North Carolina Small Craft Historical Context An Underwater Archaeology Unit Management Plan

by

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and

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Abstract

The study of small craft in North Carolina has heightened during the 1980's primarily through the efforts of two state agencies, the North Carolina Maritime Museum (NCMM) and the North Carolina Underwater Archaeology Unit (UAU). As their involvement progressed each group realized that they were dependent on the other. Professionals at the museum who were trained in marine architecture and the history of local boating evolution were not experienced nor had the equipment to investigate the majority of historic boats that survive today since they generally exist in a submerged or semi-submerged environment and a deteriorated state. The reverse is true of the state underwater archaeologists; their expertise lies in recovering data from inundated finds but they often find themselves inadequately trained to work on specific classes of finds that may be encountered under the water. Therefore, through cooperative ventures and a series of workshops (involving professionals throughout the state involved with underwater archaeology and maritime history), staff members from these two agencies, have developed this management plan for North Carolina's small craft. Its aim is to help researchers working in the state identify North Carolina built small craft and their ages, promote consistency and clarity when describing them, and determine their relative significance, leading to efficient ways to best manage each, particularly when threatened by destruction.

Introduction

The boundaries of North Carolina enclose a variety of types of waters ranging from small shallow creeks to large exposed sounds and treacherous inlets to the sea. Unique combinations of weather, geography, topography and other environmental factors, together with cultural and economic circumstances have led to the development of boat types which are distinct from those of other maritime regions such as New England, Long Island Sound or Chesapeake Bay.

Boats which develop under these conditions are called indigenous watercraft or sometimes, vernacular watercraft, and are the products of individuals in remote or ethnic communities working with intuitive or acquired skills and concepts in response to restricted local or regionally specific requirements. They are normally very different from manufactured and "standard" boat types which are produced by an industry or industrial process to suit a broader application.

Indigenous watercraft are seldom, if ever, built from plans or written specifications. How the shape and structure of the boat is achieved depends on the materials available for its construction, and the ingenuity of its builder in manipulating the materials. The skill or craft level depends on cultural factors such as tradition, native invention, economic resources and either 1) intervention of outside resources, or 2) the resultant effect of cultural or geographical isolation. Small boats are implements: they are means of moving people and their belongings around. Indigenous watercraft are unique sources of information about their builders and operators. They afford an insight to times and technologies for which we have no other source.

In order to develop a context for small craft it is necessary to devise a definition and place limiting dates for the historical period to be studied. A functional definition has been adopted, rather than one based solely on size considerations, and the workability has proved very satisfactory. Basically small craft are considered to be boats built for and primarily used for inshore use, and not for long voyages offshore or out of touch with shore support. Further, small craft have been limited to those watercraft built prior to the middle to late 1950's, since this was about the time that large engines became commonly available, forcing design changes in boats that still prevail today. (In general, small craft are in the range of forty feet in length or less.)

Geographically, this context follows modern state wide boundaries. As might be expected, there is both local isolation in North Carolina's small craft development and usage within the state as well as significant overlap and influence from other states. In the future historic contexts certainly should be developed to focus on localized boat building traditions as well as regional contexts, that might encompass interstate trends. However, at this stage the North Carolina small craft historic context loosely bounded by state lines, will provide typological and chronological definitions for future refinement of contextual studies based on environmental and socio-economic themes.

Small craft evolution in North Carolina and most of the southeastern states is indeed poorly understood. There are a few basic reasons for this. Boat building in the south was often a backyard operation usually handed down verbally from generation to generation. Personal papers, newspaper accounts, advertisements, etc. simply are not available to document even broad evolutionary developments. Another reason, as North Carolina marine architects have found out, is that there is a lack of preserved small craft for study. This must be attributed to the state's temperate climate that increased the susceptibility of small craft to rot or decay. Boats were also generally left in the weather throughout the year, further decreasing their survival rate.

Although much of the history of small craft does not exist on library shelves or in museum storage areas, the information can be found . . . in the soft muddy bottoms of North Carolina's inland waters. This is a difficult environment to work in and until recently professionals have generally failed to search out these remains or ignored them when they were found. Therefore, while many aspects of archaeology are well advanced, the field of underwater archaeology particularly the aspect dealing with small craft in North Carolina is in its infancy and only now are basic objectives, such as typologies, being approached.

Historical Overview

The first English explorations and attempts to settle a colony in the new world occurred in North Carolina. The Raleigh expeditions brought small boats from England to use in their expeditions on the sounds and rivers. They observed and left descriptions and paintings of the native Americans fishing and traveling about in dugout log canoes.

They also recorded the laborious method of burning and scraping by which the logs were hollowed and fashioned into canoes.

The first settlers found it convenient and economical to build their boats by the dugout log method. Large cypress trees were readily available throughout the coastal region and boats were more easily made by converting the logs directly in this manner, than by having the logs sawn into lumber for conventional plank construction. John Lawson, during his exploration of North Carolina, described these boats as early as 1700 and reported that they would outlast a conventional boat by three or four times. Boats built by this method can be seen in photographs dating to the first decade of the twentieth century, lending some credibility to his observation. Some log boats were made by splitting the hollowed log down the center and adding timbers much like a keel and deadwood in a plank-built boat. This technique was adaptable to the use of more than one log, which meant that larger boats of even greater capacity could be built.

Dugouts of this period are sometimes referred to as boat-canoes because, unlike the Indian dugout canoes, they were usually square-sternned, modeled after typical European boats. Some carried small sails but the usual method of locomotion was by oar. Larger craft built in this manner were called periaugers and were usually two-masted. Periaugers were capable of making longer voyages alongshore, and short offshore voyages. They carried produce, livestock, dry goods, and naval stores, and were very important to the colonists.

Small boats in the period following the Revolutionary War differed little from those of the colonial period. Boat types change only when either their pattern of utilization is altered, or when sources of traditional construction materials are exhausted, or when some other condition either of a technological or socio-economic nature changes. North Carolina coastal communities were typically remote and insulated from many of the changes that might have occurred at that time, so many of the old ways lingered on.

Steamboats came into prominent use during this period both on the sounds and especially the rivers. They became reliable means to transport plantation products to markets down river, and for ferrying goods and commodities to plantations and settlements up the rivers.

The Civil War had a devastating effect on the economy of the south. During the reconstruction period following the Civil War, stagnation in boatbuilding activities set in due to diminished resources and manpower.

However, by the early eighteen-seventies, developments in transportation and industry and an influx of northern capitalists began to make an impact on eastern North Carolinians. Increased demand for seafood and fish products made the old boat-canoes obsolete and improved types were sought.

Sometime about the mid-eighteen-seventies, Roanoke Island boatbuilder George Washington Creef combined his log boatbuilding skills with conventional planking techniques, and developed a very seaworthy boat that came to be known as the North Carolina Shad boat. The type was adopted by other local boatbuilders and was still used well into the twentieth century, early as a sail boat, and later as an engine-powered boat.

In 1874, Connecticut businessman George Ives moved to Beaufort to start a wholesale fish business. After seeing the local boats, he decided that the sharpie of his native Long Island Sound would be an improvement, and he arranged with a builder in New Haven to have one built. He then raced this boat against the best of the Beaufort boats and won decisively. Local boatbuilders began copying his boat and in the following decade sharpies became the predominant boat for fishing and hauling freight on the Carolina sounds. Modifications were made to the original design to accommodate specific local needs, giving rise to several distinct classes of North Carolina sharpies. At least five different rigs are identifiable in nineteenth century photographs of North Carolina sharpies.

The sharpie can be traced throughout the evolution, although the most recent decedents bear little or no resemblance to their progenitors. The shad boat underwent a secondary influence contemporary with the advent of engine use. The shad boat was labor intensive to build, and was dependent on highly specified materials for its construction. Changing times and economics put a crunch on these factors and simpler, cheaper means to build these boats was pursued. For this reason variations of the shad boat with vee-bottoms and flat-bottoms appeared, but only the vee type proved very successful in replacing the original round-bottom form, and then only temporarily. The

vee-bottom types were often built of cheaper material and did not survive as well as many of the older round-bottom boats built from heartwood and natural root crooks.

These two cases illustrate different ways that small craft can become "indigenous" to an area. In the first, Creef's experience and ingenuity combined with the need for larger, improved boats resulted in a natural evolution in a short period of time. In the second, an outside boat, wisely chosen for its characteristics and proven success in similar conditions, was brought in and modified to meet specific local needs, eventually acquiring new identities, each quite distinct from their common prototype.

In the first decade of the twentieth century, the gasoline engine had found some acceptability among the fishing community, though they were still largely regarded as noisy, smelly and unreliable. A few were installed in existing boats and by 1915 there were boats being newly built for engine power.

Early engines were of low horsepower, well-suited for powering the typical sailing hull, but eventually, engines were available with more power than the existing designs could manage. Sharpies pounded and slammed into waves when driven hard by oversized engines. Shad boats squatted and "bogged down" with too much power. Boatbuilders had to change their thinking about the shape of the boats and how they were built, and soon the boats reflected the influence of engine power. They became sharper, with more deadrise, or "vee" shape in the bow, in order to soften impact with waves. The after part of the hulls was flattened and straightened to offset squatting.

These design changes had ramifications in construction materials and techniques. They also had adverse effects on the sea keeping ability of boats, or the easiness and comfort a boat exhibits in rough water. Straighter lines mean jerkier, more violent movement in waves. The science and art that makes up boat design is an exercise in compromise, of juggling opposing elements to achieve the most desirable result.

The Second World War brought about rapid and far-reaching change in technology and the industrial world. Almost overnight, engines of far more power than ever before were available at very low cost. Engines pulled from wrecked automobiles could be bought for the merest sum. Fuel was cheap and plentiful. Once again boat design was altered in response to requirements imposed by power plants. Boats became wider and flatter. The "power on demand" aspects of modern motor boating reduced the

boatman's reliance on knowledge and understanding of tides and weather. The boatbuilder's job became that of building tough enough to hold together under the punishment of speed and pounding waves.

The final chapter at this point in time has been the introduction of so-called modern materials (i.e., fiberglass). This has sometimes taken the form of either duplication or modification of existing vernacular types, but more often there has been an introduction of "standard designs", unrelated to traditional local types, produced for mass market distribution. This approach is successful because the reliable, high powered engine has removed much of the requirement that a boat must cope with the vagaries of wind, weather, tides and environment. Also, frequent and accurate weather forecasts are broadcast over radios and televisions in virtually every household. The modern fisherman has the mobility and the information to enable work to be carried out quickly and return to safe harbor rapidly.

Current Research

Personal observations and studies conducted by Mike Alford, NCMM, between the years 1960 and 1975 (see Historical Overview, page 4) had convincingly demonstrated the need to document and analyze the design and construction features of the local watercraft. It was obvious that the variety and sophistication of these small craft far exceeded that indicated by the literature concerned with boatbuilding and maritime history. It was apparent that many of the local techniques of construction were unique and that over the span of generations those techniques reflected the waterman's geographical isolation and native ingenuity.

In the 1970's, a growing awareness of the importance of small craft in the development of our nation – lent a sense of urgency to those who realized North Carolina's maritime activities remained unrecorded, and unreported. In 1975, the newly rejuvenated Hampton Mariners Museum (now the North Carolina Maritime Museum, NCMM) took on the challenge of filling this void, and on a spare time voluntary basis, Mike Alford began to channel his own efforts through the Museum. In November, 1980, under a grant-in-aid from the Institute of Museum Services, Health, Education, and Welfare, NCMM embarked on a long anticipated program to systematically study the

development of the boat in North Carolina. This entailed the study of traditional craft still in use as well as those stored in sheds, or in pieces and deteriorating in backyards or at boatyards. Oral interviews were conducted and extensive documentary research was conducted.

For the North Carolina Underwater Archaeology Unit's (UAU) first fifteen years all energies were spent on large submerged resources, such as blockade running steamers of the American Civil War. Other than a few dugout canoes, the remains of small craft went unnoticed and thus were of little concern to the Unit's underwater archaeologists. Since 1982 certain events have taken place which have lead to an increasing awareness of the importance of small craft remains as submerged cultural resources and subsequently the need for the state to develop a management plan sensitive to their specific needs. The following are the highlights of those events, the problems they posed and the state's efforts to resolve them.

In 1982 the UAU was called on to survey the berthing basin for the *Elizabeth II*, a replica of a vessel that brought the first English colonists, located at Manteo on Roanoke Island. During the course of the survey the remains of a 24-foot wooden boat were located within the project area. The sunken craft was not thought to be very significant since it was once propelled by a motor and apparently of a twentieth-century origin. However, the UAU did ask that it be avoided during the project. When that couldn't be done, they returned to the site with the intention of excavating the remains, floating them to the surface and redepositing them to a nearby protected cove.

The fact that the Manteo boat was a North Carolina shad boat imparted several important lessons. The first being that shad boats are particularly difficult to raise and move when in a waterlogged and deteriorated state. In these type craft, the floor frames are not locked to the keel by a keelson. The boat had to be removed from the bottom, piece by piece, and reconstructed on a nearby barge. During this process it was easy to describe the wreck to Mike Alford, a specialist in North Carolina small craft, who readily identified it as a shad boat. This type evolved between the Civil War and World War I and is an important product of North Carolina's watermen, who developed it to meet the requirements of their local environment. Albemarle Sound shad boats have recently been designated the North Carolina state boat.

With the Manteo shad boat it first became evident to the Unit that small craft, even ones built for internal combustion engines, could hold historical significance. Also, very importantly, an interrelationship was begun between marine architects of the NCMM and the UAU's underwater archaeologists.

A prominent portion of the North Carolina's underwater archaeology program during the past decade has involved its environmental review system, which seeks to protect historic shipwrecks and other submerged sites from water-related construction projects. Recently, what has presented a special problem are the remains of small craft, particularly those built during the last one hundred years. While developers feel that such finds are hardly large or old enough to slow construction, archaeologists see the study of these resources as important for understanding the state's maritime history.

In Elizabeth City several small craft were reported during an archaeological survey for environmental clearance contracted by the Wilmington District Corps of Engineers (COE). The wrecks were briefly described as "modern" a term which covered a broad period from 1870 to World War II. From the report's documentation, it was not possible to determine with certainty the age, type, and function of any of the wrecks. Some wrecks were reported insignificant, thus allowing them to be destroyed without further documentation.

With the Manteo shad boat fresh on their minds state reviewers were reluctant to sacrifice anything to development without a thorough understanding of what they represented. Corp of Engineer officials, on the other hand, were wondering why there was no agreement among professionals concerning the significance of small craft remains.

This prompted the UAU to organize a gathering of the state's professionals, to discuss small craft resources with the hope of arriving at a consensus on how to deal with them. Participants represented governmental Cultural Resource Management programs, a museum, a university program, a private archaeological contractor, as well as several individuals.

Eventually, six sessions were held to discuss a variety of topics pertinent to the management of small craft. These covered state and federal environmental review programs, dating methods and materials, contributions of small craft to anthropological

inquiries, available historical research materials, and the existing small craft data base. A tour through the NCMM during a discussion of the terminology and identification of small craft offered a pleasant relief from the classroom. An even more enjoyable setting was the dry bed of Lake Phelps, where an abandoned shad boat allowed a simulation of an underwater archaeological project. A great deal of information was presented at these day-long workshops, which provided the basic information upon which to develop the North Carolina Small Craft historic context.

Resource Types

Three common questions facing archaeologists in the field upon confronting the remains of a small craft or larger vessels are, "What is it?", "How old is it?", and "Is it significant?". As presumed experts in the area of marine vessel evolution and history, the maritime staff at NCMM is frequently approached for assistance in obtaining answers to those questions.

These questions are not necessarily easily answered; identification and evaluation are complex issues. Most often, the vessels in question are situated in underwater sites, and the archaeologist has gathered what little data as was possible under the most trying of conditions. The combination of limited visibility, hazardous currents, physical hardship, and poorly preserved, usually largely obscured structural components conspire to prevent accurate observation of critical features.

Finding the answers to these questions is made even more difficult if there happens to be no common language between the asker and the hopeful responder. Nomenclature of ship structures is often vague and ambiguous. In some aspects of vernacular boat types there may be no recognized standard nomenclature. Boatbuilding practices can vary widely from region to region, or even within the same general locale. Often, the questions come over the telephone, with each party groping for descriptive phrases that will somehow transform murky images into concise identities. Inevitably, the tables are turned and the hunter of information becomes the hunted, the brunt of questions rather than the recipient of answers.

This is a frustrating situation for everyone involved. The archaeologist in the field needs immediate answers. Often, a contractor or government agency is complaining

of needless delays and escalating constructions costs. Analysis of data and reluctance to make decisions based on sketchy observations may be viewed as incompetence or intolerable regulatory quagmires.

Although archaeologists are on the "front line," and thus take most of the "heat" in these situations, it is unrealistic to expect them to be specialists in all the fields they encounter on a dig, or a dive. That is particularly true in the case of boat and ship structures, for which we are now still gathering the data (for regional vessels) that will enable the understanding of what is a fragmented and difficult subject. But since the specialist in this case also may not be a diver, and cannot go onsite, and because in most cases the "object" cannot be delivered to the expert's laboratory, the underwater archaeologist becomes the "eye" of the specialist. And in order to "see", the archaeologist must know what to look for, and must be able to communicate back to the specialist the observations that will lead to answers.

This is the function to which the small craft typology attempts to contribute. It is designed to reduce a maze of types, and variations within types, to a manageable number of related groupings, with key characteristics by which they may be identified. After years of collecting data from abandoned boats, from boats stored in barns, from pieces of boats lying in marshes or behind fish houses, by examining fragments of boats raised from underwater sites, and from repeated efforts to combine, or reconcile fieldwork with historical accounts, records and documents, the unwieldy nature of this mountain of data had become obvious. Work was begun on a scheme to classify known examples of vernacular North Carolina boatbuilding techniques into a simplified checklist that would provide assistance to divers who needed to make quick, onsite assessments relating to identification and historical significance of submerged resources. Patterns and relationships emerged when examples were grouped by similarity of major structural elements, and when those elements were given a hierarchical status.

The system is based on the premise that structural systems are a more reliable indicator of origin and related cultural aspects than is shape, and what we usually refer to as the "lines of a boat." This concept may not be universally accepted as yet, but at least in the present situation it has removed several blocks that had continually proved troublesome.

Acceptance of a typology based on structural morphology does not eliminate shape as a consideration. In the first place, boat shape is very much related to the methods and materials selected for construction. However, shape can and does vary within a type, within limits, and is also, like fad and fancy, subject to the whims of taste and the winds of change. A shape typology would probably have to begin with a classification separating hulls into the traditional three classes: round-bottom, vee-bottom, and flat-bottom. Immediately, this invokes artificial criteria which will prejudice many future decisions regarding classification. True evolutionary lines, if present, will be camouflaged and may go undetected. There are other instances in which inconsequential factors conspire to confuse the issue when shape is used as a classification device.

The structural system recognizes the role of boatbuilding technology in the social and economic development of a societal group. As boat use and economic factors change in a community, shape, size, and arrangement of the boat and its equipment may alter, but the basic structural elements will evolve more slowly, because of the dependency of the building on the technology "status quo" in a vernacular setting.

A structural typology has the added advantage of being based on tactile, definitive objects that are readily recognizable and readable in the field. It must be emphasized that the present typology is based on data collected to date and is thus limited. It is still undergoing testing in the field and also with accumulated file data.

The structural elements incorporated into the typology are planking style, keel morphology, and the system of transverse frames. It is helpful if the diver or observer can determine the general structural class, designated as "plank on frame," or "skiff," etc., but at this point the system is not so cumbersome as to prevent starting in the middle and then eliminating the obvious disparities.

The designation "flat-bottom," "deadrise," and round-bilge" are used in the sense of construction types, and are not descriptions of shape. Many times, either of these three construction types can be flat or relatively flat in shape over some portion of the bottom, leading to confusion and misinterpretation. There is an apparent allusion to shape in the descriptive "square both ends" and "sharp stern", but the reference is intended for

structural features, transverse structures truncating each end in the first instance, and planking terminating at the stem and stern post in the second.

Boats hollowed from logs or incorporating log shells in their construction occupy a separate major category. In a system based on "round," "vee," and "flat" bottoms, these clearly distinct boats usually get tucked away in irrelevant or inappropriate categories. Log boats derive essential strength from the monolithic nature of their shells. When logs or log parts are joined, however, and in some lightly constructed single log boats, additional stiffening and strength is achieved through the use of transverse frames and sometimes longitudinal devices. In more sophisticated forms of log boats, we may see techniques applied to "extend" the capacity of these craft. In North Carolina this consists of either raising the freeboard through the use of a strake or strakes installed along the upper edges of the log shell, or by separating the port and starboard portions of the log shell, and combining them with a centerline structure resembling the stem, keel, deadwood and sternpost of plank-built boats. The two techniques are often seen in the same example.

Apparent limited success with the typology suggests that eventually it may lead to a dichotomous key by which, through a series of simple choices between paired structural features, identification of vessels at the specific level may be accomplished. Such a key is a tool ideally suited to the needs of the archaeologist who may lack the specialization required for identification and evaluation of the wide variety of vessels of diverse origins potentially residing in underwater sites.

There are some negative aspects to this typology. It has previously been stated that it is limited and experimental. It may also be oversimplified and there is risk that field operators may assume that if a vessel remains does not immediately settle into a niche in the outline, that it indicates an insignificant vessel. The typology does not directly address significance, admittedly one of the initial objectives. On the other hand, it does say that vessels or remains that can be placed on the outline match certain minimum criteria for vernacular craft historically used in North Carolina. Every boat of vernacular origin is unique; each has significance of greater or lesser degree. Identification is nine-tenths of the significance questions, and the typology is a step toward identification.

What this typology does not do, which hampers its general applicability, has to do with boats whose origins lie outside the boatbuilding techniques historically practiced in North Carolina. Boats are obviously mobile, and by purpose, move about and may operate some distance from their points of origin. Some of these will obviously come to rest in foreign ports. Application to vessels which have come from outside the implied geography may result in misleading conclusions, or may fail to register at all. Hopefully though, observations which are made within the scope of this typology will result in data that will be helpful in arriving at a valid identification for any vessel type for which there is available documentation. Its success ultimately lies with the experience of the user and his or her willingness to pursue matters to fruition.

The typology suggested in this outline is an evolving system based on limited information. The structural features on which the categories, as they are presently configured, were established, represent concepts based on a combination of field observation and historical records, none are speculative. They are valid only when applied to the vernacular boat types native to North Carolina, and specifically to those generally not more than forty feet in length. The typology is further limited, for the most part, to boats and methods used prior to about 1920.

The authors make no claim that this system is either accurate or complete at this time, only that it appears to work as a device to classify boat types within its scope and indicate possible relationships. Further testing and evaluation in light of recent and forthcoming data will enable a continued honing process to increase the reliability and effectiveness of the typology.

Typology of North Carolina Indigenous
Boat Type for the Period 1700 – 1920
M. B. Alford
Watercraft Research
North Carolina Maritime Museum

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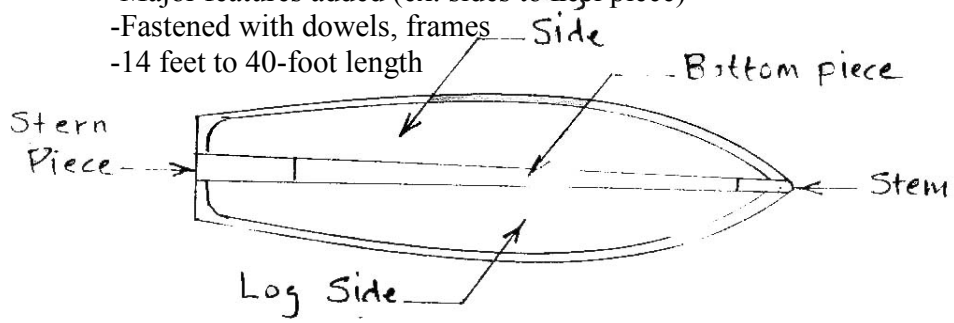
I. HOLLOWED LOG SHELL (dugout, canoe, canoe-boat, kunner (coll.), periauger)

A. Single log, simple, trough-form or rudimentary
-Burn and scrape or occasionally iron tools takes form of tree or way it's burned down
-Longer than 14 feet

B. Single log, simple, modeled form
-Iron tools or occasionally burn and scrape
-Intentional shaping

C. Single log, complex (inserted frames, modeled form)
-Supplemental features added (ex. garboard strakes; frames

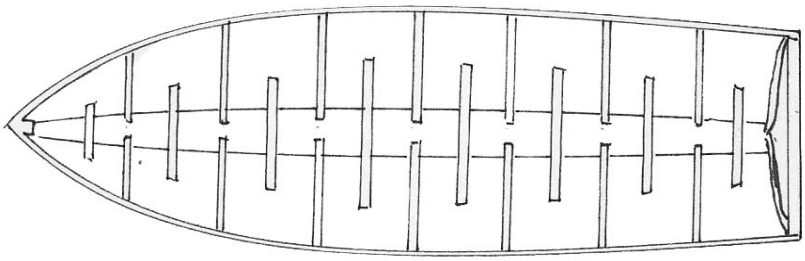
D. Split dugout, complex (inserted frames), extended, modeled form
-Major features added (ex. sides to keel piece)
-Fastened with dowels, frames
-14 feet to 40-foot length



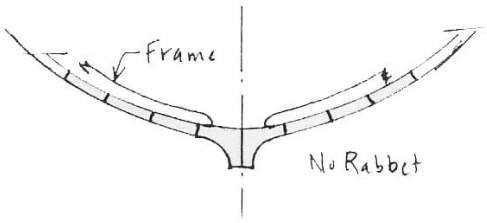
E. Multiple log, complex, extended, modeled form
-Not verified in North Carolina
-Constructed from 3 or 5 logs

II. PLANK-ON-FRAME

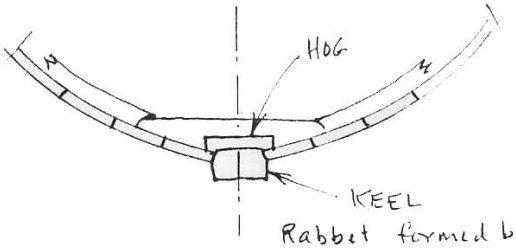
-Alternating "frame & floor" is characteristic of North Carolina built boats



A. Round bilge, molded cross-section keel
-Keel pieces hewn from three (Juniper)
-Labor intensive construction
-Two types of keel



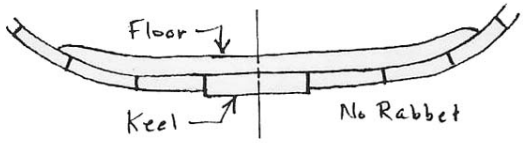
KEEL HEWN FROM LOG



Rabbet formed by Keel and Hog

1. Transom stern
Typical North Carolina shad boat
2. Fantail stern
3. Staved round stern

B. Round bilge, flat keel
-Not as strong
-Keel tapers at both ends

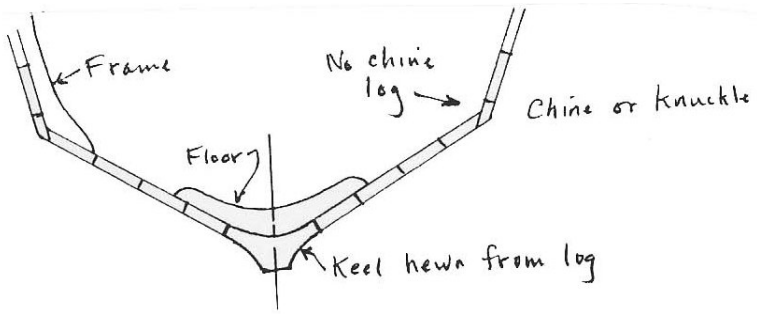


FLAT OR PLANK KEEL

1. Transom stern
2. Round staved stern

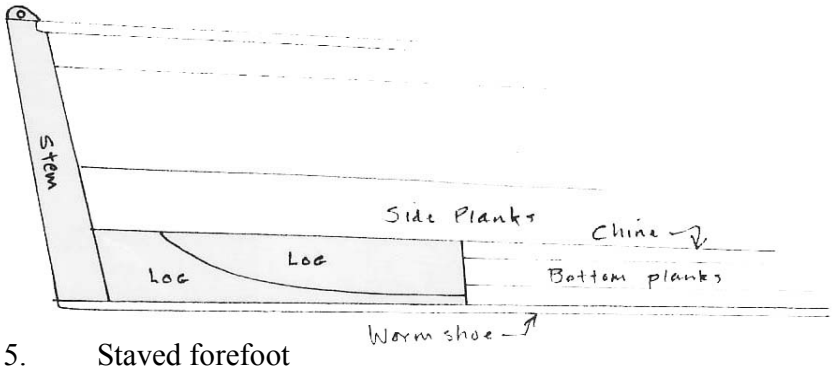
C. Round bilge, lapstake
1. Sharp stern
-Most boats
2. Transom stern
-Not verified
a. Skiff
b. Deep keel, decked or partially decked

D. Deadrise bottom, longitudinally planked bottom, molded cross-section keel
-Similar to round bottom (economic successor
-Also called 'V" bottom or chine boats

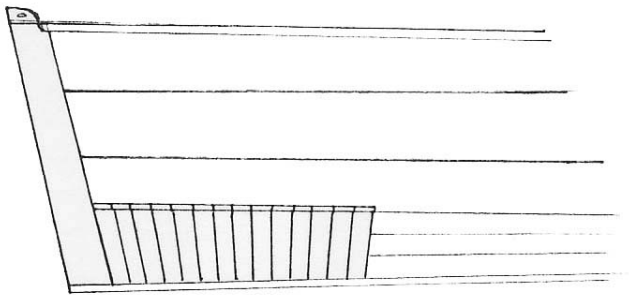


-Straight frames - either lapped or reinforced by knuckle frames thus simplifying planking
1. Transom stern
-Typical of North Carolina shad boats
2. Fantail stern
-Probable imitation of boats in the Northeastern United States
3. Staved round stern

E. Deadrise bottom, bottom planked longitudinally, flat or plank keel, or keel-less
-Similar to round-bilge/deadrise bottom
-Built for motorized power
1. Transom stern
2. Fantail stern
-Usually poorly made but could be made well
3. Staved round stern
4. Log forefoot in low deadrise boats
-Solid piece (not needed in shad boat because of keel piece



5. Staved forefoot
   -Short pieces



6. Planked forefoot

F. Flat bottom, transversely planked, more or less rockered bottom

RUCKERED BOTTOM

1. Transom stern
2. Staved round stern
3. Sharp stern
4. Square both ends
5. Side frames molded
   -Not verified
6. Side frames straight
7. Side planked
   -Not verified
8. Sides molded cross-section

G. Plate bottom and knee, little or not bottom rocker

1. Sharp stern or transom stern
   a. Side frames molded
   b. Side frames straight

III. SKIFF CONSTRUCTED (slab or post)

-Quick and cheap, very variable
-Not built around frames, not molded
-No shape to the sides - generally one plank

A. Flat bottom skiff, bottom planked transversely
    1. Transom stern
    2. Sharp stern
    3. Swim head (square both ends)

B. Deadrise skiff, bottom planked longitudinally small angle of deadrise (modified skiff const.)
    1. Log forefoot
    2. Staved forefoot

IV. FLATS, FLATBOATS AND SCOWS (square both ends)

A. Essentially skiff-built but larger and heavier construction
    1. Bottom planked transversely
    2. Bottom planked longitudinally
B. Archaic form (molded side construction)

Small Craft Chronology

This is general since there is lots of overlap in use of types.

Pre-Columbian Period (pre-1600)
- -Prehistoric, precontact, native American
- -Single log canoe, simple

Discovery/Exploration Period (1600-1699)
- -European built boats
- -Single log canoe, simple, some model

Colonial Period (1700-1799)
- -European built boats (local building European types)
- -Colony or plantation built
- -Flat-bottom slab-built skiffs
- -Round-bottom, natural and sawn frames
- -Simple and complex log (extended rising strakes, possible African influence)
- -Split log
- -Flats (square-sided barges)
- -Lingering Aboriginal Canoes

Antebellum Period (1800-1859)
- -Single and split log boats
- -Round-bottom skiffs and boats, transom sterns
- -Local styles established
- -Flat-bottom slab-built skiffs
- -Flats

Civil War/Reconstruction Period (1860-1869)
- -Same as Antebellum with addition of Naval boats (Tenders, Gigs, etc.)
- -Period of stagnation in boat building due to diminished resources, man power, etc.

Industrial Period Early (1870-1909)
- -Revolutionary period for boatbuilding
- -Lingering log boats
- -New round-bottom forms (shad boat types)
  - -First one built between 1870-1880
- -Deadrise types
  - -First one probably built by 1880
- -Round Sterns
  - -Appearance is probably coincidal with introduction of sharpie
- -Fantails
  - -Became fashionable in 1890's

-Sharpie (flat bottom)
    -introduced 1874
    -Cheap, effective and shallow draft for work in sounds
    -Quickly replaced mid-length (40'-60') round bottom boats
-Myrian slab-boat skiffs
-Steam boats
    -Yard built steam flats and interior vessels

Industrial Period Late (1910-1929)
-Last days of viable sail in all but small boats
-Internal combustion engines tried in sailboats (1910)
-Boats built for internal combustion engines (1915)
-Chesapeake Bay boat influx and local copying of types

Mechanized (1930-present)
-Engine considerations control boat designs, high horse power supersedes other maritime consideration
-Offshore fishing takes off
-Overland transportation replacing water born traffic
-Powerboats, outboards, large trawlers replace traditional vessels
-North Carolina boat/ship building industry bottoms out

Inventory of Small Craft Remains

Based on Mike Alford's Inventory and UAU Archaeological Files

Type of Craft	MA	UAU
Dugouts		
Single log simple	1	33
Single log simple modeled	3	5
Single log complex modeled	1	
Split log complex modeled	1	
Plank-on-frame		
Undetermined		9
Round Bilge		
Molded keel		
Transom stern		
Shad boat	30	1
Herring boat	4	
Fantail	2	1
Undetermined		6
Plank keel		
Skiff	1	
Deadrise bottom		
Molded keel		
Transom stern		
Shad boat	10	1
Herring boat	4	
Undetermined		1
Plank keel or keel-less		
Transom stern		
Core Sd.	9	
Fantail	2	
Undetermined		3
Plank (slab and post) skiff-built		
Flat bottom skiff		
Pointed bow		
Transom stern		
Transverse planking	18	7
Undetermined		1
Swim head		
Transom stern		
Transverse planking	1	
Longitudinal planking		1
Raked stern		
Transverse planking		3

Chronology of known small craft remains

DUGOUTS
- Pre-contact 33
- Colonial to Industrial 7
- Federal-Antebellum 2
- Industrial 1

PLANK-ON-FRAME
- Industrial Early 34
- Industrial Late 30

SLAB AND POST
- Industrial to Mechanized 30

Evaluation Criteria and Needs

The present inventory indicates what types of craft are available for study and conversely what types are poorly represented. The principle objective of the historic context for North Carolina small craft remains is in gathering data with sufficient range in time and geography to establish a refined chronological typology for North Carolina's indigenous small craft.

Therefore, small craft finds should be evaluated according to their potential contribution to refining the structural typology. In cases where no current examples exist, such as for sharpies, any example regardless of condition should be considered important. On the other hand, a prehistoric dugout or shad boat, even in good condition, may not be considered significant because, due to the number of others that exist, it does not contribute new information to the present typology.

It should be remembered that the typology is based on structural features known or expected to have been employed historically during the construction of boat types native to North Carolina. Therefore, the remains of a craft may derive its significance solely from a singular feature, such as a certain style of framing pattern.

The integrity of small craft remains is also s major consideration in assigning relative significance. When features are preserved to a degree that allows greater accuracy in observing and recording them when compared to other examples, they are relatively more significant.

The structural typology for small craft remains is largely untested and will undoubtedly need to be adjusted as information is gathered. The UAU will continue to update the typology based on recommendations with NCMM staff and other professionals throughout the state.

Treatment and Documentation

The amount of information collected at each site should be directly related to its significance as defined by the structural typology. In order to make a preliminary assessment at the site of each small craft basic information retrieval (Level I) is necessary. Based on this, the investigator will be able to determine whether to proceed with additional data collection and in what manner.

Level I documentation recorded for each small craft regardless of age, condition or significance is essential. Collectively, they provide the data base to determine distributional and density patterns, which can lead to predicting the existence of additional, perhaps earlier, small craft remains. Small craft are especially suited to distributional studies due to their large numbers and frequency of loss and abandonment.

Level I – Phase I Survey Information

Identification
- Project site number and name
- Investigator and affiliation
- Date recorded

Location
- Body of water
- Closest main body of water
- USGS Quad Map or NOAA chart
- Mark position on map, preferably
- Directions to the site

Environment
- Describe marine environment (water depths, currents, bottom conditions).
- Describe associated uplands, if appropriate

Description
- Overall measurements (length, beam, depth of hold)
- Propulsion
- Hull configuration (RD, “V”, Flat)
- Hull materials
- Prominent features

Condition of site

Historical Research or Informant Information

Additional Comments

This will be the extent of documentation collected on manufactured or class boats as well as small craft constructed after World War II. While some of these boats may hold archaeological or historical significance, it will not be within a historical context based on North Carolina indigenous small craft.

A mid-range degree of field documentation is necessary to provide the basis on which to determine small craft remains that hold the greatest potential to contribute important data to the existing typology and thus be significant. Furthermore, it will help identify what features make it significant and guide planning for mitigative measures and management in the future.

Level II – Investigations

1. Locate vessel on earth's surface using UTM or Lat/Long coordinates.
2. Do a reconnaissance of the immediate area to understand the wreck's relationship to the surrounding environment.
3. Expose the wreck to the extent that it can be studied and collect associated artifacts.
4. Make a sketch map of the site with overall measurements.
5. Take basic measurements – place a string down the keelson and locate all frames on a grid.
6. Record dimensional data on floors.
7. Take cross sections at critical places: midship, near the bow and near the transom.
8. Note features such as the placement of mast step and centerboard.
9. Sketch details such as shaft holes in the keel, the projected shaft clearance of the floors, heights of the engines, the shape of the keel log.
10. Take photographs whenever possible.
11. Recover samples for wood analysis and fastening identification.
12. Conduct historical research and inquiries of local people to solicit vessel identification, type and period of use, and so on.

Small craft remains that will not need further attention are those that fit into the structural typology but due to better preserved existing examples, are not able to add significantly to existing knowledge. Most of these will have been built during the Industrial Period or later (after 1870). Remains representing small craft that have been built elsewhere and imported into the state will also not be considered significant within the North Carolina small craft historical context. However, appropriate regional maritime programs would be notified of the find. In this way, interested professionals, both outside and within the state are alerted that the vessel exists and that they should act quickly should additional archaeological recovery be of interest to them.

When a small craft is indigenous to North Carolina and retains sufficient age and integrity, either in whole or in part, to contribute new information within the typology it is considered significant. The UAU will strive to protect the remains until such time that the information which the small craft possesses is adequately retrieved. Based on the conditions of the wreck and surrounding environment, collected during Level II, the UAU will be able to determine changes that might threaten its preservation.

The most common threat to significant small craft and often the reason they have been located and investigated to Level II is modern development. It is at this point, through its environmental review process that the UAU has to decide whether the proposed construction will damage the remains and if so must approve a mitigation plan designed to retrieve important information prior to destruction. Extensive archaeological research is in itself a destruction process and an approved mitigative or research plan is required through the UAU permitting system.

The mitigation plan calls for Level III archaeological investigation designed to thoroughly and completely gather data on those aspects of the small craft that make it significant. Therefore, Level III documentation is very site specific. Accepted, up-to-date archaeological methods should be employed and aimed at maximizing data collection in return for energy expended.

The UAU will review all levels of investigation, significance determinations and mitigative/research plans and either accept the work or make recommendations on how it might be improved to meet UAU standards (See Rules and Regulations). Consultation

with the UAU staff is highly recommended at all stages to insure adequate and necessary archaeological tasks are performed.

The North Carolina small craft historical context is loosely structured and fluid in nature to allow new, unexpected information to be incorporated within. Unknown types or structural features may have played an important role, while types suspected to have existed may prove not to have. The UAU will continue to see assistance from the state's maritime specialists, particularly staff at the NCMM, during their review of small craft investigations and guidance as they strive to refine their understanding of North Carolina small craft through this historical context.

Registration Priorities

The focus of the North Carolina small craft historical context is to refine and support the existing structural typology and accompanying chronology. The foremost priority therefore is to seek out and record as many small craft examples as possible. There are very few areas in the state where a concentrated effort has been made to inventory small craft remains lying in and around the water. Thus the small craft typology/chronology is largely untried, even on a statewide basis. Regional variations have not even begun to show up. At this point in time very widespread inventories are needed to sample areas throughout the state in order to record a variety of small craft in a thorough, systematic manner.

As information is gathered and the typology strengthened, related contexts may be developed. More specific aspects of the structural typology, such as the evolution of the centerboard or the use of the log keel during the development of North Carolina small craft might stand as separate design contexts. In the future, small craft could be one aspect of an environmental context focusing on the factors that contribute to the building and use of vessels within a given region. They might also be incorporated in social contexts such as one aimed at revealing how maritime industries are organized and developed by viewing the consequences of economic strategies on the maritime archaeological record.

Small craft have been numerous and relatively expendable artifacts during man's reliance on the waterways for transportation and subsistence, a period beginning with the

first inhabitants and continuing to the present. They are particularly sensitive to changes in the environment, the economy and social patterns. It stands to reason then that small craft remains must be recognized as a vital tool for answering a spectrum of anthropological research questions. These cultural resources should be afforded the recognition, attention and protection comparable to the value they collectively possess.

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