

Economic Impacts Resulting from 2019 Ice Delays

To estimate the economic impact of the typical ice season on the Great Lakes during the 2018-2019 winter season, we asked U.S.-flag carriers to report their delays in hours and the number of tons carried during their delays. The types of delays included being beset in the ice, at anchor awaiting an icebreaker, having to slow down due to inadequate icebreaking, waiting for Coast Guard permission to proceed, and waiting for a convoy to form. In addition we recorded hours lost due to repairing ice damage to vessels and the hours lost by vessels that delayed their initial sailing times due to inadequate icebreaking. We aggregated the fleet's lost hours and tons delayed and determined that a total of 409,729 tons of coal were delayed for 206 hours. We also calculated that 2,186,361 tons of iron ore were delayed for a total of 1,586.5 hours. Since the vessels operating were a combination of "footers" and smaller vessels, we used an average of 42,000 tons per trip. We also assumed that a typical round trip for a U.S.-flag laker takes 96 hours. Using those baseline assumptions, we determined that we could have carried **879,210 additional tons of coal** and **4,032,000 tons of iron ore** had the fleet not lost time. **In other words, we lost 21 trips of coal and 860 trips of iron ore among the 31 vessels reporting delays.**

The data, showing tons by commodity, lost by the U.S.-flagged Great Lakes fleet, was supplied by the Lakes Carriers' Association to Martin Associates. The July, **2018 updated Economic Impact study of the Great Lakes and St. Lawrence Seaway – U.S. Flagged Fleet**, developed jobs per ton and economic impact per ton ratios for iron ore, coal, limestone/aggregates and other dry bulks. These ratios were then applied to the estimated loss of 4,000,000 tons of iron ore and 900,000 tons of coal for the relatively average winter of 2018/2019. The economic impacts of these delays are presented in terms of jobs and business revenue in table below.

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

4,000,000 ton loss of iron ore and 900,000
ton loss of coal due to ice delays

JOBS	
Direct Jobs	1,925
Induced	1,666
Indirect	<u>1,829</u>
Total	5,421
PERSONAL INCOME (1,000)	
Direct	\$106,912
Re-Spending/Local Purchases	\$203,098
Indirect	<u>\$80,454</u>
Total	\$390,464
BUSINESS REVENUE (1,000)	
	\$1,044,044
LOCAL PURCHASES (1,000)	
	\$187,193
STATE AND LOCAL TAXES (1,000)	
	\$46,429
FEDERAL TAXES (1,000)	
	\$125,518

Source: Martin Associates

The vessel delays caused by the 2018/2019 ice season resulted in the loss of 5,421 jobs that are dependent upon the U.S.-flagged fleet's ability to deliver cargo throughout the Great Lakes Region. **Businesses** that depend upon the region's maritime industry **lost over \$1 billion in revenues** because of the ice delays. Due to the lost business revenue, the **federal government lost over \$125 million in taxes** in addition to the **\$46 million** lost by **state and local governments**.