



Miniature Freight Ships on the Champlain International Waterway

The tiny ships that plied the waters of the complicated 450-mile north-south international maritime route connecting Québec to New York City were purpose-built to maximize cargo capacity while conforming with the size restrictions of the route. They possessed all the characteristics of full-size freighters, yet were miniature by design, effectively modernizing the available equipment.

By JEROME M. HEBDA

Lake Champlain has been a transportation corridor for as long as humans have occupied the area, beginning with dugouts and bateaus on the primitive waterways. Without the benefit of maps or known harbors, early mariners used local knowledge of the lake to navigate. With the arrival of European explorers in the 1600s, charting and harbor development began in an effort to settle the area. As the region developed, interest in connecting the Champlain valley to the rest of our growing nations was driven by commercial growth. For.....

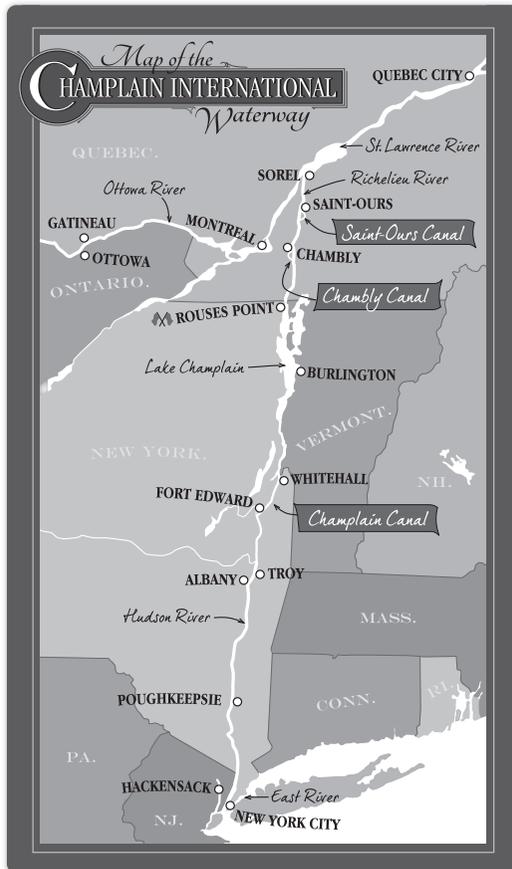
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estry, agriculture, and mineral commodities in growing demand needed to move between Canada and the United States. By the middle of the nineteenth century, Lake Champlain had become part of a complicated 450- mile north-south international maritime route connecting Québec on the Gulf of Saint Lawrence to New York City on the Atlantic seaboard. This intricate system consists of the Richelieu River, Saint-Ours Canal, Chambly Canal, Lake Champlain, Champlain Canal, and the Hudson River. It operated for over a hundred years and survives despite numerous efforts by government, military, and private interests to expand or bypass it. The entire route is still in use today, though almost exclusively by pleasure craft.



*Map of the Champlain International Waterway.
Jonathan Budzyna, StreamlinedDesign, 2020.*

While nature's waterways became the paths for human travel, in 1817 New York State resolved to construct the Erie and Champlain canals. Vermont was asked by New York, but declined to participate in funding the construction. When the Champlain Canal was completed Vermont shippers became regular users, changing commerce in the region forever. With the opening of the Champlain Canal in 1823 and the Chambly Canal in 1843, the system came together. The Saint-Ours canal, completed in 1849, and Champlain Canal were enlarged and improved over the years to accommodate larger vessels. But for commercial and political reasons, the Chambly Canal section remains in its original configuration. The smallest lock, 110' long, 23' wide, with a depth of 6.5', still governs the vessels transiting the Canadian section of the system.

The new canal system attracted traffic immediately, with over 19,000 tons of freight passing through the Champlain Canal in its first year. New York City's demand for lumber, iron, and stone were easily served by barge. When the Chambly section opened in 1843, large volumes of forest products began to flow south by barge into Lake Champlain and beyond. Traffic over the contiguous international trade route continued to grow, peaking at 620,000 tons in 1912. Cargos then began to shrink due to growing competition from rail, marine, and highway shipping modes. Burdened with the size restrictions at Chambly, steam vessel freight fell to a low of 17,500 tons in 1936.¹



*Loaded with paper, A.C.D. motors south over Lake Champlain, 1960.
Photograph by E. Gibbs, ca. 1960. Courtesy of the Mac Mackay
Collection.*

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Northbound empty Donpaco on the Chambly Canal, passes a railway swing bridge at Saint-Jean-sur-Richelieu, QC. 1965. Photo by René Beauchamp, Hubert Desgagnés collection.

Newsprint was among the last significant volume commodities moving over the route. The paper mills were looking for ways to improve quality, efficiency, and reliability of shipments to their important customers, the newspapers in New York City and New Jersey. The available fleet of small steamers and barges hauled by tugboats was becoming obsolete. During the 1930s freighters were typically being built up to 600' long, but the Chambly lock size restrictions dictated a unique vessel design customized to fit

MINIATURE FREIGHT SHIPS



In 1936, Guy Tombs Ltd., a Montréal-based freight forwarding and customs brokerage firm, organized Guy Tombs Marine Services and Davie Transportation. In association with Québec Paper Sales & Transportation, with support from The International Paper Company and others, a new fleet of “fast little diesel boats” was launched.² George T. Davie shipyard, of Lauzon, Québec (now Levis, Québec), completed the seven steel ships in 1937.³ As built, these unique small ships were 106' long, 22' wide, and 245 gross

Guy Tombs, founder, Guy Tombs Ltd. Chambly Canal Centenary, September 1943. Author's collection.

tons, powered by 190-hp Fairbanks-Morse diesel engines. Milne, Gilmore & German, naval architects and marine surveyors in Montréal, designed them and supervised construction.⁴

THE FLEET

Hull #1, 158671, *Donpaco* (Donnacona Paper Co.)

Hull #2, 158684, *Newscarrier*

Hull #3, 158642, *International #1* (Canadian International Paper Co.)

Hull #4, 158687, *G.T.D.* (George T. Davie)

Hull #5, 158697, *Kermic*

Hull #6, 158696, *A.C.D.* (Allison Cufaude Davie)

Hull #7, 170545, *G.D.D.* (George Duncan Davie)

The tiny ships were purpose-built to maximize cargo capacity while conforming with the size restrictions of the route. They possessed all the characteristics of full-size freighters, yet were miniature by design, effectively modernizing the available equipment. Service was officially offered throughout eastern Canada's inland ports. They handled fertilizer, clay, and general freight as needed, but their principal traffic was the newsprint that went down to New York City. Originally, the vessels were operated by Davie Transportation Co., Ltd. and managed by Guy Tombs Marine Services Ltd., of Montréal. Freight moved under this relationship for almost thirty-five years until the early 1970s.⁵



Montréal 1967 winter layup of G.T.D., G.D.D., and A.C.D. with Great Lakes boat Maplecliffe Hall. Photo by Harry Stott, Hubert Desgagnés collection.

FREIGHT ROUTE

Regular service between Québec and New York offered three to four sailings per week, with average transit time of 2.5 days. South-bound newsprint traffic originated at several mills in Québec, but general freight backhaul business was also solicited. From the paper mills in Québec the trip took them on the St. Lawrence River to Sorel, Québec. They turned south into the Richelieu River and cruised through ten locks bringing them to the Canada-US border near Rouses Point, New York. At that point they entered about 120 miles of open water motoring the entire length of Lake Champlain. The rest of the 450-mile trip was in rivers and canals, punctuated by twelve more locks, and under numerous bridges. Fixed bridge clearance on the Champlain Canal limited the “air-draft” to seventeen feet. (These small ships had improvised upper pilot houses that had to be removed temporarily to clear the low bridges.) Beyond the last lock at Troy, New York, the trip was open navigating down the Hudson River to New York City.

The boats usually carried a crew of four French Canadian mariners from the Lotbinière RCM (Regional County Municipality) and surrounding villages, an area along the south shore of the St. Lawrence River, across from several of the paper mill shippers. Québec City and Trois-Rivières are also close, as is the Davie shipyard. These mariners possessed unique skills essential to navigate this route. Open water, river, canal, and busy harbor navigation proficiencies were all employed on every trip. Small crews must have required job flexibility to cover various shipboard tasks such as wheelman, deckhand, cook, engineer, etc. They surely also participated in loading and unloading cargos. Their shipping season ran about nine months of the year, with the boats laid up in Montréal and the crews laid off for the winter. Most of



G.D.D. has been emptied at a paper warehouse, at Hackensack, NJ, July 18, 1972. Photograph by Rich Taylor. Author's collection.

the cargos were handled by the Guy Tombs terminal at Pier 40 on the East River in New York City. Some cargos of newsprint also went directly to a warehouse on the Hackensack River in New Jersey.⁶

SERVICE ENDS

Over the years, rail and truck competition intensified and ship cargos showed a steady decline. The railways were keenly aware of their competition. Canadian Pacific Railway studied Davie several times, publishing internal circulars with comprehensive information useful to their marketing and sales efforts. Cargo losses could not be prevented because the small ships could only carry about 225 tons per trip; meanwhile heavier equipment and better reliability on the railways and highways were increasing their market share. Winter layups of the vessels, which interrupted the year-round need for deliveries, also hurt, forcing businesses to turn to rail or truck. Davie's fleet size began to drop. By 1961 there were only three ships operating over the Champlain route, as reported by the Canadian Pacific Railway. The *Donpaco*, *Newscarrier*, and *Kermic* alone were able to keep up with demand.⁷ The last active vessel, the *G.D.D.*, ran privately to the *Bergen Record* warehouse at Hackensack, New Jersey, until an engine room fire in 1973 ended this service.

CONCLUSION

Active commercial traffic over the Champlain International Waterway is now gone and mostly forgotten. Newsprint shipping over this route lasted until 1973, with domestic petroleum deliveries into Lake Champlain ending in the 1990s. All that remains on the lake are several active ferry crossings, a few tourist boats, and an occasional special cargo or construction tug/barge. Numerous efforts by both US and Canadian commercial and government interests to enlarge the Chambly Canal to New York State's barge canal standards, and possibly up to dimensions that would allow ocean-going ships, were never accomplished. Completion of the Saint Lawrence Seaway in 1959 made the effort commercially unnecessary. Today the Chambly and St.-Ours Canals are National Historic Sites operated by Parks Canada and the 171- and 177-year-old canals are fully functional for visitors to use and enjoy. The Chambly Canal has unique historical significance as an engineering artifact. The original canal and lock system remains essentially unchanged and fully operational, with locks and structures used as they were in 1843. The Champlain Canal has been enlarged and improved over the years and is operated by the New York State Canal System,



I.V. No. 14, formerly Kermic, privately preserved at Lotbinière, Québec, along the South shore of the St. Lawrence River, 2018. Photo by George Tombs. Author's collection.

which is currently in the midst of its Bicentennial commemoration (2017-2025). The entire 450-mile route—rivers, lakes, and canals—is rich with the history of the region. Historic sites are plentiful, from the earliest steamboats on the Hudson, to the Revolutionary War, and the War of 1812 on Lake Champlain, in addition to early conflicts in Canada. Current concerns for possible damage caused by larger commercial vessel accidents and spills, as well as invasive aquatic species, make future expansion unlikely; however, the route still operates as originally built in 1843, albeit primarily for pleasure boats.⁸

APPENDIX A

SHIP ROSTER DETAILS

All seven boats were built by George T. Davie & Co., Ltd. at Lauzon, Québec. The yard was started in 1929 as a small-vessel repair yard and expanded into new construction in 1934. It was managed by sons Allison Cufaude Davie and George Duncan Davie. Vessel #1, named *Donpaco*, was completed in 1935. The last vessel of the group, #7, named *G.D.D.*, was launched in 1937.⁹ When later converted to dredge tenders, the “I.V.” before each number in the vessels’ names refers to Irenée Verreault, the father of Verreault Navigation founder Captain Borromée Verreault.

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Donpaco, hull #1, no. 158671, blt. 1935, 241 tons, 113'-11" x 22'-5" x 6'-6", 5 cyl FM 190 bhp.

1935: *Donpaco*, Québec Paper Sales + Transportation Co. Ltd. (Donnacona Paper Co.).

1971: *Donpaco*, Domtar Ltd., Montréal.

1972: *I.V. No.11*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

2000: *I.V. No.11*, Dragage Verreault Inc., Les Méchins, QC.

2012: *I.V. No.11*, Groupe Océan, Québec.

Newscarrier, hull #2, no. 158684, blt. 1936, 241 tons, 113'-0" x 22'-5" x 6'-6", 5 cyl FM 190 bhp.

1936: *Newscarrier*, Québec Paper Sales + Transportation Co., Ltd. (Donnacona Paper Co.).

1971: *Newscarrier*, Domtar Ltd., Montréal.

1972: *Newscarrier*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

1974: *I.V. No.13*, Verreault Navigation Inc., Les Méchins, QC.

2000: *I.V. No.13*, Dragage Verreault Inc., Les Méchins, QC.

2012: *I.V. No.13*, Groupe Océan, Québec.

International #1, hull #3, no. 158642, blt.1936, 245 tons, 106.8' x 22.4' x 7.8', 5 cyl FM 180 bhp.

1936: *International 1*, Davie Transportation Ltd. (Guy Tombs Marine Services Ltd. manager).

1948: *Ethel Tombs*, Guy Tombs Marine Services Ltd., Montréal.

1963: *I.V. No. 3*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

1970: scrapped at Les Méchins, QC

G.T.D., hull #4, no. 158687, blt.1937, 244 tons, 106.7' x 22.4' x 7.9', 5 cyl FM 200 bhp.

1937: *G.T.D.*, Davie Transportation Ltd., (Guy Tombs Marine Services Ltd. manager).

1969: *I.V. No.10*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

2000: *I.V. No.10*, Dragage Verreault Inc., Les Méchins, QC.

2012: *I.V. No.10*, Groupe Océan, Québec.

2013: ran aground at l'Anse Pleureuse, QC. Abandoned, broken up August 2014.

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KERMIC, hull#5, no.158697, blt.1935, 247 tons, 113'.0" x 22'-5" x 7'-8", 5 cyl FM 200 bhp.

1935: *Kermic*, Québec Paper Sales + Transportation Co Ltd., (Donnacona Paper Co)

1971: *Kermic*, Domtar Ltd., Montréal.

1972: *Kermic*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

1974: *I.V. No.1*, Verreault Navigation Inc., Les Méchins, QC.

2000: *I.V. No.14*, Dragage Verreault Inc., Les Méchins, QC.

2012: *I.V. No.14*, Groupe Océan, Québec.

2016: sold for preservation, Lotbinière QC.

A.C.D., hull #6, no.158696, blt.1937, 247 tons, 106.7' x 22.4' x 7.9', 5 cyl FM 200 bhp.

1937: *A.C.D.*, Davie Transportation Ltd., (Guy Tombs Marine Services Ltd. manager)

1969: *I.V. No. 9*, Verreault Navigation Inc., Les Méchins, QC, rebuilt to carry dredging spoil.

2000: *I.V. No. 9*, Dragage Verreault Inc., Les Méchins, QC.

2012: *I.V. No. 9*, Groupe Océan, Québec.

2013: ran aground at l'Anse Pleureuse, QC. Abandoned, broken up August 2014

G.D.D., hull #7, no.170545, blt.1937, 246 tons, 106.7' x 22.4' x 7.9', 5 cyl FM 200 bhp.

1937: *G.D.D.*, Davie Transportation Ltd., (Guy Tombs Marine Services Ltd. manager)

1971: Flamingo Steamship Lines, St-Antoine-de-Tilly, QC

1973: fire in wheelhouse and cabins repaired, new engine

1978: sold to Haiti to carry sugar cane.

APPENDIX B

CURRENT STATUS

Donpaco: owned by Groupe Océan, 2012

Newscarrier: owned by Groupe Océan, 2012

International #1: dismantled, Les Méchins, QC, 1970's

G.T.D.: dismantled 2014, l'Anse Pleureuse, QC

Kermic: preserved, Lotbinière, QC, 2016

A.C.D.: dismantled 2014, l'Anse Pleureuse, QC

G.D.D.: To Haiti, 1978

NOTES

¹ The author is grateful to the following for their help: Mac Mackay, Halifax, NS; George Tombs, Montréal, QC; Rich Taylor, Jersey City, NJ; William Van Dorp, New York City; Louis-Pierre Dorval, Group Ocean, Québec; Hubert Desgagnés, Québec City.

P.-André Sévigny, *Trade and Navigation on the Chambly Canal: A Historical Overview*, (Ottawa: National Historic Parks and Sites Branch, Parks Canada, Environment Canada, 1983), 51, table 5, 64, Appendix B, 70.

² Chambly Canal Centenary Committee, *Chambly Canal: 100 Years of Service, 1843-1943*, René L'Heureux, comp., (Saint-Jean, PQ: Les Editions du Richelieu, 1943), 69.

³ *Lloyd's Register of Shipping, 1944-45*, "Steamers and Motorships, under 500 Tons, Trawlers, &c." Entries 16429, 17428, 17119. George Tombs Collection, Montréal, QC.

⁴ Milne, Gilmore & German, naval architects. Floating Equipment catalog, (Montreal: Milne, Gilmore & German, 1935), unpaginated. Mac Mackay Collection, Halifax, NS.

⁵ Canadian Pacific Railway, Foreign Freight Traffic Department, Circular 1125, March 19, 1952. Mac Mackay Collection.

⁶ Guy Tombs Ltd. trade advertisement, Pier 40 location, George Tombs collection, July 18, 1972; Hackensack, NJ, dock, Rich Taylor photo. New York City.

⁷ Canadian Pacific Railway, Foreign Freight Traffic Department, Circular 1532, April 5, 1961. Mac Mackay Collection.

⁸ "Saint-Ours Canal National Historic Site of Canada," Parks Canada Directory of Federal Heritage Designations. https://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=713; "Chambly Canal National Historic Site," Parks Canada, <https://www.pc.gc.ca/en/lhn-nhs/qc/chambly/culture>; Champlain Canal," NY Canals, https://www.nycanals.com/Champlain_Canal.

⁹ Corporate history and early builds, George T. Davie & Co., Ltd., Lauzon, QC. <http://ship-buildinghistory.com/canadayards/gtd.htm>.

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