

other side of which the channel extends $7\frac{1}{2}$ miles before reaching Lake St. Louis. Then the Lower Beauharnois Lock at the west end of Lake St. Louis allows the bypassing of the Beauharnois Power House and lifts the ships 41 feet so that they may pass through a short canal to the Upper Beauharnois Lock, where they are again lifted 41 feet to reach the level of Lake St. Francis. After about 13 miles in the Beauharnois Canal, ships enter Lake St. Francis. Up to that point the building of all locks and the deepening of all channels were Canada's responsibility. Traffic moving westward then passes through two United States locks—the Snel Lock lifts ships 45 feet into the Wiley-Dondero Canal (10 miles long) and the Eisenhower Lock lifts them another 38 feet into Lake St. Lawrence. At the western end of this lake, Canada has built Iroquois Lock to allow ships to bypass the Iroquois Control Dam. After navigating the channel through the Thousand Islands to Lake Ontario, ships passing through a series of locks from Port Weller on the latter lake to Port Colborne on Lake Erie, a stretch of 27 miles, are raised 326 feet to the level of Lake Erie by way of the Welland Ship Canal. The usable length of the locks is 768 feet, the width 80 feet and the depth over sills, 30 feet.

Canadian Inland Shipping.—The number of Canadian flag vessels of 1,000 or more gross tons operating on the upper lakes and through the St. Lawrence canals in December 1959 was as follows:—

<i>Type of Vessel</i>	<i>No.</i>	<i>Gross Tonnage</i>	<i>Deadweight Tonnage</i>
Dry Cargo—			
Bulk freighters			
Iron ore.....	53	464,992	689,350
Self-unloaders.....	12	42,282	51,550
Mixed trades.....	124	273,804	405,850
Mixed barges.....	9	27,442	47,700
Package freighters.....	20	55,009	73,500
Tankers.....	41	80,681	117,995
Car Ferries.....	1	1,052	...
Passenger.....	5	13,680	...
TOTALS.....	270	958,342	1,385,945

It is commonly held that the dry bulk cargo ships, because of their special design and large carrying capacity, provide the lowest ton-mile transportation cost. The dead-weight capacity of the more recent additions to the fleet ranges from 5,000 to 25,000 tons. With the exception of self-unloaders, which carry their own cargo loading equipment, these ships rely on loading and unloading facilities at the ports. Package freighters carry a wide range of general merchandise including such commodities as farm equipment, automobiles and parts, hardware and electrical equipment and such package freight is of high value in proportion to its size and weight. These vessels usually run on regular schedules; they are faster than bulk carriers and a few carry passengers. Rates charged for package freight are under the control of the Board of Transport Commissioners. The small canallers, the majority of which are bulk dry cargo carriers, are gradually disappearing or are being converted into larger boats; they carry grain and other bulk cargo such as iron ore, coal, sulphur, pulpwood, etc.

The bulk carriers—which are mainly confined to the Great Lakes although they have great lifting capacity because of their relatively shallow draft—cannot operate much beyond Sept Îles but are better suited to ply in the St. Lawrence Seaway than the ocean-going freighters. The small ocean freighters that plied the old 14-foot canals are managing well enough but larger ocean freighters have encountered some difficulties. Having high superstructures, they are easily shifted by the wind and in narrow canals and locks have moved slowly and delayed other ships. In contrast, the lakers lie low and are not exposed to the winds and buffeted against the sides of a lock. Ocean-going vessels must carry only a light load when navigating the Seaway, and it has been estimated that the cost for an ocean-going ship to carry a load only to a 24-foot-six-inch draft (the Seaway maximum) is 25 p.c. higher than if the vessel were fully loaded for operations on the high seas.