NAVIGATION IMPACTS- LOW WATER DATUM UPDATES

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US Army Corps of Engineers ®

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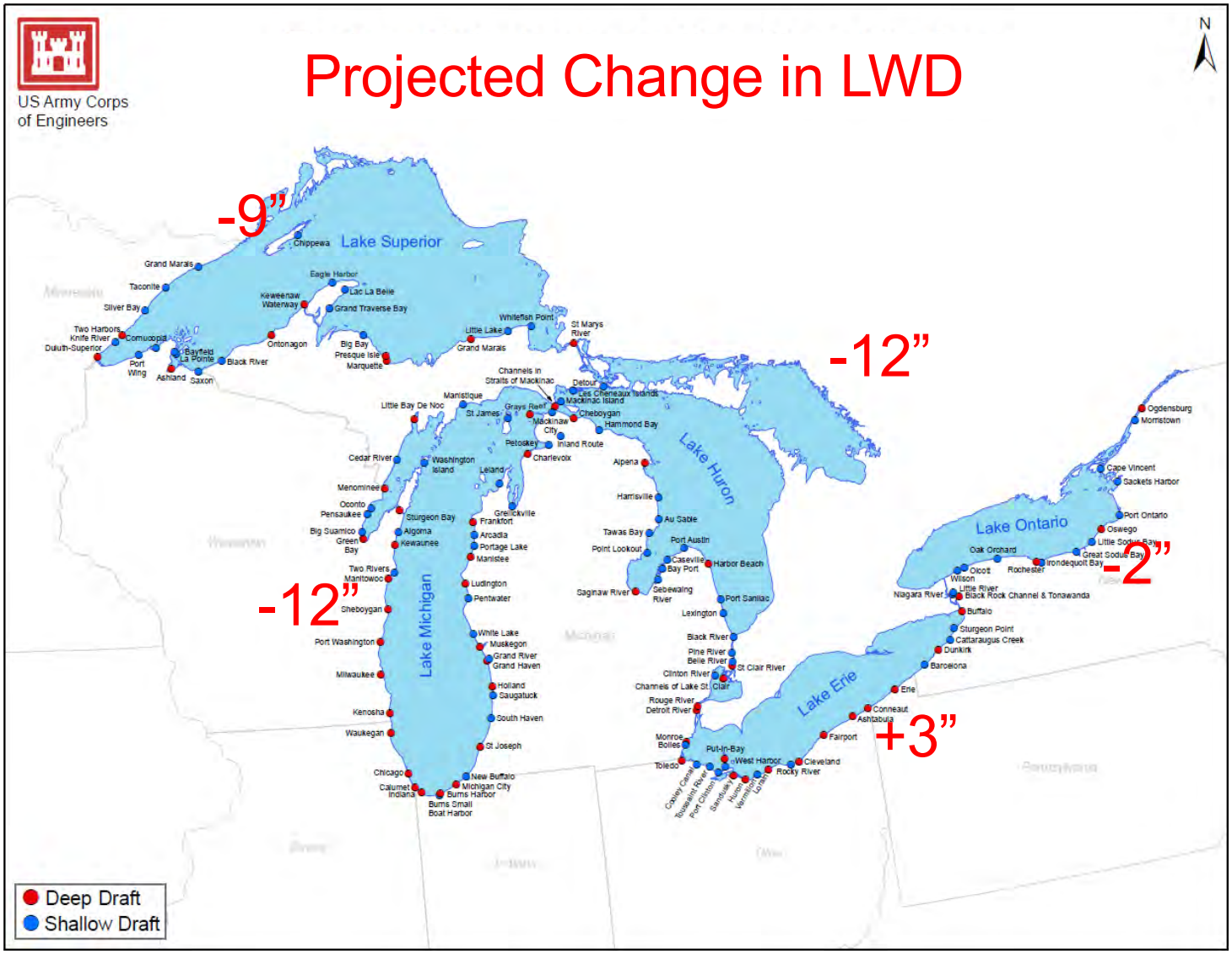
Projected Change in LWD



BURNS WATERWAY HARBOR

Current Functional Channel Backlog:
28,200 cyds

Volume Material between Existing LWD and New LWD:
73,600 cyds

Total Material to New LWD:
101,800 cyds

Notes:
No placement concerns – beneficial use with nearshore placement at Indiana Dunes

CALUMET HARBOR AND RIVER

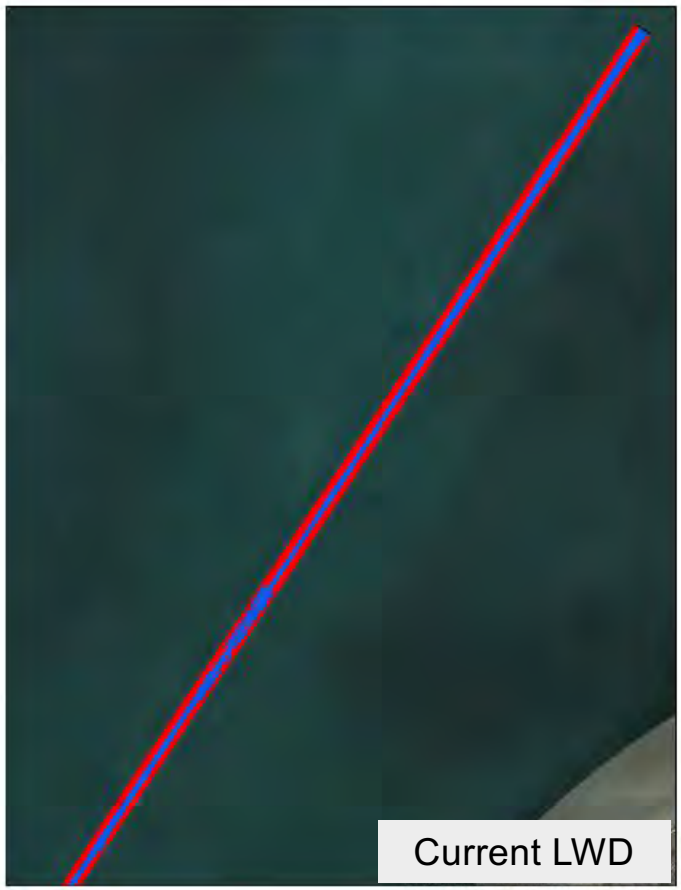
Current Functional Channel Backlog:
Harbor 82,900 cyds
River 458,300 cyds

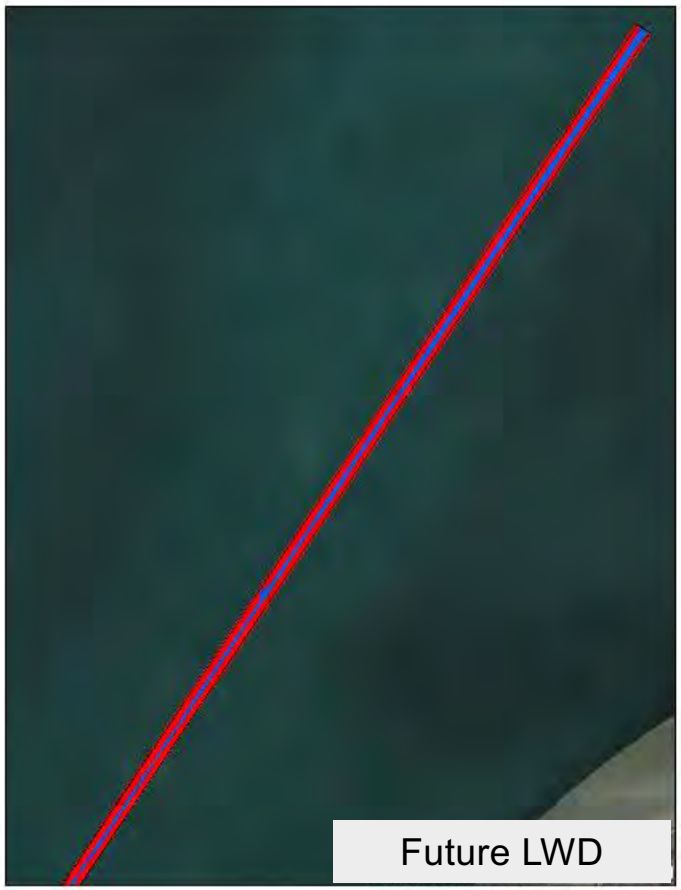
Volume Material between Existing LWD and New LWD:
Harbor 356,800 cyds
River 310,900 cyds

Total Material to New LWD:
Harbor **439,600 cyds**
River **769,300 cyds**

Notes:
Placement challenges with Chicago Area DMDF, will have deficit of placement capacity

GREEN BAY





Current Functional Channel Backlog:
314,200 cyds

Volume Material between Existing LWD and New LWD:
120,900 cyds

Total Material to New LWD:
435,100 cyds

Notes:
Current capacity of Cat Island DMDF can accommodate

INDIANA HARBOR AND CANAL

Current Functional Channel Backlog:
74,500 cyds

Volume Material between Existing LWD and New LWD:
63,800 cyds

Total Material to New LWD:
138,300 cyds

Notes:
Potential risk of TOSCA material; No placement concerns – capacity of DMDF can accommodate

MILWAUKEE

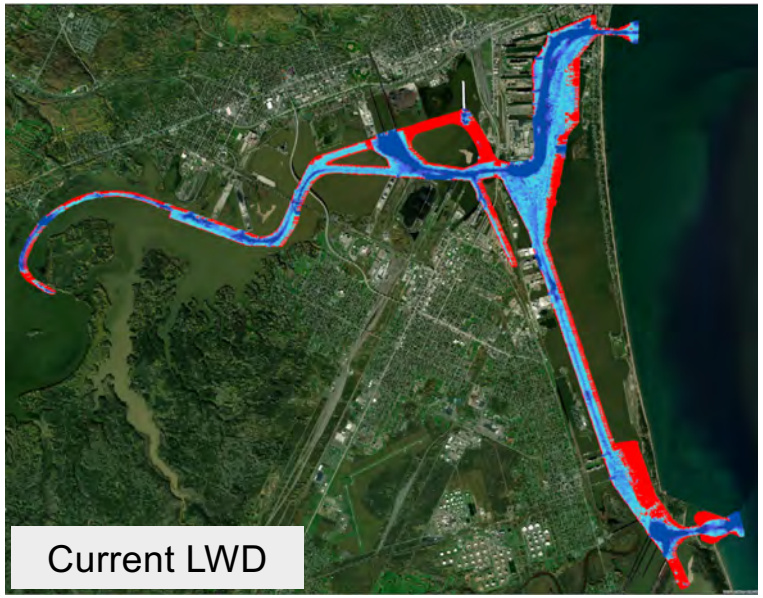
Current Functional Channel Backlog:
368,000 cyds

Volume Material between Existing LWD and New LWD:
197,000 cyds

Total Material to New LWD:
565,000 cyds

Notes:
Placement challenges with Milwaukee Harbor DMDF; will have deficit of placement capacity

DULUTH-SUPERIOR



Current Functional Channel Backlog:
1,218,000 cyds

Volume Material between Existing LWD and New LWD:
602,900 cyds

Total Material to New LWD:
1,820,900 cyds

Notes:
Limited capacity in Erie Pier for placement of high silt material; will rely on success of beneficial use placement sites; risk of anthropogenic material in backlog areas; will need to prioritize areas.

MUSKEGON

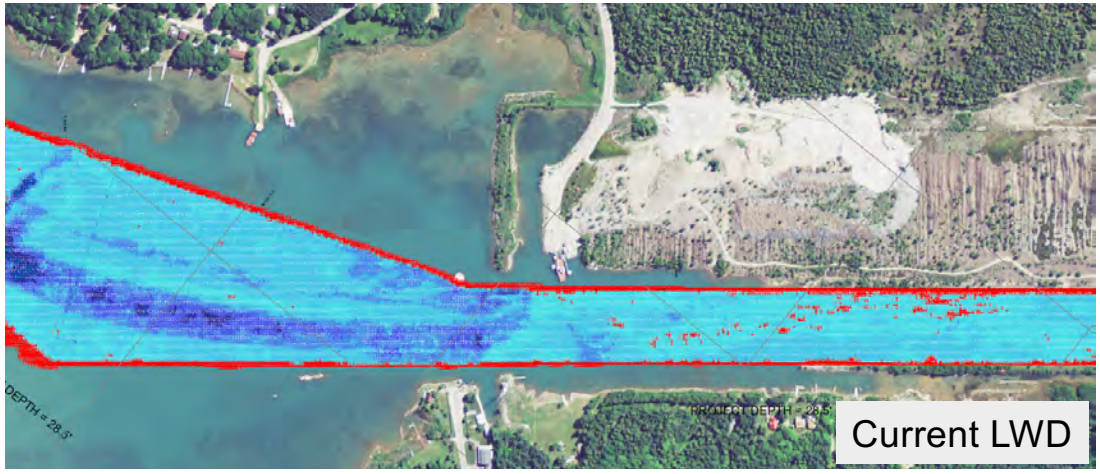
Current Functional Channel Backlog:
69,000 cyds

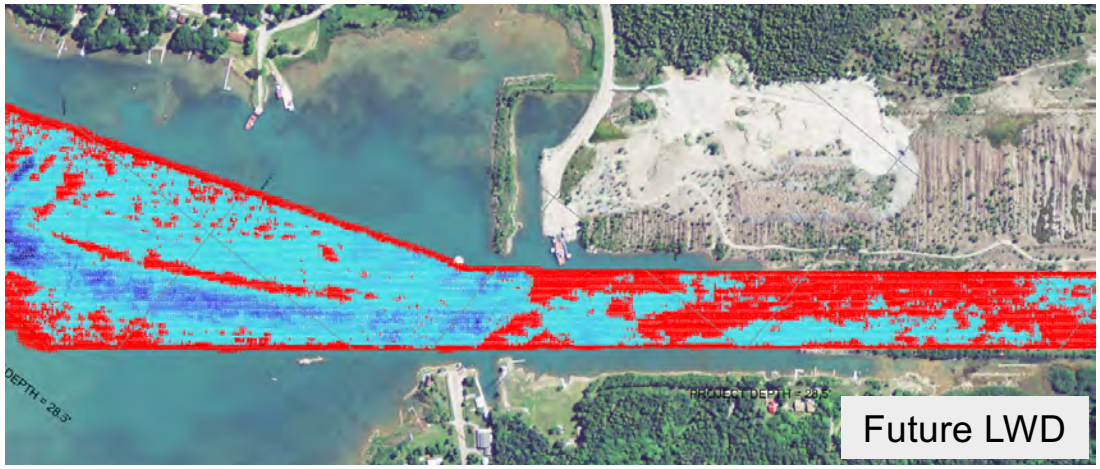
Volume Material between Existing LWD and New LWD:
31,900 cyds

Total Material to New LWD:
100,900 cyds

Notes:
No placement concerns – beneficial use with nearshore placement and beach nourishment

ST. MARYS RIVER – ROCK CUT





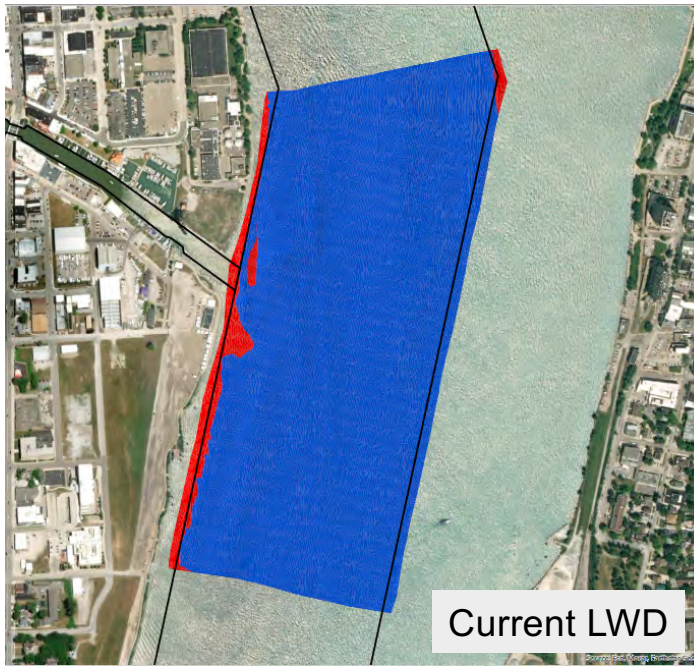
Current Functional Channel Backlog:
643,300 cyds

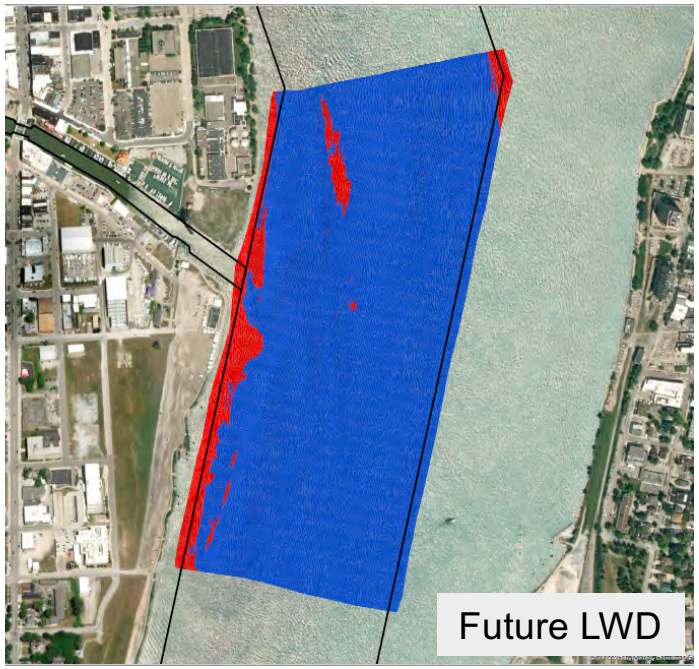
Volume Material between Existing LWD and New LWD:
759,700 cyds

Total Material to New LWD:
1,403,000 cyds

Notes:
Costly removal of hard bottom channel material; deficit of established placement sites with capacity

ST. CLAIR RIVER – BLACK RIVER SHOAL





Current Functional Channel Backlog:
492,300 cyds

Volume Material between Existing LWD and New LWD:
61,500 cyds

Total Material to New LWD:
553,800 cyds

Notes:
No placement concerns – beneficial use with nearshore placement and remaining capacity in Dickenson Island CDF

SHOAL MATERIAL INCREASE BETWEEN CURRENT AND NEW LWD DATUM

Project	Current Functional Channel Backlog (Cubic Yards)	Volume Material Between Existing LWD to New LWD (Cubic Yards)	Total Material to New LWD (Cubic Yards)	Sediment Concerns/Challenges	Placement and Dredged Material Management Concerns
Burns Waterway Harbor	28,200	73,600	101,800		None – beneficial use nearshore placement
Calumet Harbor **Calumet River**	82,900 458,300	356,800 310,900	439,700 769,200		Beneficial Reuse Deficit of storage capacity Chicago Area DMDF
Green Bay Harbor	314,200	120,900	435,100		Cat Island DMDF
Indiana Harbor and Canal	74,500	63,800	138,300	Potential for TOSCA material	Indiana Harbor and Canal DMDF
Milwaukee Harbor	368,000	197,000	565,000		Deficit of storage capacity Milwaukee Harbor DMDF
Duluth-Superior Harbor	1,218,000	602,900	1,820,900	Anthropogenic material in backlog areas	Limited capacity in Erie Pier for silty material
Muskegon	69,000	31,900	100,900		None – beneficial use nearshore placement with beach nourishment
St. Marys River	643,300	759,700	1,403,000	Hard bottom channel removal	Deficit of established placement sites
St. Clair	492,300	61,500	553,800		None – beneficial use and Dickenson Island CDF

* All quantities to New LWD are draft, based on current conditions and variable to change while LWD updates are still being developed
* Calculated volumes include authorized depth + 1.0 foot of allowable over depth
* Assumes 12-in lowering of LWD on Michigan-Huron with IGLD 2020; 9-in lowering of LWD on Lake Superior

NEXT STEPS

- Continue to inform stakeholders on IGLD2020/LWD change. New LWD expected to be in place by 2027. Authorization to dredge to that deeper LWD would begin in 2027.

- Working with GL Nav Team to calculate quantities to be removed, identify challenges such as expected contaminated areas, hard material or bedrock, and placement

- Calculate project-by-project cost estimate and total system estimate; there will be projects that have additional costs associated with placement

- Engage with stakeholders on project-by-project basis with survey results to discuss prioritizing new LWD material removal areas
  - Can begin immediately discussing placement challenges and solutions
  - Develop recommended phased approach for material management and budgeting

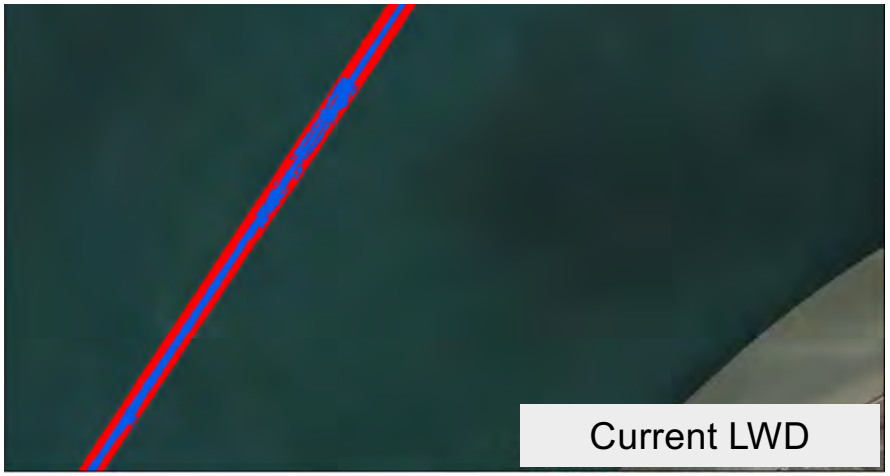
- Lay out funding strategy noting typical 2-year budget cycle; Communicate both internally within Corps and externally with stakeholders on funding needs

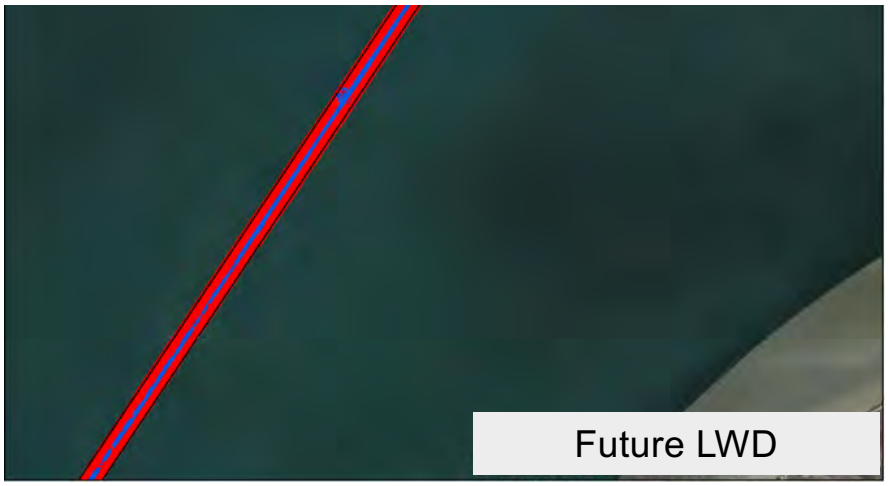
QUESTIONS/DISCUSSION

PROJECTED DRAFT NEW LWD CHANGES

Location	LWD Change (in)
Duluth	-9"
Muskegon	-12"
SMR Rock Cut	-12"
SCR - Black River Shoal	-12"
SCR – Middle Ground Shoal	-6"
SCR - Tashmoo Shoal	-2"
SCR - Russel Island Shoal	-2"

GREEN BAY





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