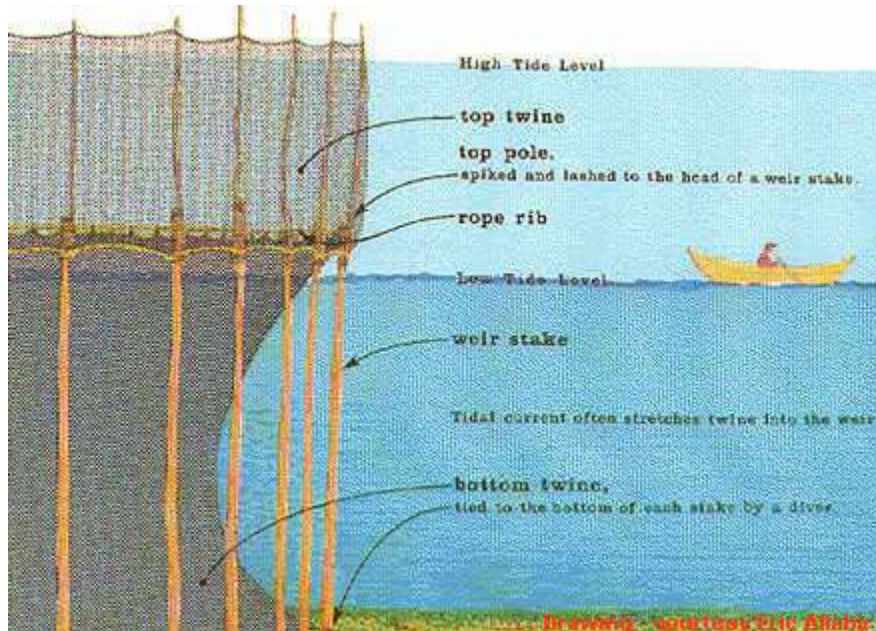


Grand Manan & White Head

Herring & Weir Fishing



(Drawing courtesy Eric Allaby)

Atlantic herring (*Clupea harengus harengus*) are common schooling fish, called **brit** for the first year, **sardines** if under 17.5cm (7"), **sea herring (or bloater or roe herring)** if larger than 23cm (9"). Herring may reach lengths of 43cm (14"). Herring filter feed plankton and other small organisms, and in turn are an important prey species for other fish, sharks, seabirds, and marine mammals.

Herring are caught in a number of ways but the most obvious around Grand Manan and White Head is the **herring weir** - an ingenious fish trap which is successful because of the natural behaviour of herring. Herring tend to move to the surface and often inshore at night. The weirs have a lead line (or **fence**) which directs the herring into the indented opening (or **mouth**). Once inside the weir, the fish swim in a figure eight pattern always being directed away from the mouth by the curve of the netting (or **twine**). During daylight the fish can find the mouth and swim out so a net (or **drop**) is raised to keep the fish inside the weir until they can be removed. The fish are **seined** from the water using another net and a collection of boats inside the weir. The seine boat crew manoeuvres around the inside of the weir, deploying the net into the water. Once completely around the bottom of the seine can be drawn tight (or **pursed**). The herring are then literally brought to the surface (or **dried up**) in the seine by bringing the seine back on board the **seine boat**. A vacuum hose on a **pumper**, a boat equipped with a vacuum pump, is used to suck the fish through a structure that separates the scales from the fish (the hopper) and

transfers the fish to a **herring carrier**. The scales are collected in a large mesh bag or baskets. The scales are later transported to Eastport, ME, where they are transformed into "Pearl Essence". Most herring carriers can also pump herring if a pumper is unavailable.

Herring is also caught at sea by the time-honoured method of "torching" or by modern purse seiners:

Torching, now a rare fishing practise, occurred at night. A lit torch attracted the herring to the surface, enabling the fishers to dip net the fish into dories. These herring were used for bait rather than food fish because of possible contamination of the fish with small amounts of petroleum and soot.

Purse seining involves one vessel and a small tow boat carried piggyback style while in port or travelling. Fishers now follow herring at night with complex sonar but the herring used to be spotted by a green glow at the surface at night (or **fire-on-the-water**). The herring swimming just below the surface would disturb microscopic organisms which then emitted light or bioluminescence. Once the herring are located the procedure is similar to the weir, a seine is set around the fish, the bottom is "pursed", the fish are dried up, and pumped through the hopper to a fish hold, either on the seiner or on a herring carrier. The tow boat assists in setting the net and keeping the seiner from being pulled onto the net filled with herring. Trapped herring try to escape by swimming to the bottom of the net thereby pulling on the seiner. In a weir the boats can be tied off to weir stakes to prevent movement. The scales may also be collected. The herring are taken to the processing plants, smoke houses, etc.

Specialized vessels for building and seining weirs, catching and transporting herring including:



- **weir pile driver** used to drive weirs stakes into the bottom
- **seineboat, pumper, skiffs and dories** all of which are involved in removing herring from weirs - seining
- **seine rack** - previously used to dry cotton seines, they are now used as work



platforms when building weirs, including attaching top poles and netting (or twine)

- **herring carriers** which transport herring from where they are caught (at sea or in a weir) to where they are processed; usually have a crew of two
- **purse seiners** (with their piggy-backed towboats) used to catch herring at night at sea, usually have a crew of five or six

Uses of herring:

Human Consumption

Eaten Fresh - steamed, pan fried, baked, BBQ'd

Smoked as Kippers - the head and guts removed and the herring are split down the back into a butterfly fillet, then lightly salted and smoked while pinned to a board for a couple of days. These fillets need refrigeration and are often eaten for breakfast.

Smoked as Bloaters - developed before refrigeration, the fish are heavily salted and then smoked - the process involves stringing herring on sticks like beads, hanging them in smoke houses until finished, taking them to boning sheds to have skin and bones removed and packing in wooden boxes before shipping. The fillets are sometimes called "Digby Chicks". They are eaten as is or soaked and then poached in milk.

Now just a memory smoked herring was perhaps the oldest traditional fishery on the island since the area was settled in the late 1700's. Cured, hard smoked herring (bloaters) and herring fillets provided a valuable food source that kept for months without refrigeration. The various smoke stand operations usually began in late July when the first large herring were seined from the weirs and continued into the fall and winter months. Once a mainstay of our fishing economy this trade has disappeared in recent years with the advent of better refrigeration methods, although some local residents still smoke herring in small smoke sheds behind their homes.

Sardines - When herring are small they are called sardines, not to be confused with species of sardines (*Sardinia* sp. including pilchards) found in the Mediterranean and western Europe. Small sardine herring, with heads and tails removed, are packed into cans with soya oil, spring water or other sauces such as tomato, mustard, etc. Although it is possible to automate the procedure, many sardines are still packed by hand. Once the lid is applied the cans go into a retort oven which cooks the fish in the tin. Connors Brothers operates a canning facility at the head of the wharf in Seal Cove. From the lobby, you may get a glimpse of the art of packing sardines (**no cameras please**, it disturbs the packers and may lead to an accident) and you may purchase a tin or a case of sardines perhaps packed the same day. Sardines remain a mainstay of the local economy. The main plant is in Blacks Harbour, the "Sardine Capital of the World" and gateway to Grand Manan.

Pickled - variety of methods including "Solomon and Gundy" a tasty treat made with pickling spices, onions, sugar and vinegar. Smoked or fresh herring may be used.

Caviar - herring roe is used as is, or in sushi.

Fishing Industry Uses

Salted or fresh or fresh frozen for **lobster/crab bait**

Fresh for **bait for handlining/longlining**

Animal Feeds

Pet Food

Fish Meal supplements for livestock/poultry

Processed into **pellets fed to Atlantic Salmon** and other cultured **finfish** such as **halibut**

Tourism Uses

Chum for attracting seabirds

Cosmetic/Paint Industry

Scales are transformed into "**Pearl Essence**"
(used in nail polish, lip gloss, pearly buttons, automotive paint, etc.)

Important Prey Species

Herring are eaten by many marine species (other fish, sharks, seals, birds, porpoises, dolphins and whales).

Herring are considered a "key" species in the Bay of Fundy.
Dead herring may be scavenged by a number of species including lobster, amphipods and crabs.

Have a Question? E-Mail us at: info@grandmanannb.com