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Nova Scotia Motor Fishing Boats

Prologue



Rowing Boats

When men went to sea under sail, Canadian Maritime inshore fishermen used small rowing boats to work in the rock-strewn coastal coves and inlets. Some boats were double-ended, with a stem fore and aft, while others had transoms as dictated by the ethnographic characteristics and traditions of the areas in which they were built and used. Regional traditions prevailed throughout Nova Scotia where most boats were clinker-built, though builders in some localities preferred smooth-hulled carvel-planked boats.

Larger inshore fishing boats were fitted with sails but were still small enough to be rowed whenever the winds dropped or were unfavourable. No special fittings or mechanical adaptations to assist fishing were used in the sailing era, as mechanical power was not available aboard the smaller craft. These boats also reflected the individual characteristics of their locale and could have fixed keels or folding centreboards, as well as variations in their overall shape and rig. What is significant is that the sailing craft of the province were varied and bore the individual dictates of their heritage, indigenous materials, local waters or prevailing weather conditions.

Traditional characteristics, methods of construction, and regional differences all but disappeared at the start of the twentieth century with the arrival of the gasoline engine.



Double-ended Rowing Boat

An old, double-ended rowing boat, today sometimes called a 'gunning skiff'. This was the type of clinker-planked boat used for lobstering and for fishing close along shore before make-and-break engines were introduced.

(Courtesy: David Walker)





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Nova Scotia Motor Fishing Boats

*From Power Motor Launch
to Cape Islander*



The Gasoline Engine

The gasoline engine was introduced into Nova Scotia near the beginning of the first decade of the twentieth century and was promptly integrated into existing sailing boats. But almost as quickly, new fishing boat designs were developed to make better use of the capabilities and versatility of the new engines.



Open-hulled Fishing Boat

An open-hulled fishing boat of the early sailing type, with a rare twin-cylinder make-and-break engine.

(Courtesy: David Walker)

With motor power, fishermen could pursue their calling more efficiently, albeit at a considerable increase in operating costs. The fishery changed radically, as the fishermen could now escape fatigue from rowing or dealing with contrary winds. It always seemed that favourable airs for leaving port were rarely suited to returning home. Now they could travel to the grounds at times of their own choosing, not those dictated by weather and winds. They could fish larger areas or tend a larger number of lobster traps. Fishermen could also return home much more rapidly at completion of their calling. They produced a fresher product.

In 1902, the first recorded use in Nova Scotia of a boat powered by a gasoline engine took place. Frank Hawboldt, a jeweller of Chester, saw a new make-and-break engine and designed his own. He made wooden patterns, cast the cylinder and crankcase, and machined the fittings. He then fitted his new engine into a boat and circumnavigated his home harbour. Afterwards it was recorded he was carried away from the wharf shoulder high by his fellow townsmen.

Make-and-break Engine

A rare, twin-cylinder make-and-break engine of an unknown make.

(Courtesy: David Walker)





The motor which transformed the inshore fishery was the make-and-break gasoline engine. The motors were crude and initially were something less than reliable. But for all their faults, they were preferable to the unreliable, sometimes cantankerous and vengeful winds.



Cape Island Boats

The most repeated story regarding the first Cape Island boat is that of the Atkinson family of Cape Sable Island boatbuilders. In 1905 Ephraim Atkinson, a house and sometime boatbuilder in Clark's Harbour, was approached by a client from Saint John, New Brunswick, to build a power boat. He did so, fitting the engine the customer supplied into a boat for which the customer possibly designed or provided the plans. Atkinson saw the opportunities in the new vessel design for the local fishery and went on to build a second similar powered boat. This became the first Cape Island boat, say Atkinson's supporters. One can imagine the local fishermen adding their comments about the new craft as Atkinson gave it shape and form in his Clark's Harbour boat shop. Descendants of Ephraim Atkinson are still building Cape Island boats on the island, though not of wood but of fibreglass.

A second version of the first Cape Islander story is that a busy boatbuilder, William A. Kenney of Clark's Harbour, built a gasoline-powered fishing boat before Atkinson. Details of the second version are remarkably similar to the Atkinson tale. Samuel Bowker from Nantick, Massachusetts, arrived at The Hawk in 1902, found Kenney and commissioned him to build a 46-foot steam-powered pleasure yacht in Clark's Harbour. A year later Kenney built and launched *Fantus Parnell*, said to be the first gasoline-powered boat in Shelburne County. It was similar in shape to the popular motor boats then used by pleasure-boat owners, often former sailing yachtsmen eager to try out the new power.

It is difficult to confirm exact dates, but sometime within the first decade of the twentieth century, other boatbuilders in Nova Scotia were also creating and launching their own powered fishing boats. The term "Cape Island Boat" did not come into general use until after World War II. In the literature before World War I and for years following, fishing boats with engines are referred to as "motor boats", "power fishing boats" or similar generic terms, and no local appellation is added. This continued a long provincial tradition in the fishery. Builders and users of small craft, whether rowing, sailing or powered, named them variously: skiffs, dories, flats or similar generic terms without considerations of style, provenance, power, design or locale.



Sailing-type Motorized Hull and Cape Island-type Boat

An early open sailing-type motorized hull with an early Cape Island-type boat with a flat transom, at Peggy's Cove.

(Courtesy: David Walker)

By 1914, powered fishing boats could be found throughout the province, and a number of races had been organized to prove the superiority of one boat type or one particular engine over another. The practice of fishing-boat racing did not begin with the advent of the motor-powered boats. There had long been a tradition of organizing and competing in races in various parts of the province. The races simply became much noisier, smellier and faster around the end of the first decade of the century.





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Nova Scotia Motor Fishing Boats

*From Hesitant Acceptance
to Rapid Adoption*



Boat and Engine Design

Competition also served to increase the popularity of the new power boats, and to advertise the superiority of one manufacturer's engine over that of another. A boatbuilder who had designed a winning hull soon had the names of additional customers in his order book. Cape Sable Island became the focus of motor fishing-boat production, and the sons of Ephraim Atkinson joined their father in the expanding business. By 1927, E.M. Atkinson and Sons of Clark's Harbour built all the winning boats in the main racing heats, including the *Free-for-all* at the Cape Sable Island summer races.

The dissemination of the boat design and engines throughout the province had encouraged fishermen everywhere to use the powered inshore craft. Boatbuilders soon built their own versions of the long, lean pleasure cruiser hulls. They were often double ended with a tapered, pointed aft end known as a cruiser stern. The open boats still retained thwarts for transverse strength with short bulkheads, (parting boards) beneath the thwarts for dividing the long, open cockpit into compartments. The helmsman stayed near the stern to handle the tiller and control the engine, while his partner, or partners, stayed near the bow to fish. The parting boards kept the fish from sliding about within the boat and served to separate fish from nets, fishing gear or engine spaces.



Open Boats

By the 1930s, the first forms of shelters appeared in the open hulls. As power boats were driven into seas with more speed than their sailing forebears, the long narrow hulls tended to take aboard spray, making them very uncomfortable, especially near the forward end. A canvas canopy was the first attempt to alleviate this problem. The canopy was portable and could be rolled to one side when fishing or in good weather.

These open boats served the inshore fishery very well, but as the years went by another form of motor power came into popular acceptance: the automobile engine. It changed the Cape Island design into the general shape and configuration we recognise today.



Canada's Largest On-line Fishery Museum





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Nova Scotia Motor Fishing Boats

From "Pult-Pult" to "Purr"



The Automobile Engine

The make-and-break engine motorized the inshore fishery and made it safer, more efficient, and less laborious. The adoption of the automobile engine further revolutionized the inshore fishery and made it far more versatile and efficient. Perhaps most significantly, the automobile engine made possible the changes in hull design that led to the accepted classic Cape Islander shape.



Stephanie Dawn, a Classic Cape Island Boat

Stephanie Dawn, a classic Cape Island boat at East Dover, Halifax County. She was built at Sandy Point, Shelburne County in 1976. She is a typical latter-built wooden hull. This boat has a raised forecastle and is fitted with an after mast for a riding or steadying sail. (Courtesy: David Walker)

While the make-and-break engine had taken the inshore fishermen into the mechanical age, the automobile engine gave them increased versatility. The old, single- or twin-cylinder make-and-break engines were heavy, and their power was limited, with none to spare for auxiliary equipment. Soon after the automobile became common, surplus engines from scrapped or wrecked vehicles began to make their way aboard small boats. Their conversion to efficient sea-going power units soon followed. Auto engines had much more horsepower per pound of weight, and though physically larger, they did not weigh much more than the make-and-breaks. Their installation in the narrow boats gave a new speed and versatility unknown previously. Higher power at higher revolutions made the retention of automobile gearboxes necessary. The reverse gear was also required, as formerly engines were reversed simply by halting their motion and re-starting them in the opposite direction like a reciprocating steam engine.



Changes in Hull Design

The increased size of the new engines with the gearboxes made a number of changes in hull design desirable. Boats were built wider, and the after run was made flatter and broader as the sterns were given wide transoms. This long flat run of the underwater hull prevented the



hulls from "squatting" under power and gave much more space within the cockpit for fishing gear or lobster traps. The larger, more sea-kindly hulls allowed the fishermen to go farther offshore into deeper waters.



Cape Island Boat

A nameless, single, unbroken, sheer Cape Island boat at Port Maitland, Yarmouth County. Note the curved-top cuddy on the forecastle.

(Courtesy: David Walker)

Automobile engines had remote controls, and by fitting a steering wheel adjacent to the front of the engine, the helmsman could move forward, enabling him to fish directly overside for lobsters. This move made a shelter necessary for protection. Boats were next fitted with a short forward deck space with a small raised shelter or "pilot house" and then later a windshield. With time, the forecastle deck was raised and fitted with a cud or cuddy, which allowed for seating and a small stove to be fitted below deck. The windshield was eventually fitted with a roof stretching aft over the helmsman, and this developed in turn into a small deckhouse or "winterhouse" if it was portable.

The overall appearance of such craft by the beginning of World War II had assumed the essence of the popularly accepted characteristics of the Cape Island boat. These features were retained until wood was replaced by fibreglass.



Never Tell, a Lunenburg County Boat

Never Tell, a Lunenburg County boat built on Eastern Points Island in 1953. The canvas dodger gives extra protection on the port side.

(Courtesy: David Walker)



Mechanical Auxiliary Equipment

The first piece of mechanical auxiliary equipment, a lobster trap hauler, was devised and fitted shortly after the automobile engine was adopted. This novel convenience was fashioned from another automobile cast-off, the rear axle. One side was cut off at the differential, and the unit sat on the closure plate so the remaining axle stood vertical. A pulley on the cut-off drive shaft was connected to the fan-belt pulley at the forward end of the engine, and an idler pulley controlled by a lever put it in motion. On the top of the vertical axle a small wooden capstan head was fitted to haul trap lines, relieving much of the lobsterman's labour.

This device was followed by many other auxiliary mechanical winches and fittings which helped adapt the hulls to various methods of fishing. The adaptive re-use of automobile or truck mechanical cast-off parts led to the development of novel winches for hauling small trawl nets, reeling in long line trawls, activating jigs, and pulling and retrieving scallop drags. The inventive appropriation of technology made the Cape Islander a proven and dependable vessel for exploiting the disparate inshore fishery. As these adaptations were proven effective, larger boats were built to range further

afield, but their style remained essentially unchanged.



Improved Lobster-Trap Hauler

On the open, starboard side of *Never Tell*, shown in this illustration, is a lobster-trap hauler made from an automobile rear axle. (Courtesy: David Walker)





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Nova Scotia Motor Fishing Boats

How? Who? and Where?



Boatbuilding Methods and Materials

Powered wooden fishing boats were built by the same builders who had formerly created their sailing or rowing predecessors. Initially only the hull shape changed, and the methods and materials remained the same. Hull designs were invariably produced in the form of three-dimensional half models. These wooden carvings were the *lingua franca* of boat design, inherited from the older tradition of wooden shipbuilding. They were carved with the skill of inherited experience but were made from a single block of wood, not the more common demountable layers of larger, wooden-ship half models. When the builder and customer had agreed upon the final design the shape was expanded to full size on a lofting floor, and building commenced. Local woods of various types were generally used according to their availability: hardwoods for keels, stems, frames and sternposts or transoms; softwoods for hull planks, decks and smaller structural fittings.



Cape-type Boat

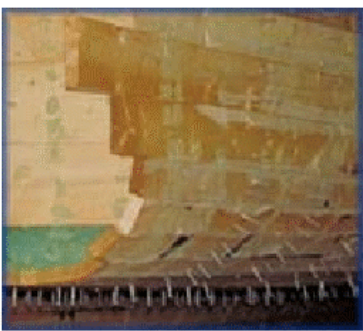
A Cape-type boat at rest in Stonehurst harbour, Lunenburg County. This boat has a curved top cuddy and graceful, single shear. Note the awaiting lobster traps and long open cockpit to carry them to sea when the lobster season opens again.

(Courtesy: David Walker)

The boats were built up on a backbone of a hardwood keel, stempost, sternpost, horn timber and stern knee. These parts were selected, shaped and assembled in the boat shop and braced against movement. Next, a series of transverse moulds (patterns), made from the full size shapes produced on the lofting floor, were temporarily fitted on top of the keel, equally spaced from stem to stern. Round these moulds, long thin battens were fixed to test their fairness and alignment. At this point, the building sequence varied. Some boatbuilders then fit the planking round the moulds and fully planked the hull, removing the battens as they advanced. With the planking completed, they next softened the hardwood frames in a steam box and bent the heated, pliable timbers into the interior of the hull.

An alternative sequence of construction was employed by other builders. Steam bent timbers were first fitted inside the battens, then the planks were fastened directly to these frames. In either sequence, the planking was attached to the timbers with galvanized clenched nails.





Construction Details

The stern of a newly planked boat, with all the nails driven partially into the hull. They will be later driven through the steam-bent frames. A builder on the outside will drive the nails to be clenched against a metal 'dolly' to bend them into the wooden frames.

(Courtesy: David Walker)

This fastening method was almost universal throughout the industry. Rough, square galvanized steel nails were driven through small holes pre-drilled through the plank and frame. The pointed ends were driven against a steel "dolly" held so that the nail was not simply bent but eased into a reverse curve and driven back into the frame - to clench the fastening. Each nail became a miniature clamp. The head was countersunk into the plank and puttied over to protect it. The fastening was inexpensive and adequate but unfortunately not long lasting as the galvanized protection was almost always damaged during clenching. The broken coating no longer protected the metal, and corrosion soon started. Many boats quickly became "nail sick".



Construction Details

Construction details of a wooden boat. The interior of part of a derelict clinker-planked hull, showing the rusted clench nails which hold the edges of the planks together and attach the frames to the planking.

(Courtesy: David Walker)

Both Cape Island boat building sequences resulted in an identical finished craft. Neither seemed to produce a better hull, and it was not clear how or why the sequence varied.

The narrow aft underwater hull between the keel and the wide flat quarters is called a "skeg". A distinct feature of wooden Nova Scotian boats was the hollow or built-down skeg; elsewhere builders made a solid wood deadwood. It was a lighter more buoyant hull and always a feature of "Novi" boats, as they were known throughout Maine. The hollow after skeg was structurally weak as it was difficult to make a sound transition at the junction between the vertical skeg-side planks and the horizontal, flat after-planking. Plank seams tended to work open in this area, and the tightly bent frames often cracked. As fishermen changed from smaller four- and six-cylinder automobile engines to more modern, powerful V-eight units, the nuisance was magnified. Builders used a variety of ways to cure this problem, but the methods never seemed to solve the problem completely.



Construction Details

The interior of this boat shows the unattached frames. The deep, hollow skeg, or after well, and the tight bending of the steam-bent frames can be clearly seen.

(Courtesy: David Walker)



Boatbuilding Locations

In Nova Scotia, wooden-boat builders could be found almost everywhere along the long sea-girt rim of the province. They were concentrated near their customers, the fishermen. Most fishing boats found in a harbour were built by that port's boatbuilder or builders, with a smattering of craft from nearby coastal communities. Boats of one specific locality were rarely found far beyond its reaches until they were old and sold away as their owners bought new locally built craft.

Boatbuilders were often sons or grandsons of builders, and sometimes had brothers or other relatives also building boats. Within recent memory, there were twin brothers building boats in two shops within sight of each other in Scots Bay, and this was not unusual. Two brothers operated boat shops within a coin toss of each other in Cape St. Mary, while a father and two sons operated three boat shops in the village of Wallace. Although this was common, when a location became saturated with builders, they were not reluctant to relocate where they were needed. Examples of this transference of technology were common.

Because of the environment and their location, near fishing grounds, many fishing communities were located on offshore islands, Cape Sable Island perhaps being the best-known example. This island was large and near the mainland and is connected by a causeway today. Other islands, from Scatarie, Madame and Chéticamp off Cape Breton to Sober, Pictou, Big Tancook and others off the mainland of the province, were fishing locations and had their share of boatbuilders. Since stable island communities were a limited market for boats, boatbuilders' sons often left their islands to take their experience to larger markets on the mainland. Some became itinerant builders who, having found a client, would stay to build a boat and then move on to the next client.



Boatbuilder Families

The Stevens, Langille, Levy and Heisler families were all boatbuilders on Big Tancook Island, many of whom moved to the mainland to carry on their calling. One branch of the Levys moved east along the coast to Sober Island and Cape Breton Island to continue building there. Other Tancook Island fishing-boat builders went on to gain fame as notable yacht designers and builders. David Stephens of Second Peninsula and Ben Heisler of Chester built many award- and trophy-winning schooners, as well as single-masted yachts. Perhaps David Stephens is best known as the builder of the schooner *Atlantica* at Expo 67 in Montreal. Both men were also well accepted locally, with many motor fishing boats to their credit.

Another builder, William Frost of Long Island, Digby County took his skills to Maine and, after returning to build boats in Nova Scotia during World War I, he emigrated and became the man who taught the speedy power boat building techniques there. The ancestor of Jonesport boats, the New England cousins of the Cape Islander, was a Will Frost boat, *Redwing*. In Nova Scotia and Maine, Frost was not only a pioneer power boat builder but an agent for early make-and-break engines. One branch of the Frost family which remained in Nova Scotia continued to build boats, and Kingsley Frost retired from the business about a decade ago in Maitland, Nova Scotia.



Boatbuilding Shops

As in the large shipbuilding industry, many power fishing-boat builders originally built outdoors without cover. When power tools and equipment were introduced to the business, they were usually enclosed in a small adjacent workshop. Some builders could still be found producing wooden boats outdoors after World War II.

Boatbuilding shops were almost as varied as the power boats which emerged from their wide swinging doors. Many buildings were designed and erected solely for boatbuilding purposes and were efficient structures for such production. Almost always wooden, with a pitched roof, they had a wide door across one narrow end and a smaller personnel access door elsewhere, probably near to the adjacent boatbuilder's dwelling. A continuous row of windows down each long wall provided natural light to the two workbenches on each side. The arrangement resembled a dried-out marine berth with wooden wharves along each side. A wooden floor was built in a "U" round a central dirt or cinder-floored erection bay. The building floor sloped towards the delivery doors, if they opened onto tidal waters. Many boat shops were not actually on the water, and the craft were "skidded" to the launch site. The floors of these buildings were generally flat.



Heisler's Boat Shop

A boat shop on Gifford Island off Indian Point, Nova Scotia. The shop of Clarence Heisler in 1976 had been doubled in size by the addition of a second building bay to the left of the original. The business is now run by the late-Clarence's son, Cecil.

(Courtesy: David Walker)

Woodworking machinery was most often located across the narrow end of the shops, opposite the big doors. A band saw, thickness planer, and drill press were most common along with the ubiquitous steam box to heat and soften timber frames for bending. Steam for this unit was raised in various ways but most usually from the same scrapwood-fired unit also used to heat the building. Machinery was frequently powered by stationary gasoline engines with belt drive transfers where electrical service was not available. All rural areas were not supplied with power until after World War II. There were few circular saws, as most builders bought their stock from lumber mills roughly dressed to size. This description of a generic boatshop covers the type most commonly found as a one-family shop, building one boat at a time.

In complete contrast, a wide variety of buildings were adapted for use as boat shops. Barns, houses, old schools, and even a small old church have all been internally gutted and adapted to house boatbuilding establishments. What these buildings lacked in layout efficiency, they generally made up for in greater working area and low purchase price.



From Schoolhouse to Boathouse

A new lobster boat is removed from the old schoolhouse where it was built in Terence Bay, Nova Scotia. Many of the villagers make light work of the task. The same people assisted the boat in its first, kilometre-long, over-the-roads 'voyage' to the launching site.

(Courtesy: David Walker)

The shops used today to build glass-reinforced plastic (GRP) or fibreglass hulls are frequently modern steel buildings with flat concrete floors. They are

industrial units that are little different from manufacturing sites for other products or warehouses. Some fibreglass boatbuilders continue to use adapted buildings, but they are usually much larger than their predecessors from the wooden-boat era.





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Nova Scotia Motor Fishing Boats

Variations on the Cape Islander Theme



Introduction

Before and after the introduction of fibreglass boats into the inshore fishery, there were many varieties of motor fishing boats in the trade.

The introduction of engines into sailing craft was quickly followed by boats designed for the purpose, and this, in turn, developed as previously described. To these changes must be added the varieties of boats found in different locations, variations which reflected regional materials, fishing methods or prevailing environment. Some regions used spruce planking for their boats because of availability of the wood, lack of pine or conditions of wear. Some other variations on the Cape Islander design with significant followings were developed over the years.



Northumberland Strait Boat

The Northumberland Strait boat was variously described as a "wedge boat", "narrow plank boat", or "edge nailed boat". These craft were built around, and fished, the Gulf of St. Lawrence from Canso Strait to northern New Brunswick, and off the coasts of Prince Edward Island. They differed from the Atlantic and Fundy coast power boats in both hull design and construction.



Northumberland Strait Boat
 The shadows clearly highlight the flare on this new, yet-unnamed Northumberland Strait boat. The narrow wood planks can also be detected.
 (Courtesy: David Walker)

This region is characterized by shallow waters and short, choppy but violent seas that freeze in the winter. Wooden vessels hereabouts only fished a summer season, and until about twenty-five years ago, few were fitted with any form of deckhouse or shelter. Atlantic and Fundy coast boats started to fit various forms of weather protection during the 1930s. The Northumberland Strait boats widely diverged from their cousins in their hull shape. They had a much sharper bow, with continuous long keels, and

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lacked the characteristic Cape Islander forward kick-up towards the bow. These seasonal boats were only hauled once a year and fished lines of lobster traps, so they were not required to turn as quickly as the single-buoy trap boats found elsewhere. The most noticeable difference, however, lay in the very radical and pronounced flare of the bow sections. This flare served to toss aside the choppy seas before they could drench people in the open cockpit. The flare also made a useful wide oval fore deck.



Hull Planking

A derelict Northumberland Strait boat lies upside down at Tony River, awaiting her final disposition. The narrow hull planking is easily seen in the still graceful hull shape. (Courtesy: David Walker)

But it was in the method of construction that these craft differed radically from the Cape Island type boat. They were built of many very slender planks that were little more than double their thickness. The narrow planks were attached to each other with box nails driven through pre-drilled holes within the thickness of the planks. There was no caulking between each pair of planks, and the finished hull presented a fair, smooth, almost yacht-like appearance. A number of reasons have been postulated for this type of hull construction, but no single reason has been accepted as definitive. Whatever the reasons for the narrow planking, the method prevailed during the period of the wooden, powered fishing boat round the Northumberland shore.



Bow of a Northumberland Strait Boat

The bow of a Northumberland Strait boat, in which can be seen the narrow planks and the wide, almost oval, fore deck atop the water-shedding flare. The closely spaced steam-bent frames can be noted. (Courtesy: David Walker)



Double-ended Northumberland Strait Boat

The Pinky was a motor-power boat that was a sub-group of the Northumberland Strait boat. It should not be confused with the earlier double-ended sailing schooner used for fishing or trading and common in an earlier period. The name was retained possibly because the new, powered fishing boat was also double ended. As noted, many early motor boats were double-ended, but in pockets along the strait, the style continued until the 1970s. Sharp sterns found favour because fishermen claimed they presented a finer hull than the transom-sterned boats in the choppy local waters. The last fishing village to use this type of boat was Northport, Nova Scotia, and they persisted there for a decade or more after they had been abandoned elsewhere. A compromise boat was occasionally found with a V-shaped transom that had benefits of both styles. Most of these limited types fell into disfavour as they were more expensive to build. In a marginal industry, capital costs are an important consideration.



Engine-Powered Pinky

An engine-powered pinky at Northport, Cumberland County. The pointed, double-ended stern is clear, and the shadow under the short bow indicates the broad forward flare. The large open cockpit has the steering tiller alongside the central engine box. (Courtesy: David Walker)



The Traditional Cape Island Boat

In Lunenburg County and along Nova Scotia's Eastern Shore, a smaller fishing boat was found adequate. Hull size did not continue to increase here, as it did elsewhere. The many sheltered inlets and bays with their protected waters in these districts made larger boats unnecessary. The power fishing boats built and used here retained the traditional Cape Island boat shape longer, with classical open-motor-boat types prevailing. Even when shelters became popular, they were small, about mid-point in the cockpit, and they only partially protected the helmsmen. Forward of the shelter, the cockpit was left uncovered, as it was found best to tend mackerel and herring gill nets from a forward position. One peculiarity of these boats, which fished the coasts lying roughly from the Queen's-Lunenburg County line to Guysborough County, was that they were most frequently painted dark green, with the transom characteristically painted white with green border trim. The make-and-break engine remained popular into the 1960s and early 1970s along this coast.



Lunenburg County Lobster Boat

A Lunenburg County lobster boat, at Blue Rocks, Lunenburg County, in typical local colours. (Courtesy: David Walker)

The steering wheel and trap hauler can be seen aft of the thwart, and the wire guard surrounding the propeller is to prevent the trap lines from fouling. The ugly shelter is not so typical, but it only protects the engine and helmsman and leaves a forward, open, working cockpit.



Other Diverse Designs

Two final examples will serve to prove that Cape Island boat designs did not completely dominate the inshore motor boat fishery. In Lunenburg County, an individual style, the Ram boat, was built specifically for use on Ironbound Island but was popular and found customers elsewhere. The keel of this boat was made from a plank 10-15 cm thick that was about 45-50 cm wide at mid-length. This heavy structural member served to make a very strong boat and kept it upright without side supports. The keel was most useful when the boats were "rammed" up the skidways of the island at the end of their fishing day. The island did not have wharves until recently, and boats were hauled ashore each day for protection, as there were few safe anchorages. In other

respects the boats resembled the typical Lunenburg County boats.



Tina-Leia, a Ram Boat on a Skidway

This boat was built in 1959 in Oakland, Lunenburg County.
(Courtesy: David Walker)

The wide keel cannot be detected, but note that there are no supports alongside the hull to keep it upright. The bow is rounded to ride easily up the skidway, and the small shelter leaves an open cockpit for working forward nets.

Along the eastern shore in Chezzetcook Inlet, builders continued to build clinker-planked hulls, the only known clinker-built power boats in the province. It is thought that the clinker tradition of the predominately French-speaking people here was harder to relinquish than elsewhere. This type of boat was last seen in Three Fathom Harbour in the early 1970s.



Open, Clinker-Planked, Powered Cape Island type Lobster Boat

An open, clinker-planked, powered Cape Island type lobster boat at Three Fathom Harbour, Halifax County.
(Courtesy: David Walker)

The wide lapped planks can be seen clearly in this rare photograph of this type of craft. The trough runs from the hand bilge pump, and the furled riding sail is wrapped round the aft mast.



The Upper Works

Cabins, canopies and cuddies also differed from builder to builder and became almost trademarks for their designers. Some fishermen bought their boats unfinished above the cockpit and gunnel, and built their own deckhouse and cud, thereby saving money and giving their boat individuality. During the wooden-boat era, it was possible to recognise a vessel from the distinctive design of its upper works, even when the underwater characteristics were not always apparent.



Hull Designs

Wooden hull shapes remained prevalent after the industry embraced fibreglass construction, because builders used good, well recognized hull designs to make the plug for the new synthetic creations. Often an actual wooden boat was used as a plug to build a new mould. Many years after the introduction of fibreglass, new boats so closely resembled their ancestors as to be virtually indistinguishable. Plank seams, puttied nails, knots, and small irregularities were faithfully replicated and duplicated many times - the benefits and curse of a mould.



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Nova Scotia Motor Fishing Boats

A New Material Brings New Ideas



Yacht Builders - Early Adopters

Because of the highly competitive nature of yacht racing, whether at the club, national, or international levels, the yachting fraternity almost zealously embraces advances in small craft design and technology. Yacht builders and owners rush to incorporate new equipment, materials, and ideas. They act as enthusiastic, unofficial research and development partners. Commercial- or fishing-boat builders and operators are slower to adopt these same advantages. They use their vessels for business and must maintain complete reliability and trust. New fastenings, such as ring nails; new shapes like the deep Vee or planing hulls; or, in earlier times, the gaff-free Bermuda or the Marconi sailing rigs, were all found in recreational craft before fishing vessels. Not least among these technical changes was the adoption of glass reinforced plastic (GRP), more commonly called "fibreglass". The pleasure craft fraternity embraced fibreglass for sail and power boats in the late 1940s, and almost universally converted to the new material on both sides of the Atlantic by the mid-1950s.



Colourful Cape Islander

Gale, a classic Cape Island boat, at rest for the winter near Chester Basin, Nova Scotia. This boat was built at Vogler's Cove, Nova Scotia in 1964, and her bright colours are typical of the genre.

(Courtesy: David Walker)



New Materials in the Fishery

In 1961, Nova Scotia started to explore and promote the advantages of the new material in the fishery. The Nova Scotia Department of Industrial Development commissioned the building of a fibreglass inshore fishing boat. A contract was awarded to the Atlantic Bridge Company of Lunenburg. The new Cape Island style boat was designed by William Hines of the Department of Fisheries and was christened *Cape Islander* when it was completed in 1962. The Nova Scotia Department of Fisheries demonstrated the boat throughout the inshore fishery, allowing fishermen to use the vessel in selected areas, under varied conditions, and using various fishing technologies.

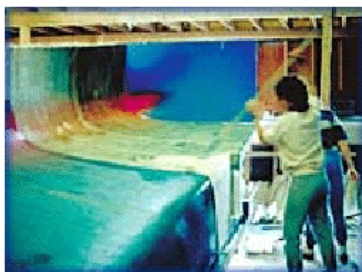


The vessel was not an instant success despite the benefits of the homogenous leak-free hull, low maintenance costs, and other apparent advantages. It seems the tradition-minded fishermen were unwilling to accept the new material. Some said it made alterations to the vessel difficult to achieve, while others claimed the material was too rigid and too hard on the legs of men spending long hours at sea. After some years as a trial-horse, Cape Islander was retired to the government-owned Liscomb Lodge for use as a pleasure boat by tourists who wanted to go fishing. She has since been retired and can be seen in the collection of the Fisheries Museum of the Atlantic in Lunenburg.



Fibreglass

Fibreglass boat hulls are built within a mould just as a jelly is moulded. First a full-sized hull, called a plug, must be built in the exact form and shape of the desired finished product. Since the plug is disposable, it can be built from a variety of materials. When completed, the important exterior surface of the plug is finished to the desired standard. It is covered with a coating of a wax-like release agent and a series of layers of fibreglass cloth and fibreglass matt, a less expensive felt-like material. Each layer is impregnated with a synthetic polymer resin that cures and hardens. When the desired thickness is achieved, the exterior of the mould is reinforced and made rigid and self-supporting. It is then divided at the centreline from the stemhead to transom cap. The mould is taken apart, and the plug is removed and discarded. The edges of the division are reinforced to make them remountable. A boat can now be built within the connected mould after waxing the interior of the mould, starting with a gel coat. The gel coat will form the exterior finish of the new hull. After the successive layers have been built up again and the chemicals have cured, the mould is separated, and the new hull removed for finishing.



Fibreglass Boatyard Workers

Fibreglass boatyard workers rolling resin into fibreglass matt to remove bubbles and to impregnate the material thoroughly.
(Courtesy: David Walker)

A newer and more efficient method of producing hulls has almost universally replaced the hand lay-up of successive layers of impregnated fibreglass cloth and matt. Materials are now sprayed into the interior of the mould with a special gun that combines the resin and chopped strands of glass fibres. Sometimes a combination of the layer and spray methods is used.



Fibreglass and Wood

Fibreglass boatbuilding is completely different from traditional wooden boatbuilding because the materials are completely different. Natural wood has been replaced with oil-based chemicals and mineral-based glass. There is no direct comparison between the materials, just as there is no direct comparison between the finished products. While they may look the same, the wooden boat is built from scores of interconnected components skillfully assembled by experienced hands from a carefully selected combination of woods, fastenings and protective materials. In contrast, the fibreglass hull is a completely homogenous entity, with no fastenings, openings or transitions throughout the structure. This means that

maintenance is much reduced on the boats when they are new, although atmospheric elements and sun degrade their components in time.

The choice lies between a high-maintenance, traditional, reliable product and a low-maintenance, longer-lasting boat that most fishermen found more acceptable despite the fact it was less comfortable on the water. The homogenous hull is more rigid and does not "give" and flex with the sea as wooden craft do. In other words, fibreglass boats are less comfortable, but older fishermen who appreciated the wooden boats are more aware of this discomfort than younger men who have totally embraced the new technology.



Construction Details of a Wooden Boat

The interior of part of a derelict clinker-planked hull, showing the rusted clench nails which hold the edges of the planks together and attach the frames to the planking.

(Courtesy: David Walker)



Commercial Production of Fibreglass Boats Begins

After 1962, almost a decade passed before anyone in Nova Scotia considered building fibreglass boats commercially. Reginald Ross of Clark's Harbour was a grandson and son of wooden-boat builders in Clark's Harbour. He launched his first fibreglass Cape Islander in 1971 and christened her *Enterprises*. She was 40 feet long overall, just 8 percent longer than Atlantic Bridge Company's *Cape Islander*, but almost 20 percent wider, illustrating the continuing trend in Cape Island boat design.

Ross built fibreglass fishing boats in quantity in the old Vimy movie theatre in Clark's Harbour which had been converted for the purpose. Notably, he hired two local women for part of his production staff. His first fibreglass boats were small, open-hulled craft, larger but similar to regional mossaing boats. They were fitted with either outboard or small inboard engines. The small craft were forerunners of larger vessels, and when they were well received, Ross began to design their successor. Unlike traditional builders, he drew his design on paper. He then discussed his plans and the proposed idea with Ernest Atkinson. The plans of *Enterprises* can be seen in the Achelaus Smith Museum, Centreville, Cape Sable Island.

It is not known how Ross built his plug, but, in most cases, a plug was built like a boat with a supremely well-finished exterior. The plans were expanded to full size on the floor of the mould loft, and station moulds, or templates, were built. The templates were erected on a strong, keel-like back and planked over. There was no framing because the plug had only to be strong enough to be self-supporting.

Enterprises generated much local interest and, though the new fibreglass boats were much more expensive than their wooden counterparts, fourteen examples were built and sold from that first Cape Island hull mould. Ross' health unfortunately deteriorated, and he died prematurely. The doors of J.D. Ross Enterprises, the island's first fibreglass boat shop, closed forever in the mid 1970s.

Reginald Ross had done what the government had not been able to do, and interest in fibreglass Cape Islander boats rapidly increased. Hulls were soon being built in Dartmouth, and elsewhere in the province. Freebert Atkinson began finishing bare fibreglass hulls, following a mainly shipwright or

carpentry process, but using fibreglass cloth and polyester resin to connect and protect the wooden portions of the structure. Freebert had gained enough experience by 1977 to start his own fibreglass boatbuilding shop. He built the hulls and also finished them, but, as his business increased, he concentrated on moulding hulls for other builders.



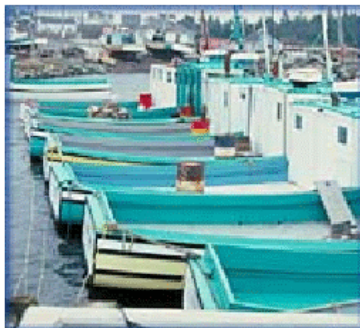
Modern Fibreglass Cape Island Boats

Part of the Wedgeport, Yarmouth County fleet of modern fibreglass Cape Island boats. Note the close similarity among the characteristic high, straight bows.

(Courtesy: David Walker)

The rapid acceptance of fibreglass soon eclipsed the wooden boatbuilding industry. Like Freebert Atkinson, a few wooden boatbuilders retrained and began manufacturing boats in the new and strange chemical materials. They made a leap into a technology that was not an adaptation of the old, but a completely different method of building. Those too slow to make the transition were soon confronted with empty order books, and they quietly closed their doors. Occasionally, traditionally minded fishermen decided to stick with the much-trusted wooden craft and ordered new ones, but faith in tradition was not enough to sustain the old industry.

A parallel business developed at about the same time, and for a few years combined the old and new boatbuilding technologies. It was discovered that a covering of fibreglass cloth and resin over the outside of a wooden hull could give an old boat extended life, as well as lower maintenance costs. This enabled less affluent fishermen to obtain some of the benefits of a fibreglass boat at a much lower cost.



Sterns of Modern Fibreglass Cape Island Boats

The sterns of the same 'raft' of Cape Island boats in Wedgeport.

(Courtesy: David Walker)

The large, open, working cockpits are now exposed to the transoms, as the larger hulls allow the compact hydraulic steering gears to be fitted beneath the soles. The small deck shelters have now been totally enclosed with sliding doors to make a comfortable, warm, and weathertight wheelhouse.



Fibreglass Boatbuilding Dominates

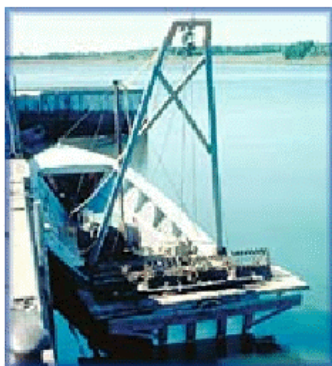
Fibreglass boatbuilding expanded throughout the province to supply all the requirements for inshore fishing boats. Builders could be found in every area, but the heaviest concentration of fibreglass boat shops was to be found on Cape Sable Island where numbers rose to the extent that chemical and other suppliers were prompted to establish warehouses there. The new production process meant that operators had to be trained, and the trend started by Reginald Ross continued: builders employed increasing numbers of women. They were found in almost every boat shop, a place where women formerly had rarely been seen, and they were engaged in boat production. Before the adoption of fibreglass, women

occasionally helped their husbands with the building of wooden boats. More frequently, they were found keeping the books or doing the paperwork for the small business. Now they actively moulded hulls - creating the boat.

The new material has enabled progressive builders to alter hull shapes and make changes that were prohibitively expensive or impossible when using wood. At least one innovative builder devised methods of constructing various sizes of fibreglass hulls within one convertible mould. Perhaps more significantly, traditional Cape Island hull shapes have changed only slightly since fibreglass has been introduced. They are wider, deeper, and have greater displacement, but essentially all this is done using the basic hull shape that has remained virtually unchanged for 60 years. The single, most constant characteristic is the flat aft run of the lines which has endured like a pedigree from the early power-boat hulls of Atkinson, Kenney and their followers.

These new hulls are virtually unrecognisable today, however, because they are hidden under modern enclosed wheelhouses, atop raised forecastles without cuddies. Some have extended hull platforms for extra capacity without breaking construction size rules; others have insulated holds under watertight decks that in turn allow open transoms. With sword-fishing towers and pulpits at the end of extended bowsprits, some new craft are almost completely new designs. But their owners and builders still cling proudly to the "Cape Island Boat" as their title and heritage.

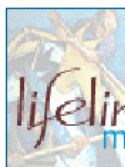
Today fibreglass Cape Island boats completely dominate the inshore fishery. Whatever their guise, in small, almost traditional, styles used mainly for lobster fishing or as deep, fat, almost ungainly fishing machines fitted as seiners, scallop draggers, trawlers, longliners or swordfishermen, they can be found all along Canada's east coast.



Northumberland Strait Boat

This open Northumberland Strait boat has been adapted to drag for scallops. The steel mesh bags are dragged (towed) along the sandy bottom of the local waters to scrape the shellfish from their beds. The winch is then used to haul the scallops to the surface and onto the after shelf to be shucked.

(Courtesy: David Walker)





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Nova Scotia Motor Fishing Boats

The Wheel Turns -
Cape Islander to Cruiser



Cape Islander to Cruiser

The complete saturation of the market for inshore fishing boats by fibreglass boats has taken place. Perhaps this success gave rise to some of the beginnings of the decline of the boatbuilding industry. Fibreglass boats are generally well-built and have a much longer life expectancy than their former wooden counterparts. Thus, they need replacement less often, and, as their design does not change radically, they do not become obsolete. These factors, and the serious effect of the reduction in various fish species, leading to reductions in quotas and/or fishing licences, have meant a greatly reduced demand for fishing boats.

Some builders have reversed the process that had its beginnings when motor fishing boats first came into use. If a Cape Island fishing boat could be developed from a motor yacht in 1905, a power yacht could be developed from a Cape Islander. Bruce Atkinson of Clark's Harbour built a fibreglass hull and erected upon it an elegant deckhouse and flying bridge. He then outfitted the vessel throughout as a handsome power cruiser. The result was no inexpensive makeover, but an attractive well-finished vessel which rivalled similar-sized craft from around the world. Other builders began producing similar vessels, while others built sports-fishing vessels based on other designs.

The Cape Island boats, and their cousins, whether built of wood or fibreglass, were the backbone of the Nova Scotian inshore fishing fleet throughout the twentieth century. They could be found in every harbour and in every type of inshore fishery. Beginning as lobster boats, by mid-century they were found sports fishing for tuna, scallop dragging, longlining and catching every type of commercial fish species that ventured close to the coast. As many of these fisheries declined, so too did the demand for boats and with it the boatbuilding industry. Enterprising builders, however, found new markets for their products as they created the "Cape Islander Cruiser".



Cape Island Cabin Cruiser

All old fishing boats are not left to rot and decay; some are converted! This image illustrates imaginative re-use. A colourful adaptation of *Luke B* has resulted in a small cabin cruiser.

(Courtesy: David Walker)