cycle.
- Maintenance dredging was conducted in 2011; dredging was funded for 2012 by an allocation from the National Provision in the FY12 Consolidated Appropriation Bill; dredging will also be required in 2013.
- There is a requirement for maintenance dredging in FY13. Without annual dredging transportation costs would increase by $6.5 million. Significant light loading and increased groundings could be expected.
- ARRA funds were used to complete fill management of the Saginaw Bay CDF and dredging of the upper Saginaw River. The Bay CDF is nearing capacity and requires a Dredged Material Management Plan to be completed to identify a 20 year solution to dredged material disposal.
- Material dredged from the upper river is placed in the Dredged Material Disposal Facility that was constructed in 2008 and will provide capacity for the material dredged from the upper Saginaw River channel.

February 2012

**Consequences of Not Maintaining the Project**

- Bulk commodities that pass through the Saginaw River generate $143M annually in direct revenue while supporting over 1,100 jobs and generating $51M per year in personal income.
- Light loading; loss of between 1 and 2 feet of channel depth results in increased transportation costs of between $1.7M and $3.9M annually.

**Transportation Importance**

- Major receiving port on the Great Lakes
- All Mid-Michigan and thumb of Michigan fertilizer shipped through Saginaw River.
- Commodities include coal, limestone, petroleum products, gypsum, salt, fertilizers - potash, urea, DAP, Ag lime; food and grains, and cement.

**U.S. Army Corps of Engineers Fiscal Year (FY) 2011, 2012 and 2013**
**Saginaw River, MI - Project Requirements and President's Budget ($1,000)**

| Work Package | FY11 Requirement | FY11 Work Plan | FY12 Requirement | FY12 Appropriation | FY13 Requirement | FY13 President's Budget |
|---|---|---|---|---|---|---|
| Project Condition Surveys | 340 | 336 | 350 | 343 | 350 | 350 |
| Maintenance Dredging – Primary Work Package | 2,100 | 2,075 | 2,205 | 2,079* | 3,290 | 3,290 |
| Maintenance Dredging – Backlog Work Package | 3,170 | | 3,170 | | 2,000 | |
| CDF Fill Management | 750 | 741 | 1,000 | | 750 | |
| DMMP Development | | | 200 | 196 | 188 | 188 |
| Upper Saginaw CDF Ops | | | | | 263 | 263 |
| | | | | | | |
| **TOTALS** | **6,360** | **3,152** | **6,925** | **2,618** | **6,841** | **4,091** |

*Provided by National Provision in the FY12 Consolidated Appropriation Bill

**Congressional Interests**

- Representative Dale E. Kildee D-MI-5
- Senator Carl Levin D-MI
- Senator Debbie Stabenow D-MI

# Key Great Lakes Contacts

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www.lre.usace.army.mil/greatlakes/navigation

# Questions?