Fishing Vessel Evolution: Western-Rig (or Stonington) Draggers

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New England fishing schooners, and the Eastern-rig draggers that evolved from them, had deck and helm arrangements that had changed little since the earliest days of sail. With engine power came pilothouses, but auxiliary schooners and Eastern-rigged vessels still kept the helm, at the stern of the boat, close to the rudder. However, as fishing became fully powered, the pilothouse could be placed anywhere on the vessel using a tiller system of chains, pulleys, and a rudder quadrant to control the helm. Like the steam merchant ships before them, fishing vessels now had the option of having a pilothouse up in the bow.

In the early 20th century, there were a handful of Boston and Gloucester vessels that were fitted with a pilothouse up forward. The idea came originally from the shallow draft menhaden fishing vessels, the so-called "bunker boats." The ALICE M. JACOBS was built in 1902 as a unique steam-powered mackerel seiner with the looks of a small steamer. Ten years later the LOIS H. CORKUM was built as a gasoline powered seiner for Boston owners. Both were record breakers in the mackerel industry but the concept of having a pilothouse in the bow did not catch on immediately. In 1914, a former menhaden steamer, the LONG ISLAND, was converted to otter trawling and proved the design could work. At over 150 feet and 390 gross tons she brought in catches of 300,000 pounds by 1915, but like Boston's other steam powered trawlers, this was beyond the means of most New England fishermen.

In the 1920s, fishermen from coastal Connecticut, influenced by local small sloops and power craft, created what is known today as the Western-rig dragger. In the early 1930's this style of dragger began appearing in the New Bedford fleet. Captain Joseph Dutra's JOHN & BILLY was one of New Bedford's early Western-rig vessels. The design had already proved so popular in nearby Stonington, Connecticut that small Western-rig draggers were commonly known as "Stonington draggers."

The Western-rig or Stonington draggers were typically smaller, square-sterned vessels, usually under sixty feet long. Wooden construction was built to be light yet strong and usually of steam-bent white oak frames and yellow pine or white oak planking. Like the Eastern-rig, the design would eventually be built in steel as well. The pilothouse was set in the bow and all the work was done from the aft deck. This arrangement allowed for greater visibility from the pilothouse and easier access to both the fo'c'sle and the engine room. However, there was one disadvantage to the design; a rough sea could knock out the pilothouse windows. A single mast was stepped just aft of the pilothouse with a boom mounted to help hoist the net. Small riding sails could be set for stability, however, Western-rig boats would eventually adopt the use of outriggers to lower stabilizers into the water. Overall they were known as nimble vessels with very good maneuverability both in the harbors and out at sea.

How they fished

Both Eastern and Western-rig draggers used an otter trawl, however, there were slight differences due to the different deck arrangements, size of the vessels, and the areas typically fished. Western-rig draggers fished the inshore waters and on smooth bottom for flounder. Even though the work was now done in the stern, the otter trawl was still fished from the side of the vessel. They used a single gallous (gallows) frame located aft of the pilothouse on the starboard rail. The deck winch was mounted crosswise just aft of the mast so the wire leads ended up at the gallous. Two closely spaced blocks were used to haul up the otter boards (doors) close together. When hauling back the net after a tow, only the cod end of the net was brought aboard. The catch was stored in the fish hold, located beneath the deck.

Stern-Trawlers

The Western-rig design would eventually become the dominant fishing vessel type, growing in size to fish offshore and with new technology that, in time, rendered the Eastern-rig dragger obsolete. Steel construction, the adoption of the stern ramp, hydraulics, and the use of a net reel created the efficient and safer fishing vessels of today. The use of stern ramps began in the 1920's on European whaling vessels. A Norwegian fisherman named Sorlle is said to have first used a stern ramp while trawling in the British fishing fleet. The concept caught on in Europe after World War II and soon thereafter, purpose-built stern trawlers began to dominate the offshore fleets.

Net reels were in use in the 1950's by West Coast gill net fishermen to lower and haul their nets using a large spool. New England boat builder Luther Blount witnessed this operation and brought the concept of a net reel to the East Coast for use with the otter trawl.

In 1963, the F/V NARRAGANSETT was designed and built on spec by Luther Blount in Warren, Rhode Island and was launched in that year. This was the first American stern-trawler with a net reel to haul and set the trawl. This enabled Blount to demonstrate his other innovations: the “Blount stern drive” coupled to his “Hustad” variable pitch propeller system, and the Blount trawl winch. NARRAGANSETT, which utilized the Western-rig deck arrangement, was easier and safer to fish on, with a well protected working deck and nets that were hauled from the stern instead of the side. The stern trawler was an attempt to make the American fleets more competitive in the face of large foreign factory ships on George's Bank. NARRAGANSETT's helm was originally controlled by a wire and pulley system. Norwegian Gunner Gundersen introduced hydraulic power to the New Bedford fleet in the 1960's. Today's stern-trawlers use hydraulic or electrically controlled steering mechanisms.

A year later, in 1964, Narragansett Fishing Corp. sold the NARRAGANSETT to Jacob "Jack" Jacobsen of Fairhaven, who improved the technique of stern trawling. Over time he developed the current version of the “A-frame” stern gantry. This superstructure at the stern of the boat replaced the old gallous frames. Jacobsen had the net reel moved to midships, just behind the after hatch. He constructed the stern gantry and the haul out

stern gantry to relocate the hanging bollards and get rid of the gallows frames. This made it easier to handle roller gear in and out of the stern ramp. Jacobsen also eventually re-powered the boat replacing the 380HP Cat D353 with a 725HP Cat D348 725 HP. This added power enabled the boat to be successful on hard bottom.

With stern trawling firmly established, the smaller Stonington style draggers were retrofitted to use net reels by cutting away a section of the transom. In an attempt to stay competitive, even a few of the old Eastern-rig vessels equipped small net reels if space allowed.

How they fish – Dragging

Stern-trawlers utilize the otter-trawl in its safest and most efficient form. With the gear mostly handled mechanically, larger vessels can be safely handled with smaller crews. Some vessels have one large net reel and ramp; others have two stern ramps with two smaller reels side by side. Some vessels with single ramps have a large net reel over the stern and a smaller reel closer to the middle of the deck. The different reels have different nets so the vessel can quickly change their target species or swap gear to fish on different bottom. The actual fishing process is more or less the same. However, setting out and hauling back has been greatly simplified compared to the Eastern-rig and even the early Stonington style draggers. With the net simply being rolled and unrolled from its reel, only the cod end needs to be handled by the crew. Once aboard, the deck and stern ramp are cordoned off with "checker boards" to contain the catch. Then using the main winch and boom, the cod end is raised before the catch is released on deck. The cod end is retied, the doors lowered, and the net unwound from the reel for another set. Meanwhile the crew sorts, cleans, and ices down the catch.

How they fish – Scalloping

The Western-rig was also adopted by the scalloping fleet following the arrival of the NARRAGANSETT. Although there are vessels that could both scallop and drag (combination vessels), Western-rig scallopers do not carry a net reel and do not need a stern ramp. The process of towing two scallop dredges is the same on both Eastern and Western-rig vessels, but as with dragging, the Western-rig gives more protection for the crew, better visibility from the pilothouse, and a generally more efficient way of catching scallops.

The dredges are towed from the stern using a gantry, or a pair of gallous frames. After towing an average of 30-50 minutes, the dredges are hauled on deck using the main winch and two boom cranes aft of the pilothouse. This heavy machinery is controlled from a station in the pilothouse that faces aft. The dredges are dumped on the port and starboard sides of the deck before going back overboard for the next set. The crew then picks through the pile before heading to the well-sheltered shucking stations located on the main deck on either side of the winch. After shucking, the scallop meats are rinsed in salt water at the washing station before being packed in muslin bags and put on ice in the fish hold below the deck.