Great Lakes Water Levels and Shallow Harbor Dredging

Great Lakes Commission
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Coping With Economic Definitions of Federally Authorized Harbors

- Deep Draft Harbors Are dredged to level that are acceptable and within the tolerance and expectations of a navigational need. Acceptable levels may vary by sector and location, but are generally within the historical range and not at the extremes. These Harbors see minimal economic impact.

- Commercial Harbors- Water levels are at which stakeholders can cope under existing policies and infrastructure, but conditions are less than ideal. Industries and the local economy may suffer negative impacts and may incur additional costs to minimize impacts of navigational needs. Marginal conditions but generally survivable. Moderate economic impact – short to moderate term.

- Shallow Draft Harbors- Water level are at all-time lows which the marine industry can't cope using existing policies and infrastructure. Sustainability is threatened – for example: marinas go out of business, commercial shipping is curtailed, coastal properties are destroyed, significant damage to infrastructure due to a lack of maintenance. Severe economic impact and long-term permanent losses will occur.

Facts of a crisis facing our harbors

Harbors are silting in due to chronic patterns of inadequate maintenance dredging from a prioritization policy that disallows USACE to include shallow draft harbors

Lack of dredging is creating an economic hardship on waterfront communities health and safety.

Loss of life and property has resulted from inadequate dredged.

The analogy would be the FAA allowing local airports to fall into disrepair.

Source: USACE *Great Lakes Recreational Boating*-December 2008

- Great Lakes shallow draft harbors have functional value beyond that associated with recreational boating.
- Ferry Operations
- US Coast Guard Stations
- Harbors of Refuge
- Subsistence Harbors
- Flood relief from heavy storms and ice

The economic data demonstrates the importance of maintaining adequate depths for navigation at these harbors.

- Water based owners will have difficulty in accessing their property
- Many will face significant expense to relocate, repair, rebuild docks in order to gain access to their facilities.
- Smaller navigation channels will become unusable and hazardous for boat traffic, increasing the risk of boating accidents

- Property values will be reduced due to inaccessibility.
- Marina operators will be hard pressed to serve their customers in launching and mooring boats.
- Ferries will need to stop service due to low water levels.
- Negative consequences to the local communities will continue to worsen.

- Lack of dredging harbors threatens the jobs of our citizens.
- The economic recovery of the recreational marine industry and its economic competiveness.
- The economic vitality of communities that are home to head boats, charter fishing businesses, marinas and recreational facilities, recreational boaters and anglers and charter boat rental operations.

Economic impacts for trip and craft-related spending

- The $9.9 billion in boater trip spending has a direct economic impact on the Great Lakes
- $6.8 billion in sales, $2.5 billion in personal income,
- $1.7 billion in value added, and 107,000 jobs
- With secondary effects, the total impact of boater trip spending is 160,000 jobs and $4.3 billion in personal income.

Boater craft spending

- Boater craft spending has a direct economic impact on the Great Lakes states of $4.6 billion in sales,
- $1.6 billion in personal income, $2.9 billion in value added, and 51,000 jobs.
- With secondary effects, the total impact of craft-related boater spending is 84,000 jobs and $2.9 billion in personal income.

How Do we Demonstrate the Benefits of Maintaining Shallow Draft Harbors?

Household boating expenditures, excluding boat loans, was $20,575.

Each addition of 15 docked boats equaled one additional FTE in the marine industry. (15/1)

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The Crisis

- We face a crisis of harbor survival!
- Harbor after harbor will close without dredging!
- Record low water & no dredging since‘10!
- Federal govt’s IV drip still shut-off!
- No additional funding expected in 2013!
- 2014 funding is ???

Efforts to Mitigate the Crisis

- Federal: Ramp Bills HR 335/S 238
- Water Resource Development Act
- Local: Local communities funding.
- States and Provinces: need to take emergency dredging action.

Shallow Draft Harbors Challenges

- Use already developed resources to determine water depths and GPS locations at more than 20,000 marina slips in your area. Most federal or state agencies will have coastal zone information to assist you.
- Develop documentation that reflect the distribution of slip depths by survey area. Interview marina owners/operators as to potential impacts of changing water levels. (University based Sea Grant programs are available to assist)
- Identify water-level ranges and threshold criteria that determine when a slip or boat launch facility becomes unusable (or usable).
- Estimate cumulative economic impact (loss of revenue) when slips become unusable in response to changing water levels.
- Target 100% support of Bills/WRDA by your Federal Senators/Representatives. Pray for the return of add-ons!

Michigan Actions Include:

- 1) Redirect 2013 waterways project funds to emergency dredging.
- 2) Supplement 2013 Budget for additional
- funding.
- 3) Streamline permit processes.
- 4) Budget dredging fund for 2014 and
- beyond as contingency for Federal Gov't
- failure to act.
- 5) Focus is "No Harbors or Waterways are
- Closed"

Overall Economic Impact

- Combining trip and craft-related spending, the total impact on the Great Lakes states economy is 244,000 jobs and $7.2 billion dollars.

Great Lakes Water Levels

	SUPERIOR	MICH-HURON	ST. CLAIR	ERIE	ONTARIO
Forecasted Water Level for Feb 8, 2013 (feet)	600.3	576.1	572.9	570.5	244.4
Chart Datum (feet)	601.1	577.5	572.3	569.2	243.3
Difference from chart datum (inches)	-10	-17	+7	+16	+13
Difference from average water level for Jan 8, 2013 (inches*)	-1	+1	+6	+4	+7
Difference from average water level for Feb 8, 2012 (inches*)	0	-15	-15	-20	-20
Difference from long-term monthly average of Feb (inches)	-12	-27	-6	-4	-4
Difference from highest monthly average of record for Feb (inches)	-26	-59	-46	-35	-30
Year of highest recorded monthly mean	1986	1986	1986	1987	1952
Difference from lowest monthly average of record for Feb (inches)	+8	0	+29	+28	+28
Year of lowest recorded monthly mean	1926	1964	1926	1936	1936
Projected change in levels by Mar 8, 2013 (inches)	-1	-1	-1	+1	0

Overall estimated annual economic loss from lost slips for three water level drop scenarios

Physical Estimate	1 Foot Drop	2 Foot Drop	3 Foot Drop	Interview Estimate	1 Foot Drop	2 Foot Drop	3 Foot Drop
Erie Region Total	**$461,220**	**$1,207,120**	**$2,242,140**		**$15,400**	**$231,680**	**$1,542,500**
Turkey Point	$268,400	$745,800	$1,336,500		$15,400	$196,900	$264,000
Kingsville	$164,400	$330,000	$652,800		$0	$24,000	$960,000
Port Colborne	$28,420	$131,320	$252,840		$0	$10,780	$318,500
South Huron Total	**$39,960**	**$189,840**	**$698,760**		**$179,520**	**$364,920**	**$706,080**
Port Huron	$34,200	$176,400	$606,600		$158,400	$315,000	$583,200
Goderich	$5,760	$13,440	$92,160		$21,120	$49,920	$122,880
Georgian Bay Total	**$224,100**	**$874,710**	**$1,911,510**		**$276,300**	**$830,160**	**$2,377,890**
Midland	$156,240	$652,860	$1,431,270		$75,330	$407,340	$1,701,900
Parry Sound	$67,860	$221,850	$480,240		$200,970	$422,820	$675,990
North Channel Total	**$11,620**	**$57,722**	**$148,792**		**$98,952**	**$204,064**	**$411,880**
Little Current	$7,168	$46,592	$110,208		$66,304	$120,960	$272,384
Richards Landing	$4,452	$11,130	$38,584		$32,648	$83,104	$139,496
Superior Total	**$812**	**$3,248**	**$11,368**		**$0**	**$0**	**$0**
Thunder Bay	$812	$3,248	$11,368		**$0**	**$0**	**$0**
Grand Total	**$737,712**	**$2,332,640**	**$5,012,570**		**$570,172**	**$1,630,824**	**$5,038,350**

Potential annual mitigation costs could be an order of magnitude greater

Changes to Harbor Communities

- Exposure of wooden seawalls, revetments, groins, bulkheads, etc.
- Dredging
- Beach nourishment
- Flood proofing/relocating vulnerable structures
- Floating docks, dock extensions, dredging
- Relocation of marina facilities
- Modify water intake locations to access adequate depths


Questions?