

Attachment A

Economic Impacts Resulting from 2014 Ice Delays

To estimate the economic impact of the unusually long ice season on the Great Lakes during the 2013-2014 winter season, year over year tonnage comparisons were made between December 2012-May 2013 and December 2013-May 2014. The data, showing tons by commodity, carried by the U.S.-flagged Great Lakes fleet, was supplied by the Lakes Carriers' Association. Using the *2010 Economic Impact study of the Great Lakes and St. Lawrence Seaway – U.S. Flagged Fleet*, jobs per ton and revenue per ton ratios were developed for iron ore, coal, limestone/aggregates and other dry bulks. These ratios were then applied to the net decrease in tonnages from the 2013 winter shipping season to the 2014 winter shipping season. This methodology assumes that demand for these cargoes did not change from 2013 to 2014. From December 2013 through May 2014, cargo moved by the U.S.-flagged fleet decreased by 6.8 million tons from the previous year due to lost transit days caused by heavy ice. The economic impacts of these delays are presented in terms of jobs and business revenue in Table 1.

Table 1 – Economic Impact of Lost Tonnages due to Heavy Ice

	2014 Ice-Delay Impacts
JOBS	
Direct Jobs	1,311
Induced	1,298
Indirect	<u>1,221</u>
Total	3,830
BUSINESS REVENUE (1,000)	\$705,145

The vessel delays caused by the 2014 ice season resulted in the loss of 1,311 jobs that are directly dependent upon the U.S.-flagged fleet's ability to deliver cargo throughout the Great Lakes Region. This results in the additional loss of 1,298 induced jobs that had been supported by direct job holders as they re-spent their wages/salaries within the regional economy. Businesses that depend upon the region's maritime industry lost over \$705 million in revenues because of the ice delays. As businesses use their revenue to purchase goods and services, they support indirect jobs. The decrease in revenue and corresponding decline in purchases of goods and services resulted in the loss of 1,221 indirect jobs. In total, 3,830 dependent jobs were lost due to the 2014 ice delays.

Attachment B

Economic Impacts Resulting from Decreased Tonnage During the 2015 Ice Season

To estimate the economic impact of the 2015 winter ice season on the Great Lakes, tonnage comparisons were made between the January 2015-April 2015 period and the average tonnage carried during those months from 2010-2013. Because the winter of 2014 was exceptionally severe, it was excluded from long-term average calculations so as not to skew the data. Tonnages carried by the U.S.-flagged Great Lakes fleet were provided for separate commodity groups by the Lakes Carriers' Association. Using the *2010 Economic Impact study of the Great Lakes and St. Lawrence Seaway – U.S. Flagged Fleet*, jobs per ton and revenue per ton ratios were developed for iron ore, coal, limestone/aggregates and salt. These ratios were then applied to the net decrease in tonnages of each commodity, again comparing the 2015 winter shipping season against the average tons carried during the 2010-2013 winter shipping seasons. This methodology assumes that demand for these cargoes has remained constant and that the lost tonnages correlate to lower production levels by the end users. From January 2015 through April 2015, cargo moved by the U.S.-flagged fleet decreased by 3.2 million tons from the 2010-2013 average due to lost transit days caused by heavy ice. The economic impacts of these delays are presented in terms of jobs and business revenue in Table 1.

Table 1 – Economic Impact of Lost Tonnages due to Heavy Ice

	2015 Ice-Delay Impacts
JOBS	
Direct Jobs	674
Induced	667
Indirect	<u>628</u>
Total	1,970
BUSINESS REVENUE (1,000)	\$355,578

The vessel delays caused by the 2015 ice season resulted in the loss of 674 jobs that are directly dependent upon the U.S.-flagged fleet's ability to deliver cargo throughout the Great Lakes Region. This results in the additional loss of 667 induced jobs that had been supported by direct job holders as they re-spent their wages/salaries within the regional economy. Businesses that depend upon the region's maritime industry lost over \$355 million in revenues because of the ice delays. As businesses use their revenue to purchase goods and services, they support indirect jobs. The decrease in revenue and corresponding decline in purchases of goods and services resulted in the loss of an estimated 628 indirect jobs. In total, 1,970 dependent jobs were lost due to the 2015 ice delays.