normal conditions, the shelter adequately blocked the force of waves driven the length of Lake Erie, but was otherwise open to the elements.<sup>5</sup> The piloting guide published as *Survey of Northern and Northwestern Lakes* warned that this mooring area was "subject to great storms from the southwest." The breakwaters did not block the wind, nor could they do more than slow down large waves and storm surge from prolonged southwest gales. The force of hurricane winds could not be defended against.



Illustration 1: The Hurlburt W. Smith was one of the bulk carriers left beached at Buffalo in the wake of the storm. Extensive dredging and pulling was required to release the stranded vessel. Historical Collections of the Great Lakes, Bowling Green State University.

On 20 January 1907, these frailties became apparent when a powerful storm with sustained southwest winds reaching 42 miles per hour put five boats moored inside the breakwater ashore, carried others moored in the river away from their docks. and damaged elevators. Of the twenty-three boats in the harbor, the Spokane, George B. Leonard, William Nottingham, J.O. Riddle, and Hurlburt W. Smith required extensive dredging and pulling to get off the beach. Several other boats were aground, but more easily refloated. The contract for salvaging the five boats ashore sparked an unproductive bidding war that slowed the process and resulted in a slow recovery. Ashore and afloat the storm caused an estimated \$2,000,000 in damage.<sup>7</sup> Fortunately, so few boats carried a relatively small portion of the total storage grain and had no significant impact on the market. Yet, the 1907 incident highlighted as never before the vulnerability to shipping from strong southwesterly storms.

Afterward the shipping industry returned to normal. Shippards built larger, more

Annual Report of the Lake Carriers Association, 1921 (Detroit: P.N. Bland Printing Company, 1922), 128 and Sketch Plan Showing Position of Vessels Immediately Following Hurricane Disaster, Buffalo Harbor, 18 December 1921; "Lake Boats Still Aground," New York Times, 21 December 1921, p. 6.

<sup>6</sup> Survey of the Northern and Northwestern Lakes (Washington: GPO, 1931), 328.

Two Millions Damage in Storm," *Toledo Blade*, 21 January 1907; "Driftwood," *Toledo Blade*, 29 January 1907; *Toledo Blade*, 30 January 1907; "Description of Buffalo Wind Storm," *Marine Review* (7 February 1907).