

principles in the operation of vessels and their connection to vertically integrated companies only increased as other firms such as Andrew Carnegie's Oliver Mining Company and its Pittsburgh Steamship Company, the Hanna Mining Company, and Pickands, Mather Company also expanded rapidly.¹¹ These house fleets drew on the resources of corporations that owned mines, steel mills, railroads, and loading facilities to go with the ships that moved their ore.

The 1901 formation of United States Steel created a giant, vertically integrated corporation that combined multiple fleets into the reorganized Pittsburgh Steamship Company, making it the largest on the Great Lakes. The vessels of these fleets took first priority for cargoes and only utilized independent fleets to make up for any shortfalls in tonnage. Some independent fleets rapidly replaced their wooden tonnage. By 1908, one of them, the Gilchrist Transportation Company of Cleveland, had the second largest collection of steel ships on the Lakes. Gilchrist Transportation, however, owned no mines, docks, mills, or railroads making it reliant on external contracts for ore, coal, and grain as markets dictated unlike house fleets that simply tied up when demand declined. This also meant that any economic downturns or labour disruptions made fleets like Gilchrist fiscally vulnerable.¹²

The Welfare Plan

Recognizing the difficulties unionization posed to its members, the Lake Carriers' moved to assist their members by offering an alternative system to the unions. Initially devised in 1901 as the Lake Carriers' Beneficial Association (renamed the Welfare Plan in 1907) it consisted of a series of interlocking policies designed to prevent labour organizing and provide for sailor welfare.¹³ The plan

T. Gates (FTG) to Lamont M. Bowers (LMB), 1 April 1896, 83; F.T.G. to L.M.B., 21 April 1896, 105; F.T.G. to John McBride, 15 July 1896, 183; F.T.G. to L.M.B., 8 February 1897, 359, all in Rockefeller Archive Center, John D. Rockefeller Papers, Bessemer Steamship Company Letterbook, RG1, Series L, Vol. 377; Data Book, 1907-1908, Pittsburgh Shipbuilding [sic] Co., microfilm, GLMS-349, McDougall-Duluth Company Records; "Final Analysis Schedule I, 1893-1905," Box 66, Folder 47: Contracts, Agreements, GLMS-21, Wilson Marine Transit Co., both from Historical Collections of the Great Lakes, Center for Archival Collections, Bowling Green State University Libraries (HCGL-BGSU).

11 "Vessel Reporting Service," *Cleveland Plain Dealer* (CPD), 19 February 1897; "For Reporting Vessel [sic]," *Oregonian*, 4 March 1901; "Extend the Wireless," CPD, 18 June 1904; "Owners of Boats Favor the Plan," *Duluth News-Tribune* (DNT), 24 October 1905; "Marine Work," *Annual Report of the Department of Agriculture, 1912* (Washington, DC:Government Printing Office, 1913), 40-41.

12 "Building Steamers Upon Bonds," *The Marine Review* 18:11 (10 September 1903), 23; "Navigation News," *Bay City Times* (BCT), 17 June 1908; Jerome K. Laurent, "Trade Associations and Competition in Great Lakes Shipping: The Pre-World War I Years," *International Journal of Maritime History* 4:2 (December 1992): 117-153; Laurent, "And Cut Throat Competition Prevented: Concentration and Control in Great Lakes Transportation, 1915-1940," *International Journal of Maritime History* 14:2 (December 2002), 43-84; Alexander C. Meakin, *The Story of the Great Lakes Towing Co.* (Vermilion, OH: Great Lakes Historical Society, 1984), 16, 22; Miller, 51-54.

13 "Members Will Vote On It," CPD, 17, February 1901; "Insurance for Lake Sailors,"