SERIOUS BUSINESS

$1 BILLION AND OVER 5,000 JOBS LOST IN 2019 DUE TO INADEQUATE ICEBREAKING ON THE GREAT LAKES

ERIC PEACE
Operations and Communications
Lake Carriers' Association

A report commissioned by the Lake Carriers' Association found that ice-related delays and cargoes left on the dock during the 2018/19 ice season on the Great Lakes had a tremendous negative impact to the national economy. However, this wasn't a once-in-a-lifetime event. In 2014 and 2015 there was a combined two-year loss of $1 billion and another 5,800 jobs due to inadequate icebreaking resources.

When the shipping season opens, the fleet needs to work efficiently and effectively to move various cargoes of iron ore, limestone, coal, cement and other dry bulk materials such as grain, salt and sand. With a shortened season of nine and half months, every shipment is vitally important. Unfortunately, delays due to ice have stressed the supply chain to the breaking point.

The definition of success

Last year's ice season was calculated as normal by the National Oceanic and Atmospheric Administration during the extended navigation season—before the Sault Ste. Marie Lock closure on January 15 and after spring breakout—which coincides with the opening of the locks on March 25. Very few, if any, Great Lakes ships are moving during the closed navigation season, as most U.S. carriers are investing in the sustainment and upgrades to their fleet.

The root of the issue is a lack of icebreaking assets on the Great Lakes.

In 1979, the U.S. and Canadian coast guards had 20 icebreakers stationed on the Great Lakes. Over the past 40 years,

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Four Decades of Great Lakes Icebreaking Atrophy

1979 Great Lakes Icebreaking Fleet (20 Ships)

USCGC Mackinaw
Cheboygan, MI (2005)

USCGC Westwind
Milwaukee, WI(1982)

USCGC Acacia
Charlevoix, MI (2006)

USCGC Bramble
Port Huron, MI (2003)

USCGC Mariposa
Detroit, MI (1990)

USCGC Mequite
Detroit, MI (1990)

USCGC Sundew
Duluth, MN (2004)

USCGC Woodrush
Duluth, MN (1980)

USCGC Arundel
Chicago, IL (1982)

USCGC Kaw
Cleveland, OH (1979)

USCGC Ojibwa
Buffalo, NY (1980)

USCGC Naugatuck
Sault Ste Marie, MI (1979)

USCGC Raritan
Grand Haven, MI (1980)

USCGC Katmai Bay
Sault Ste Marie, MI

Canadian

CCGS Alexander Henry (1984)

CCGS Verendrye (1986)

CCGS Kenoki (1992)

CCGS Montmorency (1990)

CCGS Simcoe (2007)

CCGS Bartlett (1992)

2019 Great Lakes Icebreaking Fleet (11 Ships)

USCGC Mackinaw
Cheboygan, MI

-1

USCGC Hollyhock
Port Huron, MI

USCGC Alder
Duluth, MN

-4

USCGC Katmai Bay
Sault Ste Marie, MI

USCGC Neah Bay
Cleveland, OH

USCGC Morro Bay
Cleveland, OH

USCGC Mobile Bay
Sturgeon Bay, WI

USCGC Bristol Bay
Detroit, MI

USCGC Biscayne Bay
St Ignace, MI

Canadian

CCGS Samuel Risley

CCGS Griffon

-4

(year) Denotes year icebreaker left the Great Lakes or was decommissioned.

In 1979, the U.S. and Canadian coast guards had 20 icebreakers stationed on the Great Lakes. Over the past 40 years, the number has dwindled to 11.

SOURCE: WALTER BARKLEY

the number has dwindled to 11. An adjustment to how the U.S. Coast Guard measures success of icebreaking missions justified the reduction in assets. In 2019—despite cargo delays due to ships stuck in the ice across the Lakes and cargoes sitting on the docks due to shipping companies concern over inadequate icebreaking services—the U.S. Coast Guard claimed its was 95 percent successful keeping Great Lakes waterways open.

The devil is in the details. The success is only measured on four connecting waterways, not the Lakes, not the harbors and not the bays. The four areas the Coast Guard measures success or failure is the St. Marys River, Straits of Mackinac, Detroit/St. Clair rivers and Pelee Passage in western Lake Erie. That means the ships stuck in Whitefish Bay in eastern Lake Superior didn't count nor did the vessels stuck in eastern Lake Erie.

With no icebreaking asset left on Lake Superior over the winter, one company chose to remain in port rather than risk becoming stuck in the harbor or the middle of Lake Superior. The company lost almost two weeks of cargo waiting for adequate icebreaking.

Becoming stuck in the ice for 24 hours costs money and obviously time, however that is also not factored into the performance measure. The clock counting a reportable waterway closure doesn't start ticking until two vessels have been stuck in the same waterway for over 24 hours. A waterway isn't considered closed unless a vessel is stuck and another one cannot navigate around it for more than 24 hours.

To put this in other terms, imagine a highway with a length of 1,500 miles, which is equivalent to the distance between Duluth, Minnesota and the St. Lawrence Seaway. It is also slightly greater than the highway distance the Ohio Department of Transportation (ODOT) must keep open during a winter storm on the Ohio turnpike. ODOT maintains over 100 large plows to keep traffic moving during the frequent winter storms. Imagine if ODOT had only one plow for the same purpose, which is the number of large/heavy icebreakers (plows) the Coast Guard has on the Great Lakes.

Comparing to highways

Traffic would come to a halt for days with one winter storm. About 5,600 semi-trucks, the same capacity as two 1,000-foot lakers, stuck for over 24-hours causing an 80-mile backup would be considered completely

Economic Impact of Lost Tonnages due to inadequate icebreaking in the average winter of 2018/2019

Commodities
IRON ORE
4,000,000 ton loss

COAL
900,0000 ton loss

Jobs

Direct Jobs	1,925
Induced	1,666
Indirect	1,829
TOTAL	5,421

Personal Income (1,000)

Direct	$106,912
Re-Spending/ Local Purchases	203,098
Indirect	80,454
TOTAL	$390,464

Business Revenue (1,000)
$1,044,044

Local Purchases (1,000)
$187,193

Taxes (1,000)

State and Local	$ 46,429
Federal	125,518
TOTAL	$171,947

SOURCE: MARTIN ASSOCIATES

unacceptable. Granted, the Coast Guard has other icebreakers, the 140-foot icebreaking tugs. These tugs are very capable at keeping smaller waterways open, but they lack the size and horsepower necessary to keep larger portions of water open for the 1,000-foot long and 105-foot wide lakers. The tugs could be equated to a truck with a plow that clears the side streets and on ramps to the highway.

Unfortunately, these truck plows, or 140s, have engines from the 1970s and require frequent repairs. Last year these ships lost a total of 182 days of operations due to casualties, the year prior 246 days were lost.

In addition to icebreaking, the Coast Guard is responsible to conduct flood relief in areas of the Great Lakes where ice jams create hazardous conditions. The high-water levels on the Great Lakes are threatening to devour shoreline communities and thousands of coastline residences and businesses are in danger. Without adequate icebreakers to relieve the annual ice jams on the regions' rivers, there will be catastrophic consequences.

The U.S. Coast Guard needs an additional heavy Great Lakes icebreaker equivalent to the current *USCGC Mackinaw.* While the icebreaking crews do an excellent job with what they have, they just don't have enough assets to cover the expanse of the Lakes.

Great Lakes icebreaking needs to be taken seriously and resourced sufficiently so the Great Lakes and United States economy can avoid the significant negative economic impacts experienced during three out of the last six years. ■

Eric Peace is a retired Coast Guard Commander currently working for the Lake Carriers' Association. His Coast Guard career included command and executive officer positions on three Great Lakes icebreakers, including the Mackinaw. Before his retirement in 2016, he was the Coast Guard Headquarters Program Manager for the entire statutory icebreaking mission overseeing national policy, performance measures and strategic direction.