

so that most ocean liners can sail safely up to Montreal. The channel is being widened and straightened to provide for increased traffic after the completion of the St. Lawrence Seaway.

In the centre section—the 120 miles between Montreal and Prescott near the foot of Lake Ontario—the governing depth of the channel is 14 feet, which is the depth of the six canals built in this region to bypass various rapids on the St. Lawrence. These canals are: (1) the Lachine Canal, bypassing the Lachine rapids; (2) the Soulanges Canal, bypassing the Cascades, Cedars and Coteau rapids; (3) the Cornwall Canal, bypassing the Long Sault rapids, where Lock 17 limits the size of vessels to 255 feet in length, 43 feet in width and a draught of less than 14 feet; (4) Farran's Point Canal, bypassing the Iroquois rapids; (5) Rapide Plat Canal, bypassing the Cardinal rapids; and (6) Galop Canal, bypassing the Galop rapids. It is this shallow section which prevents most ocean-going vessels from sailing beyond Montreal and which also keeps the large lake freighters on the inland waters of the Great Lakes.

Seaway construction however will improve navigation facilities by providing a channel of minimum 27 foot depth and by replacing the six St. Lawrence canals and 22 locks with three canals and only seven locks. Ocean-going vessels carrying about 9,000 tons and the largest existing 'Great Lakers' carrying bulk cargoes of about 25,000 tons will be able to pass through this section in much less time than is now taken by the smaller vessels. The average time which will be required to go through the locks of the canals on the upward voyage has been estimated at 18.5 hours and on the downbound trip 16.5 hours as compared with the present requirements of 30.7 hours and 23.7 hours respectively. The resulting increase in the carrying capacity of the waterway is obvious as well as the saving in cost.

In the Great Lakes above the St. Lawrence canals, there is a large mercantile fleet of approximately 750 ships flying Canadian or United States flags. Most of these ships are confined to the Great Lakes by the shallow St. Lawrence channels mentioned. Vessels in this section are limited in size by the smallest lock on the Welland Canal which bypasses the Niagara falls and rapids between Lake Ontario and Lake Erie. This lock takes vessels up to 715 feet in length, 75 feet in width with a draught of 25 feet. Larger vessels may trade in the upper Great Lakes passing from Lake Huron to Lake Superior at Sault Ste. Marie by the McArthur Lock. Four smaller locks, one Canadian and three United States, also bypass the rapids at this point. Channels in the upper lakes now provide a depth of 25 feet for upbound traffic and 21 feet downbound.

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 November 1955 was as follows:—

	CONFINED TO UPPER LAKES			CAPABLE OF PASSING THROUGH ST. LAWRENCE CANALS		
	No.	Gross Tonnage	Deadweight Tonnage	No.	Gross Tonnage	Deadweight Tonnage
Dry cargo.....	69	467,453	730,971	152	299,509	441,745
Tankers.....	2	25,233	38,810	37	71,969	105,200
Passenger.....	5	13,080	5,710	—	—	—
TOTALS.....	76	505,766	775,491	189	371,478	546,945

It is claimed that the dry bulk cargo ships on the Great Lakes, because of their special design and large carrying capacity, provide the lowest ton-mile transportation cost in the world. Their deadweight capacity ranges from 5,000 to 25,000 tons for the most recent additions to the fleet. With the exception of two self-unloading colliers which carry their own cargo loading equipment, these ships rely on loading and unloading facilities at the ports. Four of the cargo vessels operating on the Great Lakes are package freighters which carry a wide range of general merchandise, including such commodities as farm implements, automobiles and parts, hardware and electrical equipment. Package freight is of high