Change on the Chesapeake

The Influence of Economic, Political, Legal, and Management Factors on Small Scale Fishing Operations in Maryland's Chesapeake Bay

Donald W. Webster
University of Maryland
Marine Advisory Program

Since colonial times Maryland watermen have evolved distinctive craft capable of carrying out their tasks in particular geographic locations. For more than 150 years legislation has frequently been utilized, at the urging of local watermen, to preserve traditional fishing communities by an apportionment of available resources and restrictions on fishing methods and gear. Court decisions have profoundly affected the management of the resources, and these, as well as worldwide shifts in economic and energy matters, have caused the small scale waterman to adapt to these changes. While existing in a highly regulated environment, watermen have made many changes in the design, size, and powering of their vessels. An overview of the evolution of Chesapeake Bay area vessels is described. Changes in fishing craft, equipment, and operations are related to economic, legal, political, and management factors.

The Bay

The Chesapeake Bay is the largest estuary in the United States and one of the largest in the World. It includes approximately 4,000 miles of shoreline in the states of Maryland and Virginia, has a length of 200 miles and a width which varies from four to thirty miles. It is, to be precise, the drowned river valley of the Susquehanna, which provides the Bay with its predominant source of fresh water inflow. The estuary has been an

excellent habitat for species such as oysters, crabs, and fish to spawn and live and the area was one of the earliest to be settled. It was only natural, with such abundant supplies of seafood available, for the colonists to begin to utilize them and to evolve craft suitable to harvest them in the conditions prevalent.

Many of the early settlers in the Chesapeake Bay region came from England. Today, although most do not realize it, many of the items found in the area, such as harvesting equipment, can be traced back to those found on the southern coast of England. The waterman's crab shanty is similar to the "croglofft". The nippers and hand tongs which are still in use today are similar to harvesting gear of that region. The cylindrical eel pot used today is a variation on early pots woven of split oak strips. Many of the dialects found in the Bay area are of Cornish origin.

Early Vessels

The earliest vessels in use in the Bay were the log canoes which were built by the Indians. These canoes were formed by burning troughs in felled trees and scraping the charred sections away with shells. The vessel was serviceable if not of pleasing shape. Colonists were quick to utilize these canoes for local transportation and the harvesting of seafood resources and their use quickly spread throughout the Bay region. Since few of the early settlers were boatbuilders they used the original design for many years.

The colonists found that the edged metal tools which they used made it easier to give some shape to these boats and they began to form more distinctive bows and sterns rather than relay on the water-trough appearance which had been in use for so long.

In the late 1600's it was found that it was quite easy to build log canoes from more than one log. Initially two log canoes were constructed with each log being shaped into a longitudinal half of the final vessel. These were then fitted together with wooden dowels or with tenons and mortises.

Later log canoes became more elaborate still with three log and five log vessels becoming quite common. In these early years a settler's canoe was as valuable to him on the water as his horse was on land. With communities and outlying farms being on the water as his horse was on land. With communities and outlying farms being on the water, the canoe afforded the only practical means of getting from point to point, especially from one side of the Bay to the other.

There still exist a number of log canoes in the Chesapeake Bay area. Although most are owned by sportsmen who keep them up and sail them competitively against each other during the summer months, some are still among the work fleet fitted with engines and small cabins and being used for oystering and crabbing.

Robert H. Burgess, an authority on Bay craft, reported that he had, in 1958, received a letter from Sidney A. Vincent, naval architect for the Newport News Shipbuilding and Drydock Company. In his letter, Mr. Vincent spoke about being fascinated with the lines of the log canoes when he first arrived in Newport News in 1925. He spent a weekend lifting the lines from one of them and performed an analysis plotting the sectional area curve and entrance load waterline and found that these hull form factors were almost exactly those of the latest (at that time) naval destroyer hull forms. Vincent found it remarkable that "non-technical oystermen of years before scientists (and their model basin facilities) came to practically the same answer for relatively high speed craft."

Fishery Expansion

The most rapid development of the Bay fisheries began after the War of 1812 when New England schooners, having decimated many of their local oyster beds, began to come to the region to harvest from the abundant Chesapeake beds. They brought with them the oyster dredge and carried large numbers of oysters with them as they sailed back to their northern states. First they harvested large, mature oysters and later the small seed stock with which to replant the areas which they had depleted.

Chesapeake watermen, who were not used to these newer, more efficient methods, began to agitate for the exclusion of the outsiders.

In the years preceding the Civil War a law was passed in Maryland which banned oystering by nonresidents. New England shellfish dealers merely moved to places such as Baltimore to protect their businesses and keep harvesting. At about this time the building of the railroad to the western frontiers was in full development and oyster packers began sending large shipments of their product to the interior. The oyster businessmen, building on the demand for their product, were quick to expand and in 1860 shipped over three million pounds of oysters to the west. Although the Civil War caused a major lapse of harvesting and shipping activities on the Bay, by the end of the conflict they developed a steam canning process for oysters which further enhanced its potential by allowing for long distance transport with minimum spoilage. The Chesapeake Bay seafood industry took on all of the characteristics of a gold rush.

The years of the nineteenth century saw the development of some of the most beautiful craft ever to sail the Bay. Many were distinctive to the Chesapeake region. As the oyster fishery flourished, it was recognized that the schooner was a poor vessel with which to dredge. The same could be said of other designs which were used such as the sloop and the pungy (which was named, in all likelihood, after the boatbuilding town of Pungoteague in Virginia). The major disadvantages were that the bulwarks were too high to be able to efficiently pull the dredges or the draft too deep to be able to operate in the shoal areas where many of the oysters existed.

Vessels more suited to the job of dredging soon evolved. The log canoes were too small to work the rough waters of the Bay while pulling the heavy dredges. As the demand for a larger boat grew the log canoe was lengthened into the brogan and thence into the bugeye. These graceful two-masted vessels were originally constructed of logs but, as the supply of these became exhausted, they were constructed by being framed and planked as other Bay craft, while still retaining the hull design and their other distinctive characteristics.

Perhaps the most famous of the Bay sailing workboats was the skipjack. Built as a cheap workboat, it probably evolved from the V-bottom skiffs so common on Maryland's lower Eastern Shore. It is rather amazing that so many of these vessels still exist to dredge oysters during the winter months as the last working commercial sail fleet in the United States. Approximately thirty are still in the fleet with some variation according to the extent of the harvest. The skipjack is a shoal draft centerboard boat with a single mast. Unlike many of the other Bay craft it was poorly suited for any task other than dredging oysters or transporting some agricultural commodities to market. The cargo carrying capacity was very limited, they were poor motor vessels, and they were not very suited for conversion into pleasure yachts. Unlike the schooner, pungy, bugeye and others which survived for many years by being refitted as power vessels and used for cargo transport, the skipjack remains only because the State of Maryland has instituted laws and regulations which make it conducive to harvest by this means.

By 1880 over 2,000 large dredging vessels and 6,856 sailing canoes and other small craft were plying their trade on the Bay. This was the time of greatest harvest and activity in the Chesapeake. After the turn of the century the oyster harvest would begin to decline due largely to the overfishing which had been occurring. During the 1860's, conflict between the tongers, working from their smaller vessels, and the dredgers, working from their larger craft, escalated with pitched battles bringing death and destruction to many.

Violence on the Bay became so severe that the Maryland legislature, in 1868, brought into existence the Oyster Navy which was charged with bringing order to the Bay fisheries. This force exists in contemporary times as the Marine Division of the Maryland Natural Resources Police, the largest force of its type in the United States. The current law officers spend their time enforcing the conservation laws rather than fighting the pitched battles which their predecessors had to endure. In 1872 conditions had gotten so bad that the Oyster Navy had to permanently place armed schooners at four locations in the Bay.

Current Fishery

Today approximately 6,000 individuals make their living as watermen in Maryland. The fisheries have remained much the same over the years due to pressure from the industry to restrict efficiency in the harvesting of seafood. The Maryland fisheries are some of the most highly regulated in the United States with regard to harvesting equipment, quotas, closed seasons and restricted areas.

While relying upon these traditional harvesting methods watermen have been influenced, however, by a number of outside factors. An extensive road network now connects all ports and towns. The construction of bridges across the Bay have made for easier access between shores and, consequently, expanded markets. New construction materials such as fiberglass are replacing the traditional wooden vessels. Electronic and hydraulic equipment have made onerous tasks easier and faster.

Interestingly, in spite of restrictions placed upon how one can harvest seafood in the Bay, little was done to actually regulate how much was harvested. The result was that overharvesting did occur despite this legislated inefficiency and, at the present time, Maryland finds itself in the rather incongruous position of marking the three hundred and fiftieth anniversary of the founding of the State with the worst oyster harvest in its history.

As engines came to the fishery, dredge boats were fitted with power winders and many of the small canoes and skiffs were fitted with motive power which enabled them to travel farther and on days where there was little wind. Many of the power vessels which evolved were quite distinctive also and many were designed for specific fisheries or for specific conditions prevalent in local areas. The crab skiff, used for scraping for crabs on shoal flats, and the shad barge, used for netting, were examples of these. Vessels which were constructed in certain areas took on similar lines. The "Deltaville deadrise" has a great deal of sheer which meets an almost vertical stem, practically no flare, and a small cabin with rather "squinty

windows." The contemporary "Hoopers Island" workboats have almost no sheer but a very smart bow and an exaggerated amount of flare. The cabin is small but with a higher look and larger windows. These boats, as most in the Bay area, have no holds and are shallow draft with an engine box prominent in the working area. They are almost all of "hard shine" construction, built for stability in the short, choppy conditions of the Chesapeake Bay.

The search for speed under sail became the search for speed under power over the years. In earlier times it was the vessel which got to the dock or the buy boat first which got the best price for its product. Although this changed and tended to stabilize over the years there still was a great deal of effort put into having the fastest boat in the community and a measure of a great deal of pride to the owner.

Legal Influences

Until 1971 watermen were legally allowed only to harvest in the waters of the country in which they resided. In 1971, however, in a case brought by a waterman from Smith Island, the State Court ruled in Bruce vs. Director, Department of Chesapeake Bay Affairs, that these statutes violated the Maryland and United States Constitutions and were, therefore, illegal. This ruling allowed watermen to travel from county to county harvesting oysters and crabs wherever they happened to be most plentiful. While the "Bruce Decision" tended to equalize the prices paid for the products around the state it caused a great deal of trouble for the fisheries management agency. Watermen would congregate in large numbers wherever the catch rates were highest causing rapid depletion of the stocks and a great deal of animosity between residents of the counties which had the greatest resources and the non-residents who came to harvest.

Coupled with this new found mobility was a tendency for watermen to invest in larger vessels since they were in many instances traveling long distances by water and needed boats which were capable of withstanding heavier weather and which had larger cabins for extended

accommodations. Large Engines were used to power these vessels, most being conversions of automobile power plants.

Of recent development have been court decisions which have declared invalid residency requirements between states. At the present time some controversy has developed between Maryland watermen who have gone to work in lower Bay during the early season crab harvest and the watermen of Virginia who, as residents who formerly had the area to themselves, see the outsiders as unneeded competition.

Economic Influences

The energy crises of the 1970's changed the way in which many watermen thought about powering and sizing their vessels. The large gasoline engines which had been adapted to their vessels from automobiles utilized large quantities of cheap fuel. As long as the fuel was inexpensive it was considered worthwhile to have the power--even though many boats were so overpowered that they were incapable of utilizing a propeller large enough for the power delivered to it.

The first "fuel panic" which occurred in 1973 caused prices of gasoline to rise from approximately thirty-five to about seventy cents per gallon. There was a slightly noticeable shift in engines. Some watermen, especially those with larger vessels or who traveled a great deal, began to invest in diesel engines and to adequately size them to their boats.

The second fuel crisis in 1979 boosted the price once again and brought it in line with the real cost of energy in the world. Prices went up again from the seventy cent per gallon range to around a dollar and twenty-five cents. The shift in engines at that point was much more noticeable. Many of those who were still using gasoline conversions changed from the large displacement eight cylinder engines to smaller six cylinder models. Larger boats were changing much more readily to diesel and there began a trend to smaller, trailerable fiberglass boats.

The shift to small trailerable boats marked an interesting change in the Chesapeake Bay away from the locally designed and built craft to those produced in other areas.

In the 1970's a few companies, located primarily in the areas of North Carolina and New England, began to produce small fiberglass boats designed specifically for the commercial fishermen. This marked a distinct departure from earlier companies which had primarily concentrated on the recreational boating market and was a recognition of the fact that there were a great many inshore fishermen who would readily purchase such a product. These boats became very attractive to the Bay watermen because they offered low maintenance with a well-designed fiberglass hull with no extraneous frills. They also had the added advantage of being trailerable so that the waterman could take it to the area nearest his point of harvest. With an excellent road network having been built up over the years and many public and private launching facilities available in the Bay area, he could move easily and rapidly from place to place in search of the oysters, crabs, and fish which had formed the livelihood of generations of watermen. These small commercial workboats have become very popular in the Chesapeake and many watermen have either totally converted to these small vessels or have one in addition to a larger vessel.

There seems to be a recognition of the market which exists not only for boats but also for a whole range of products which are being produced for the inshore fisherman. Electronics companies have begun to produce echosounding equipment with scales suited to the shallow water depths around the coasts. It is not uncommon to find boats utilizing radar for safety and navigation in the Bay since units have been produced to fit both the boats and the budgets of these small scale fishermen.

The Maryland waterman has come quite a distance from the early days of using log canoes to catch his food and get from place to place in areas isolated by the Bay itself to the use of small fiberglass vessels which make good use of the contemporary road network in order to get to the point of harvest. It is interesting that this area, which saw development of

so many distinctive designs, should now be utilizing boats built in other areas of the country.

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