

"The uses and conveniences of different kinds of Water Craft"
Continental Army Vessels on Inland Waterways, 1775-1782

John U. Rees



Bateau and crew, pictured during a special event, portraying Connecticut soldiers rowing up the LeChute River in 1775. After wagons, bateaux were the workhorse of the Continental Army, and by far the most numerous vessel used during the war. They were an important component of Benedict Arnold's 1775 march to Quebec, any and all movements by water in the northern theater, and were heavily relied upon during Maj. Gen. John Sullivan's 1779 campaign against the Iroquois. In August 1782 a large fleet of bateaux transported Gen. George Washington's forces from West Point downriver to Verplank's Point, the last large Continental Army field encampment in the north. (Photograph courtesy of Fort Ticonderoga.)

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Author's Foreword
(2001)

A few years ago while researching another subject, I ran across an intriguing letter concerning vessels being gathered to convey men and materiel over the Delaware River in summer 1777. The dramatic crossing of that river by Washington's army prior to the Battle of Trenton in December 1776 was effected in hastily gathered Durham boats (used in the river trade) and ferry-flats; by contrast the 1777 vessels were built for army use and intended to serve as ferries across the Delaware for an extended period.¹

Thomas Mifflin, then quartermaster general of the army, wrote from Coryell's Ferry, 8 June 1777:

We have here 3 large Artillery Flats, [and] four Scows, each of which will carry a loaded Wagon with Horses, 4 flat boats, each to carry 80 Men, 13 Boats on Wagons at this place and 5 others on the Way 6 Miles from this Ferry each of which Wagon Boats will carry 40 Men[,] All which will transport 3 p[ie]ces. Artillery with Matrosses & Horses, 4 Wagons & Horses, and 1000 Men at a Try.²

The diversity of craft in this one description is significant; all were flat bottomed vessels, but due to variations in size and construction, each type had differing attributes and abilities. While the larger flatboats gathered by Mifflin at the Ferry could not be easily transported overland, many were small enough to accompany the army when mounted on specially-made carriages; such "Boats on Wagons" would be used throughout the war. Carrying capacities also varied; some craft were intended to ferry wheeled vehicles and horses ("Scows" and "Artillery Flats"), others to carry troops ("4 flat boats, each to carry 80 Men"), while a few vessels could transport both.

As I pursued the subject, more information on Continental Army river craft surfaced, so much that it seemed only natural to do an analysis of the vessels used. With this resolution the proverbial can of worms popped open. Even given the limitations of including only boats used on inland waterways the number of different types is a bit daunting, ranging from "Round futtock" boats to pettiaugers, scows to sloops. In addition, many of the vessels in question were common sights on the waterways and of simple construction; because of this, knowledge of them seems to have been taken for granted, making detailed descriptions rare. Though by no means an exhaustive study, the most important vessels, along with some lesser-known craft, and their attributes are covered.

The following craft are examined below:

barge	schooner
bateau	scow
Durham boat	shallop
ferry-flat	skiff
flatbottom boat	sloop
galley	"Waggon Boat" (actually a bateau transported overland via special carriage)
gunboat	whaleboat
gundalow	wherry
pettiauger	xebec or zebec
"Round futtock boat"	

Author's Note, 21 February 2014

Since completing the initial version of this monograph in 2001 I have added some new information and a number of images. Regarding the latter, the small array included herein is hardly comprehensive, and in some instances would benefit by being replaced with better, more accurate depictions. I encourage anyone with advice or contributions to contact me at the email below.

I must also add here a caveat regarding the narrative. In places I range into the area of naval architecture, a subject of which I am largely ignorant. Please forgive me my trespasses; I heartily welcome comments, corrections, and suggestions.

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Note: In the text Falconer, *Universal Dictionary* refers to William Falconer, *An Universal Dictionary of the Marine*, 1769 (1776 edition), as cited in *The Compact Edition of the Oxford English Dictionary*.³ The 1780 and 1784 editions are available online:

(1780) <https://archive.org/details/universaldiction00falc> and

<http://babel.hathitrust.org/cgi/pt?id=uc2.ark:/13960/t72v2tj6q;view=1up;seq=1> ;

(1784)

http://books.google.com/books/about/An_Universal_Dictionary_of_the_Marine_Or.html?id=3pVAAAAAYAAJ

"In transporting of stores." Sailing Vessels

There were several categories of sailing vessels whose main purpose was to carry army stores via inland waterways; in order of precedence they were sloops, schooners, pettiaugers, and shallops. While each type had its own special attributes, standardization was unknown, and government-owned or leased vessels within each category likely had their differences. A case in point was schooners, which had some regional variation in their construction. The Chesapeake Bay clipper schooner, or "Virginia-built schooner," was fast and particularly adept at sailing close to the wind, with "low freeboard, and sharply raked masts." These vessels have been called "perhaps, the finest product of American marine architecture during the eighteenth century." Forerunners of the 19th-century "Baltimore Clipper," they were likely more often used on the open waters of the bay and ocean than the more-constricted rivers.⁴

Privateers in Maryland and Virginia preferred the Chesapeake Bay topsail schooner. Built for speed, they were described as "two-masted [vessels] with fore-and-aft rig of a single sail on each mast ..." Schooners needed fewer men to work them than "a ship or brig of similar tonnage and was less expensive to rig. Occasionally a schooner would hoist a topsail on the foremast attempting to gain speed. The fore-and-aft sail rig normally had substantial advantages over the square-rigged ship and brig. It enabled a vessel to sail closer to the wind. The sails could be hoisted or lowered quickly without having to go aloft, though the extra driving power of the square sail was a definite advantage ... when running before the wind. Tacking could be accomplished from the deck as could reefing. Additionally, the schooner offered advantages of maneuverability over square riggers ... [and] could come about more readily and with less loss of speed or way." Schooners were designed for use in shallow coastal waters.⁵

Sloops were also popular for privateering. With a single-masted fore-and-aft sail "and either a fixed keel or a centerboard," sloops, like schooners, were particularly suited to inland and coastal waters. They "ranged from a few tons to upwards of 100 tons ... Some sloops exceeded many schooners in size."⁶

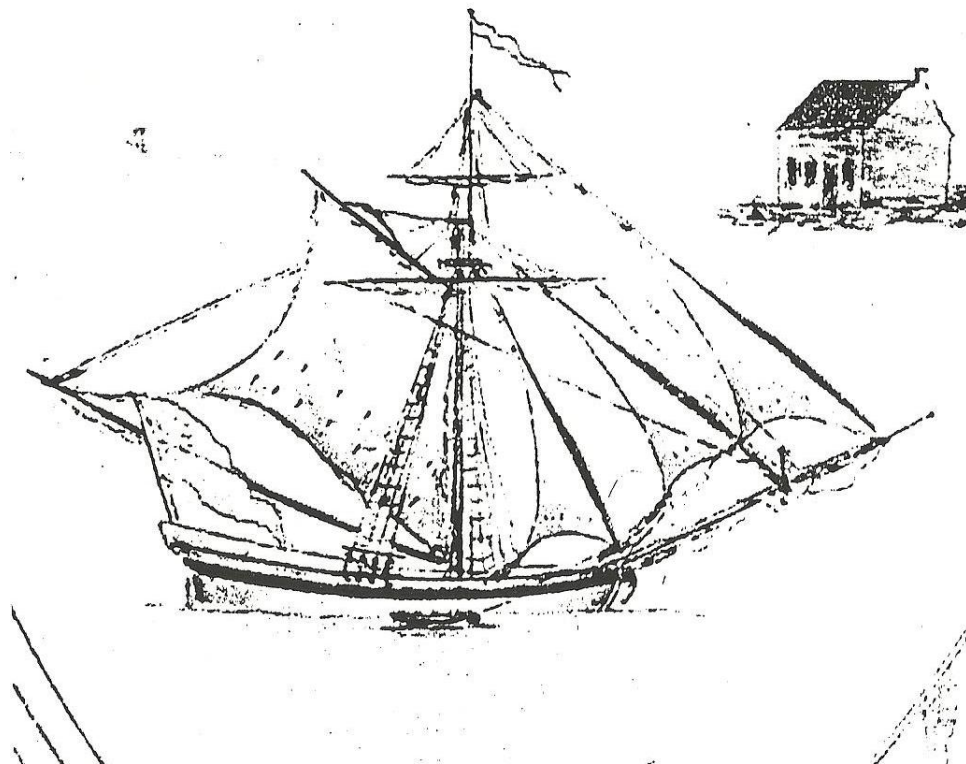
While pettiaugers beat the other craft with their versatility, in sheer numbers schooners and sloops were the most important sailing vessels used for transporting Continental Army stores. Though only a few were actually owned by the United States, many more were hired or impressed when need arose. In autumn 1781 at least sixty schooners and twenty-two sloops, all privately owned and some with slaves in their crews, were taken for service on Chesapeake Bay and the Potomac and James Rivers to supply the allied armies at Yorktown. A typical directive at the time ordered the "sloop Jolly Miller John Wale master, of about sixty four tons burthen ... to go to Baltimore ... for a load of flour & any other provisions. ... The Schr. Betsey Jona. Hall master, of about 28 tons ordered to the Head of Elk for Tents, axes, horse harness, & other quartermasters stores. To complete his lading with cloathing & provisions. If ye stores & cloathing should have been forwarded, then to take in provisions."⁷

Most Continental Army sailing vessels were on the Hudson River. Exact numbers are not known, but three late-war documents list government-owned vessels in New York. A "Return of Canvas wanted for Public Vessels, Wagon Covers &c. Fishkill May 25th 1781," listed various amounts of "No 2" duck and "Topsail Duck" needed for the "Schooner

Peggy," three "small Schooners," nine gunboats, twelve pettiaugers, and two sloops. Several provision returns in February and March 1783 "for the Quarter Master Generals Department" listed John Palmer, "Harbourmaster" at Fishkill Landing, John Palmer, Jr., "Master of the public Sloop" *Hudson*, and John Denney, master of the "public Schooner" *Swallow*. And in 1783 a listing of the "Value of Sundry Vessels at wappin Creek" included the schooner *Peggy*, "two Schooners about thirty six Tuns at Eighty Pounds Each," and ten gunboats.⁸

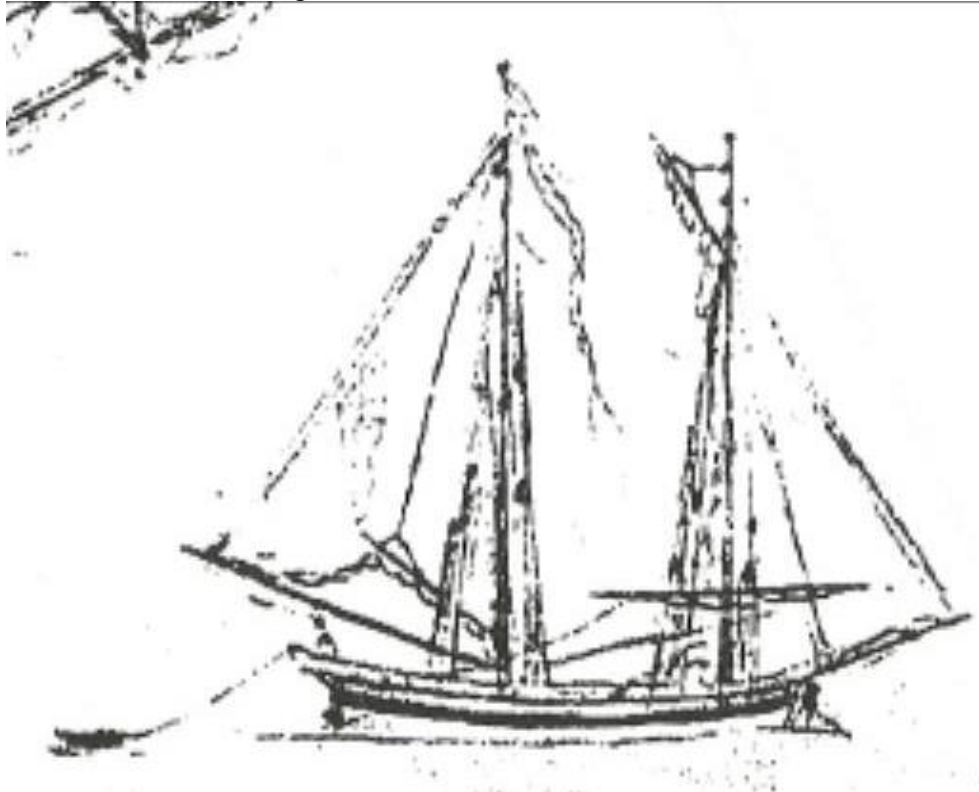
Sloop: "A one-masted vessel carrying a large fore-and-aft mainsail and one headsail. These vessels generally had a shallower draft and broader beam than a cutter." Sloops also differed from a cutter "in having a jib-stay and standing bowsprit." The sloops recorded as serving the Continental Army ranged in size from 21 1/2 to 70 "Tuns burthen" and had a crew of two to four men. One "Public Property" and fifteen privately-owned sloops were in service on the Hudson in August 1779.⁹

Since cutters shared some of the sloop's features, their particular attributes should also be discussed. A cutter was a "single-masted vessel carrying fore-and-aft sails." With a "hull [that] was deeper-drafted and narrower than a sloop, and the mast ... further aft," the cutter "generally carried more sail area than a sloop." Cutters were "furnished with a straight running bowsprit, and rigged much like a sloop, carrying a fore-and-aft main-sail, gaff-top-sail, stay-foresail, and jib ..." They could be "clinker- or carvel-built;" the former mode had the planks overlapping each other, while in the latter method the planks "are all flush and smooth, the edges laid close to each other ..." No cutters were listed as being used on inland waters by Continental forces.¹⁰

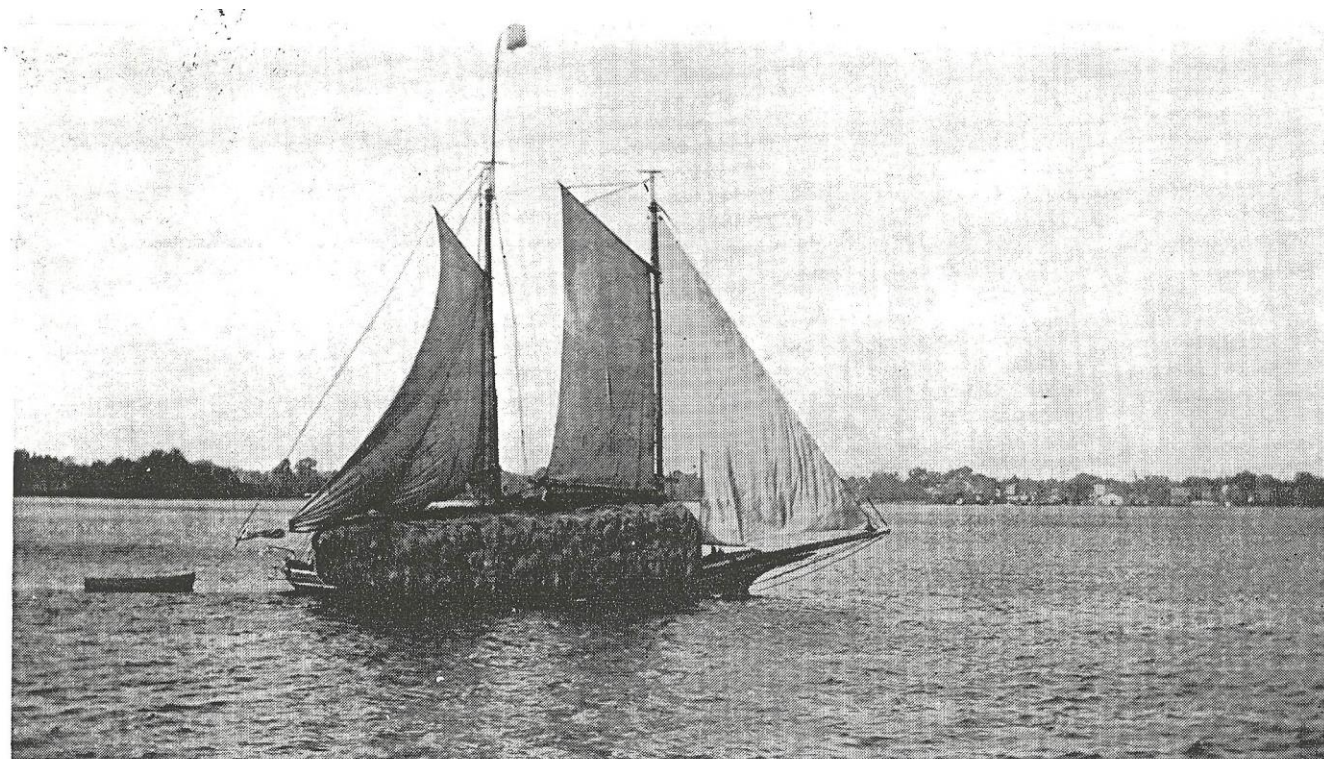


Sloop at Fort Niagara, Niagara River. Drawing of Fort Niagara, New York (circa 1784), from Brian Leigh Dunnigan, "Fort Niagara in the American Revolution," *The Brigade Dispatch*, vol. XXV, no. 2 (Summer 1995), 3.

Schooner: "A fore-and-aft-rigged vessel, originally with only two masts, but later with three or more, and sometimes one or more square topsails. The characteristic schooner rig consists of two gaff sails, the after sail not smaller than the fore, and a headsail set on a bowsprit." From descriptions of Chesapeake Bay topsail schooners (see above), vessels of that type during the American Revolution likely had only two masts. The schooners studied ranged in size from 20 to 80 "Tuns burthen" and had a two-man crew. In August 1779 there were three privately-owned schooners in public service on the Hudson. In April 1782 the Boat Department had on the Hudson one schooner of 37 tons and two sloops of 67 and 79 1/2 tons respectively, all "Wanting repair." Quartermaster General Timothy Pickering noted, "The schooner & two sloops were in use the last campaign, & will be wanted again, for the transportation of wood & forage."¹¹



Small schooner at Fort Niagara, Niagara River. Drawing of Fort Niagara, New York (circa 1784), from Brian Leigh Dunnigan, "Fort Niagara in the American Revolution," *The Brigade Dispatch*, vol. XXV, no. 2 (Summer 1995), 3.



Delaware River schooner "Boating hay," circa 1900. Continental vessels performed similar tasks for the army. Postcard no. 5., Bertha S. Davis, Olive S. Steele, and Charlotte R. Cutshall, Postcards of Bucks County, Pa. as Printed by the Arnold Bros. (Abington, Pa., Cassidy Printing, Inc., 1980), 21. (Copied from original in Virginia L. Rees collection.)

Pettiauger: Because of the pettiauger's versatility, and since the design is virtually unknown today, a look at that craft provides an interesting insight into sail-powered civilian and Continental Army river transport.

At one time pettiaugers were common in rivers and bays from Georgia to the Hudson River, and many points in between. (One notable exception seems to be the Delaware River, where thus far no record has been found of their use.) They were working boats commonly used as ferries or for transporting commodities. The pettiauger's heyday was circa 1780 to 1850, after which the vessel fell out of favor and general use. The name and its many variants (periauga, periauger, pettiagua, pirogue, to name but a few) was also given to a canoe shaped from a hollowed-out log. The vessels used by the Continental Army on the Hudson River were quite different, conforming to the general description of a 1744 observer who related that they were "long flat-bottom'd boats, carrying from 25 to 30 tons. They have a kind of a Forecastle and a Cabbin; but the rest open, and no Deck. They have two masts ... [with] Sails like Schooners. They row generally with two Oars only."¹²

While regional differences likely existed, most pettiaugers shared certain features. Flat bottoms and "Sails like Schooners" were both mentioned in the 1744 description. Kevin K. Olsen in his excellent article "The Periaqua: A Traditional Workboat of the New York/New Jersey Area" enumerates their attributes and discusses variations. Mr. Olsen calls their sail plan a "modified schooner rig;" these rigs were known for their maneuverability and the ease with which a minimal crew could work them. Many pettiauger rigs took this a step further.

Without delving into technicalities, suffice it to say that the foremast was angled or "raked" forward, while the midship mainmast was raked back. According to Mr. Olsen "the rig was handy and weatherly ... [providing] improved ... aerodynamics. The absence of a bowsprit was another advantage, especially when the vessel maneuvered in crowded waters."¹³

The pettiauger's broad beam and flatbottomed hull allowed for a relatively large cargo capacity. The configuration of the deck also effected load size. While the 1744 narrative stated they had a "kind of a Forecastle and a Cabbin; but the rest open, and no Deck," such was not always the case. Kevin Olsen notes some accounts "say that the vessel had a full deck ... others suggest that it was half-decked, and some say that it had no deck. It may or may not have had a cabin. Most likely, deck arrangements differed with builder and intended use." In their role as ferries, some 19th-century pettiaugers may even have been able to carry wheeled vehicles, though it is unlikely any Revolutionary period vessels had that ability. Other features varied as well, some being credited with a "scow-shaped" (blunt ended) hull while others were described as "sharp ended." Perhaps the most unusual features were the "two egg-shaped leeboards [used] for lateral resistance when tacking." As flatbottomed vessels pettiaugers needed some way to keep them from scudding sideways over the water when sailing or attempting to change direction. This was done by employing the leeboards, one on each side. When tacking the leeboard on the windward side was raised, while the other "spread like a wing into the water, and [served as a] substitute for a keel."¹⁴

Continental army pettiaugers' cost and tonnage show them to have been rather substantial vessels. The 1782 "Estimate of the expences of repairing & building the boats" on the Hudson listed "4 pettiaugers, at 500 dollars each exclusive of sails & rigging." A November 1778 "Return of Vessels Employd on Public Service on Hudsons River" contained seven privately-owned pettiaugers with "Tuns Burthen" ranging from a low of 16 to a high of 27, while a 1779 "Return of Vessels ... at Fishkill, West Point &c," included two Continental and nine private pettiaugers; the size of five of those craft ranged from 23 to 27 tons. Kevin Olsen discusses several pettiaugers hailing from the port of New York. In 1815 one pettiauger was recorded as being 25 tons, four years later another weighed in at 32 tons; both were 51 feet long with holds of only 4 1/2 feet in depth. In 1788 a pettiauger ferryboat was noted to be 30 feet long and 5 to 10 tons. Many Continental craft were similar in size to the 19th century pettiaugers.¹⁵

Pettiaugers were used by the Continental army as early as 1776 when General Washington told General Israel Putnam, then commanding at New York City, to "Let the Committee [of Safety] by all Means have the Pettiauger to cruize off the Back of the Island [probably Long Island]." The versatility of these vessels especially suited them to river transport, and their tasks were many and various. In March 1781 D. Niven, captain of engineers, was preparing to "Lay the Chain across the [Hudson] river" at West Point. He noted, "My pettiauger[s] are at West Point on duty," and the other vessels needed were not to be had "till the winds change." When that occurred he would send to "wapims creek for the remainder of the boats intended to tow the Chain across the river. If I shall have men sufficient with the pettiauger to tow the rafts[,] the boats for my use," and others ordered by General Heath "shall go to the Point about monday next." Two months later Timothy Pickering wrote the commander in chief, "I am informed that about 60 barrels of shad come down yesterday from Esopus. As this article of provisions is for an immediate supply, I beg leave to suggest the expediency of bringing down daily all that are caught. Two or three

pettiaugers may be employed in the service, and with the wind as it is today, they may run from Esopus to West point in five or six hours; and if the Wind be adverse, they can get down in two tides." General Washington agreed, with the stipulation that care be taken "to give each Cargo as much salt as will secure them against a passage longer than the common calculation." Pickering replied that "I know not who has the Direction of the shad fishery, & if I did have no authority to put the Business in a new train. The Pettiaugers I can order to be got ready to sail at a moments warning and for the security of the fish against the accident you mention ... each boat may ... keep on board a barrel or two of salt."¹⁶

Though pettiaugers were used as towboats, fishing vessels, and ferries, their main task was in carrying stores. On 17 June 1781 Timothy Pickering told Deputy Quartermaster Keese that "If there be any stationary, camp kettles, tents, nail rods, waggon boxes or painters colours at your post waiting for transportation load them in the pettiauger to be brought up. If there be no quarter Masters stores load her with any provisions destined for West point ..." The next month, after being asked by the quartermaster general to transport some salt barrels, Dan Carthy found that "there happened not to be any Vessels here" and being reluctant "to Trust so Valuable an article as Salt in Boats that were not good" asked Deputy Quartermaster Hugh Hughes to oblige him with a suitable vessel. After learning that Hughes could not help him, "a Pettiauger about half Laden with flour came down - [Carthy] Stopt her & orderd twenty three Barrels of the Salt on board she could take no more ..." Pickering noted in April 1782, "The pettiaugers are the most useful craft on the river. They will each carry stores equal to seventy or eighty barrels of flour, and are navigated by two hands only ..."¹⁷

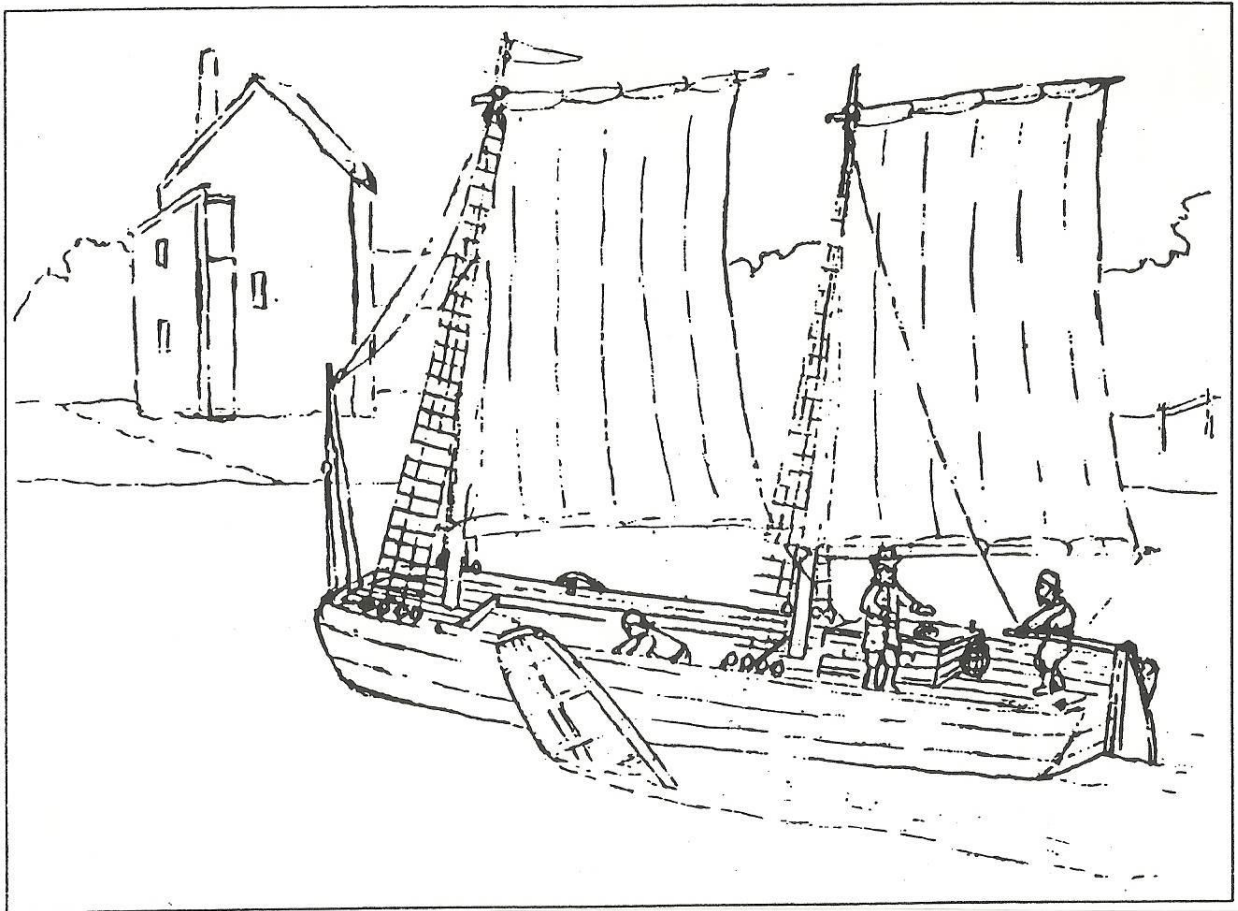
Late in the war the quartermaster general became an advocate of pettiaugers over other craft in a variety of roles. In a March 1782 letter concerning his "determination what boats, besides batteaux & two gun-boats, will be necessary on the Hudson" he gave his particular reasons for preferring pettiaugers along with an overview of river traffic and the diversity of transport. He began with a comparison to bateaux, the primary craft used for moving both troops and stores: "The common batteaux being built with pine boards, are of course very tender, and altogether unsuitable for the rough services to which those in common use are applied: they require, besides, at least five hands to work them to advantage. These batteaux are chiefly used at West Point." He then suggested that "If two pettiaugers were provided for that station, the service, I think, would be advanced. Four hands would navigate both. Two pettiaugers would bear, in transportation, as many stores as six or eight batteaux. The bottoms of the pettiaugers being flat, & without keels, they will move in very shallow water."¹⁸

Pickering then emphasized the versatility of these vessels and the benefits of using them at an important Hudson River crossing point. "At Kings ferry there are heavy flat-bottomed boats only, in common use, which require five hands each, and more in bad weather. For these I would substitute two pettiaugers, which in calm weather may be rowed with nearly as much ease as a flat-bottomed boat; and when at any time, there is a throng at the ferry, the pettiauger may take a flat-boat in tow, and thus carry over two loads at once. By employing ... but few hands, Kings ferry ought nearly to maintain itself, at such times as private people and their property can pass that way in safety." Despite the obvious attributes of pettiaugers for general service, bateaux were still needed, sometimes in large numbers: "Both [at Kings Ferry] and at West Point it will be necessary to keep some batteaux ready for use; either in calm weather, or when extraordinary transportation is required [such as

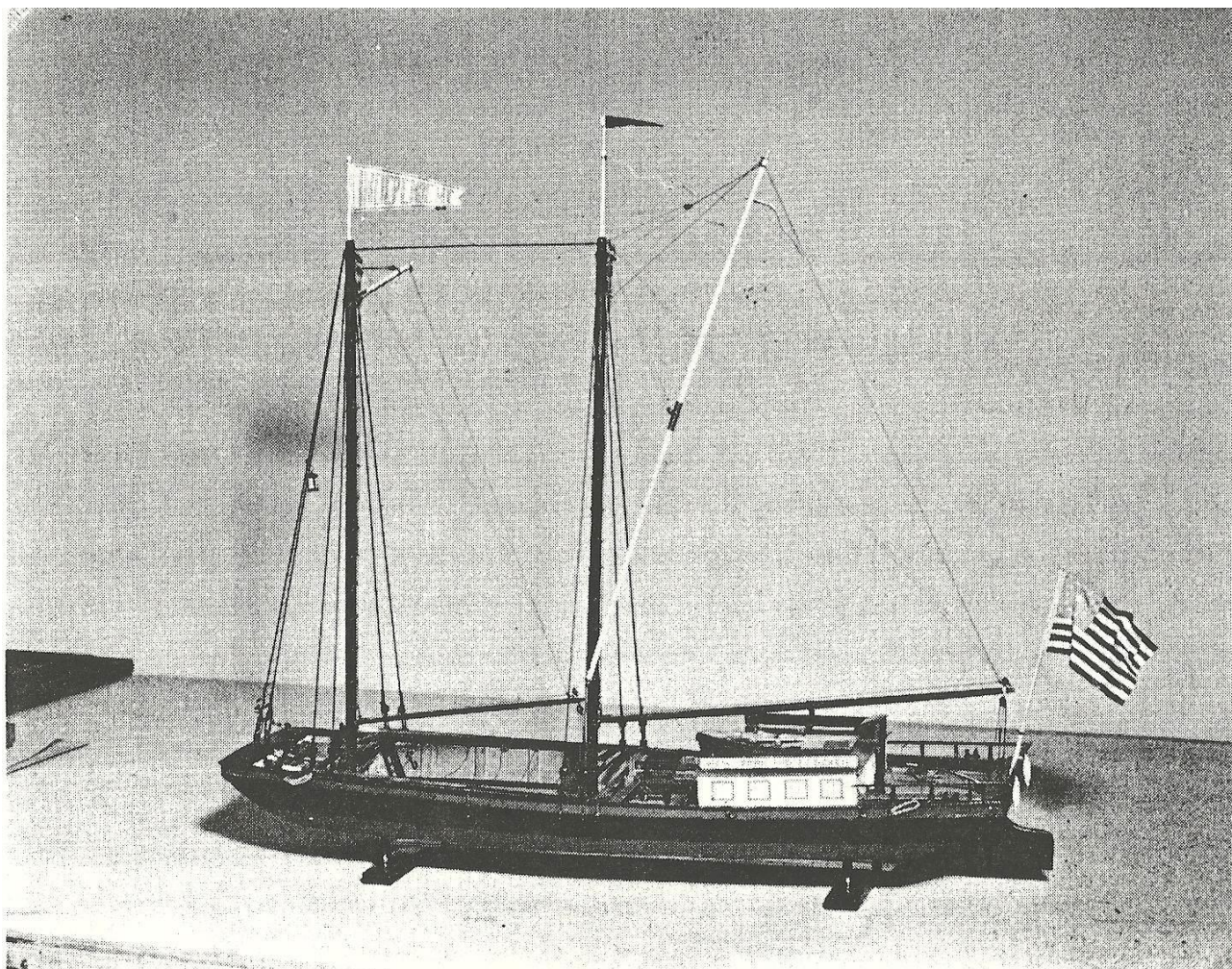
large troop movements]; tho' at Kings ferry the number may be very small."¹⁹

The quartermaster general closed with a discussion of financial benefits and gave some clue as to the vessels' eventual fate. "The four pettiaugers ... may cost, together, perhaps sixteen hundred dollars, exclusively of the sails, for which there is duck on hand. Or, admitting they should cost two thousand dollars, - this is a less sum than the pay and subsistence ... of the additional number of watermen that would, without pettiaugers, be necessary to man flat boats and batteaux. Besides, these pettiaugers will last many years, and fetch nearly their first cost when the public have no farther use for them." General Washington responded immediately to Pickering's proposal, stating that "from the reasons you have given, I am induced to believe that the advantage of Pettiaugers over Batteaux and Flat-Bottomed Boats, in certain services will more than counterbalance the difference of expence, and that it would be expedient for them to be made use of in the manner you propose, at West Point and Kings Ferry."²⁰

All in all, Pickering's recommendations nicely illuminate the pettiauger's little-known role in supporting the Continental army and provide a fitting tribute to this versatile workhorse of America's eastern waterways.



Drawing of a pettiauger on the Savannah River in 1736. Claude V. Jackson III, "The Tool Bag: Periauger, Pettiagua, Petty Puzzler: Kunner, Cooner, Colloquial Conundrum, *Tributaries* (Journal of the North Carolina Maritime History Council), vol. 2, no. 1 (October 1992), 33.



Model of a pettiauger possibly like those used by the Continental army ferries on the Hudson River. John Perry, *American Ferryboats* (New York, Wilfred Funk, Inc., 1957), p. 31. (Model cited as being in the collections of the Marine Museum of the City of New York.)

Shallop: Though no rivercraft of this type were found on the Continental establishment some privately-owned and state vessels saw service. A shallop has been described as a "small, two-masted vessel, usually schooner-rigged. From French *chaloupe* 'ship's boat.'" Another source gives two different designs under that name; "A large, heavy boat, fitted with one or more masts, and carrying fore-and-aft or lug sails ... a sloop;" and a "boat, propelled by oars or by a sail, for use in shallow waters or as means of effecting communication between, or landings from, vessels of a larger size ..." Under the latter description is the following from 1772: "The *Gaillard* ... sent her shallop with 40 men to carry provisions and refreshments on board." In either case the craft were of a good size, and both types probably served the Continental Army in one capacity or other.²¹

The Pennsylvania navy owned some small shallops on the Delaware River, though they were never carried on the muster rolls; others were hired from private owners. The Pennsylvania shallops were used to carry ammunition and other supplies for the fleet. When the ships of the fleet were stationed at Fort Island, below Philadelphia, in 1776 two shallops

were procured and equipped as barracks for the crews of the guard boats, each vessel to house forty men. One of the state shallops, *Black Duck*, was offered for sale by the state in December 1778.²²

Several privately-owned shallops were used to supply the allied armies during their investment of Yorktown. Quartermaster General Pickering wrote Captain Travis from Williamsburg in September 1781, "You will be pleased to take under your direction such a number of the empty shallops as shall be immediately necessary to ply in James river for the purpose of transporting provisions & forage to the army: leaving so many for the service as can be advantageously employed in bringing supplies from Rappahannock & Potowmack Rivers, & the eastern shore ... The masters of the shallops are accordingly to observe the directions you shall give them." He went on to ask for "a list of the vessels under your care, their tonnage (or rather the number of barrels they will carry) & the masters names." This document has yet to be discovered.²³

"A Thirty two Pounder in the Bow ..." Rowed Vessels for River Defense

Gunboat: These rather simple vessels are described as a "small boat with one or two cannon. Propelled by oars, it may or may not also be moved by a sail." It is likely that they were similar to a gundalow (gondola), which is defined as a "double-ended, flat-bottomed, one-masted boat with one heavy gun mounted on a forecastle deck forward and two or four guns broadside." Both terms are often interchangeable; in fact the American gundalow *Philadelphia* (now on display in the Smithsonian Museum) is often called a gunboat. Israel Putnam notified Washington in February 1778 that "Four Gun Boats each mounting a Thirty two Pounder in the Bow are in good forwardness at Poughkeepsie." On 2 August 1781, Quartermaster General Timothy Pickering told Hugh Hughes that he had asked General Washington "what kind of Gun-boats he would choose to have repaired, whether two of the largest, or one large one & one small one. He replied, That two that would sail best, draw the least water, and yet carry each an eighteen pounder at the bow, for action, would be most eligible. You will of course select two best answering this description, and have them put in order as soon as possible." The next day Pickering informed Hughes from "Camp near Dobbs ferry," "The General consents that you retain Lieutenant Gorham and 20 or 25 Men, to assist in repairing the Gun Boats and Old Batteaux. I wrote you yesterday respecting the kind of gunboat most eligible. I have again asked the Generals opinion on the subject. He prefers the gunboats that will mount heavy Cannon at the bows. as to the mode of rigging, it must be left to seamen: you Can consult Capt Palmer, & I will write to Major [Samuel] Darby [7th Massachusetts Regiment]. Their sailing fast & drawing little water are material considerations." In April 1782 Timothy Pickering noted that the "two gun boats are specially required by the Commander in Chief," probably to cover a possible movement by the army down the Hudson River by bateaux.²⁴

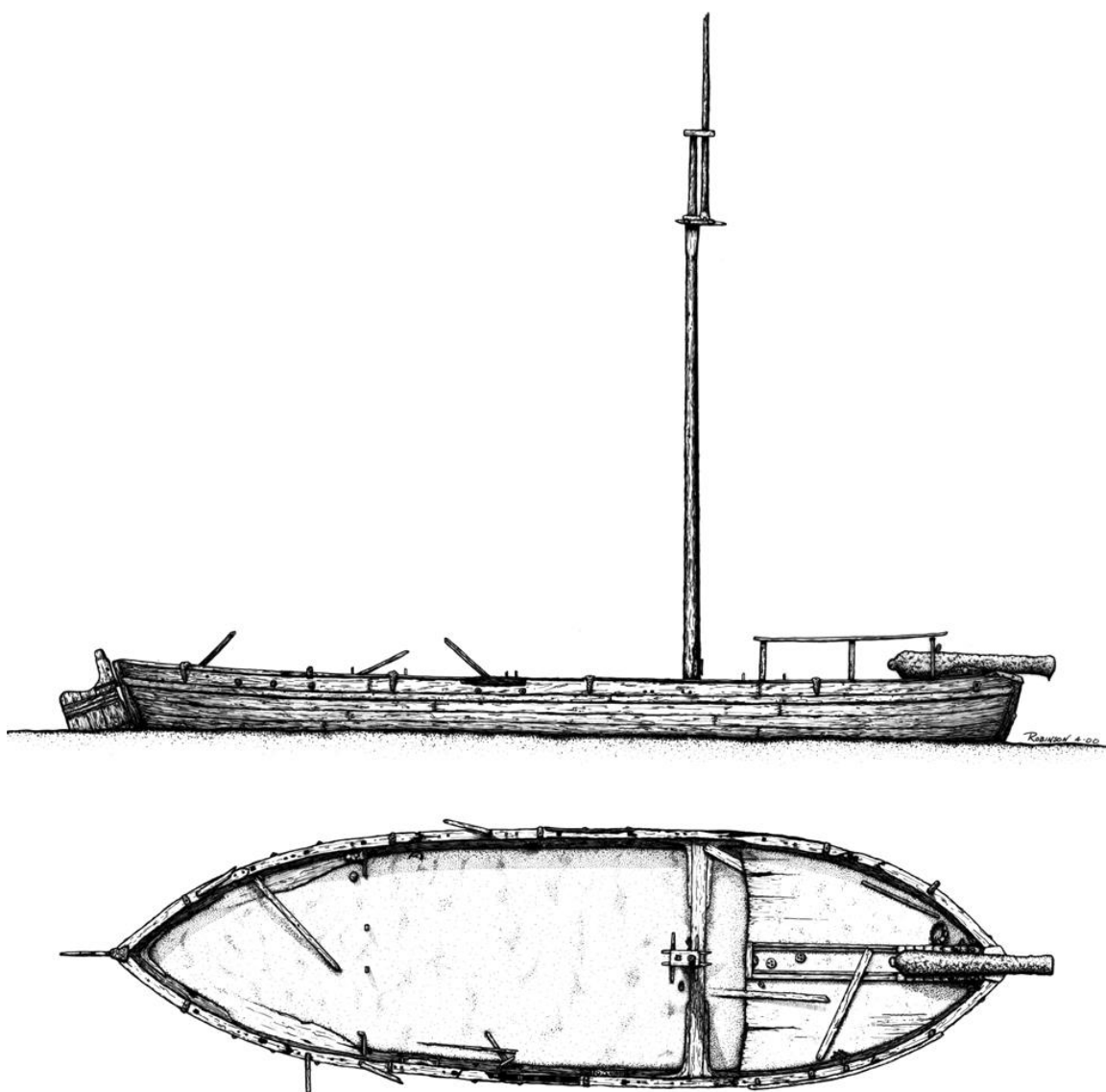
There were two gun boats listed on the Hudson River in an April 1781 return. The one "Good" vessel was noted to be 22 feet long, 10 feet broad, with a depth of 3 feet. The other was 36 feet long by 16 1/2 broad and 2 1/2 feet deep. Usually used for river defense, necessity sometimes dictated other tasks; one gunboat was listed on this return as being "Up the river for Flour."²⁵



The *Philadelphia II* on display at the Lake Champlain Maritime Museum, Vergennes, Vermont http://www.lcmm.org/museum_info/visit.htm



Model of the gunboat Philadelphia showing the deck arrangement.



Preliminary profile and plan view of the gunboat *Spitfire* (LCMM Collection, drawn by David Robinson). p. 28

Galley: "A ship of war with oars and two lateen (triangular) sails. Those that Benedict Arnold built in 1776 on Lake Champlain were 72 feet long, 20 1/2 feet wide, and 6 feet, 2 inches high; they held 80 men." The Pennsylvania navy was among the first to use galleys, thirteen being built for the defense of the Delaware in July, August, and September 1775. All these vessels were based on two models presented to the Committee of Safety by different builders, and all were of similar dimensions, having a keel of 47 or 50 feet, a 13 foot beam, and a depth of 4 1/2 feet.²⁶

Ideally suited for service on constricted waterways, galleys were built by other states, as well as the Continent. Connecticut, Maryland, New Jersey, and New York all sent representatives to observe the Pennsylvania galleys, and, with the exception of New Jersey,

copied them with some modification. Benedict Arnold employed Thomas Casdrop, builder of the Pennsylvania galleys *Chatham* and *Effingham*, to supervise work on some of his Lake Champlain galleys in 1776.²⁷

Historian John W. Jackson detailed the Pennsylvania galleys in his book *The Pennsylvania Navy*. They "were smaller than many of those built by other state navies," and with their pointed bow and stern, and flat bottoms, the galleys "were ideally adapted for maneuvering over the obstructions [chevaux-de-frise] placed in the Delaware River." These vessels were built for utility, not crew comfort. "Each galley was decked over and the hold was divided by bulkheads into cubicles designed to serve as cabins. Under the aft deck was a small area for the officers. This cabin was probably little more than a refuge from bad weather, as the area under the aft section must be shared with the ballast ... used to counteract the weight of the large cannon placed in the bow. [One galley carried a 32-pound cannon; four had 24 pounders, and the rest 18 pound guns.] Amidships, divided by the platform for the oarsmen, were bunk-like areas for the crew ... Under the bow was another cubbyhole used as a storage area for supplies and extra ammunition. As the greatest depth was four and one-half feet, these quarters must have been extremely uncomfortable."²⁸

For cooking each galley had a "small iron hearth ... housed in a camboose." Sometimes pronounced caboose, Admiral William Smyth defined them in his *Sailor's Word-Book* (1867) as the "cook-room or kitchen of merchantmen on deck" or "the diminutive substitute for the galley of a man-of-war ... generally furnished with cast-iron apparatus for cooking." John Jackson described them to be "a portable shelter lashed to the deck with ropes, with a ring bolt in each corner and four ring bolts on the deck. The Pennsylvania fleet had both wooden and iron camboose ... While some were lashed to the decks, others were permanently installed with a masonry foundation." (The gundalow *Philadelphia*, raised from Lake Champlain in 1935, now in the Smithsonian Institution, boasts a masonry hearth with several cast-iron pots and skillets for cooking.) Each vessel optimally carried fifty-three officers and men; in actuality the muster rolls rarely showed more than thirty-five. Again, living conditions aboard the galleys must have been dismal, considering the cramped quarters and avowed dampness below decks.²⁹

Several descriptions of the Pennsylvania galleys survive. One man in September 1775 saw "a number of galliots [galleys] ... carrying two lateen sails and from 16 to 32 oars each." Another letter dated Philadelphia, July 1775, related, "This day saw one of the Floating Batteries [galleys] ... in length they are 40 feet keel, flat bottomed & are to row twenty oars double banked." Charles Carroll of Maryland wrote in March 1776 that one galley "has a 24 pounder in the prow, & several swivels. They lie low in the water." Oars were the main form of propulsion given the narrow confines of the river and the fact that the sails were only useful when running before the wind.³⁰

The galleys built by Maryland had "the usual arrangement ... [of] oar ports between the gun ports ... inches above the deck level. All the galleys were propelled both by sails and sweeps (long oars), ten to a side, double-banked, two men to an oar. Each of these averaged twenty-plus feet in length and, in case of mishap, the boatswain stored spares below." There is indication that some Maryland galleys were built as "small sharp rigged vessels" (i.e., fore-and-aft lateen sails) rather than square-rigged, though some captains may have objected to this as being unfamiliar to them. Two vessels, *Baltimore* and *Conquerer*, are known to have been ship-rigged, with square sails and staysails, while *Chester* definitely had a lateen rig. Again nomenclature rears its ugly head. In May 1777 one Maryland captain gave his

opinion that the vessel *Johnson*, which he called a "Xebec" should "be rigged in the manner of a Ship ..." Historian Arthur Middleton notes that "*Johnson* was frequently referred to as a Xebec, and this in itself suggests a lateen rig, but why that term was applied only to *Johnson*, is not clear." Though all the Maryland vessels (galleys and xebec) were supposed to carry twenty guns, none ever mounted that number; two to four 18 pounders, with eight to fourteen smaller cannon, and a number of swivel-guns, were the normal complement. In 1778 the state began to sell its navy, and by 1780 all the galleys had been disposed of.³¹

Xebec (zebec, zebeck): These vessels, based upon a Mediterranean design, are described as a "small three-masted (originally two-masted) vessel, commonly lateen-rigged but with some square sails, ..." William Falconer noted in 1769, "The sails of the xebec are in general similar to those of the polacre, but the hull is extremely different ... The extremity of the stern ... projects further behind the counter and buttock than that of any European ship." A polacre (or poleacre) was a "three-masted merchant vessel of the Mediterranean." Again we turn to Falconer, who portrayed the polacre as "a ship with three masts, usually navigated in the Levant, and other parts of the Mediterranean ... generally furnished with square sails upon the main mast, and *lateen* sails upon the fore-mast and mizen-mast ... Each (mast) is commonly formed of one piece, so that they have neither top-mast nor top-gallant-mast." A 1780 description by "Capt. Knowles" in the *Naval Chronicles* remarked "two ... Xebec ships, polacre-rigged." Both xebecs and polacres were shallow draft vessels.³²

A few xebecs were built and used by the Continental Navy for the defense of the Delaware in 1777; some states built such vessels, though the difference between galleys and xebecs was sometimes blurred. (For more on xebecs see Maryland state galleys above)³³

(Following pages) "A View of the New England Arm'd Vessels on Valcure Bay on Lake Champlain," by C. Randle. This image shows Brig. Gen. Benedict Arnold's Lake Champlain fleet. Hastily built in the summer of 1776, his vessels performed creditably in the 11 October action at Valcour Island, suffering a tactical defeat, but a strategic victory having stopped Crown forces invading New York until the following year. From left to right the vessels are, *Revenge* (schooner), *Washington* (row galley), *Philadelphia* (gondola), *Congress* (row galley), *Spitfire* (gondola). In the foreground, is the schooner *Royal Savage*, with the gondolas *Boston* between its topsails and *Jersey* partly hidden behind the *Savage*'s mainsail. Continuing on, are the gondolas *New Haven*, *Providence*, *Connecticut*, *New York*, sloop *Enterprise*, and row galley *Trumble*. Not shown are the schooner *Liberty* and the tiny *Lee*, variously called a cutter, gondola, row galley, and sloop. Philip K. Lundeborg, *The Gunboat Philadelphia and the Defense of Lake Champlain in 1776* (Basin Harbor, Vt.: Lake Champlain Maritime Museum, 1995), 28. Russell Bellico, *Sails and Steam in the Mountains: A Maritime and Military History of Lake George and Lake Champlain* (Fleischmanns, N.Y., 1995), 137-148. See also Stephen Darley, *The Battle of Valcour Island: The Participants and Vessels of Benedict Arnold's 1776 Defense of Lake Champlain* (CreateSpace Independent Publishing Platform, 2013).

Table 1. The likely composition of the American fleet at the Battle of Valcour Island. The sloop *Liberty*, though part of the fleet, was serving as a message and supply carrier between the fleet and Ticonderoga and was not involved at Valcour Island.

Name of Vessel Vessel Type Armament

***Royal Savage* Schooner six 6-lb, four 4-lb cannon, and 12 swivel guns**

***Revenge* Schooner eight 4-lb cannon and 10 swivel guns**

***Enterprise* Sloop ten 4-lb cannon and 12 swivel guns**

***Lee* Cutter one 12-lb, one 9-lb, and four 4-lb cannon**

***Trumbull* Galley one 18-lb, one 12-lb, two 9-lb, two 6-lb, two 4-lb cannon, and 10 swivel guns**

***Washington* Galley one 18-lb, one 12-lb, two 9-lb, six 4-lb, two 2-lb cannon, and 10 swivel guns**

***Congress* Galley two 18-lb, two 12-lb, four 6-lb, and 10 swivel guns**

***Philadelphia* Gondola (Gunboat) one 12-lb and two 9-lb cannon, and possibly 8 swivel guns**

***New York* Gondola (Gunboat) one 9-lb and two 6-lb cannon**

***Jersey* Gondola (Gunboat) one 12-lb and two 9-lb cannon**

***Connecticut* Gondola (Gunboat) one 12-lb and two 9-lb cannon, and possibly 8 swivel guns**

***Providence* Gondola (Gunboat) three 9-lb cannon, and possibly 7 swivel guns**

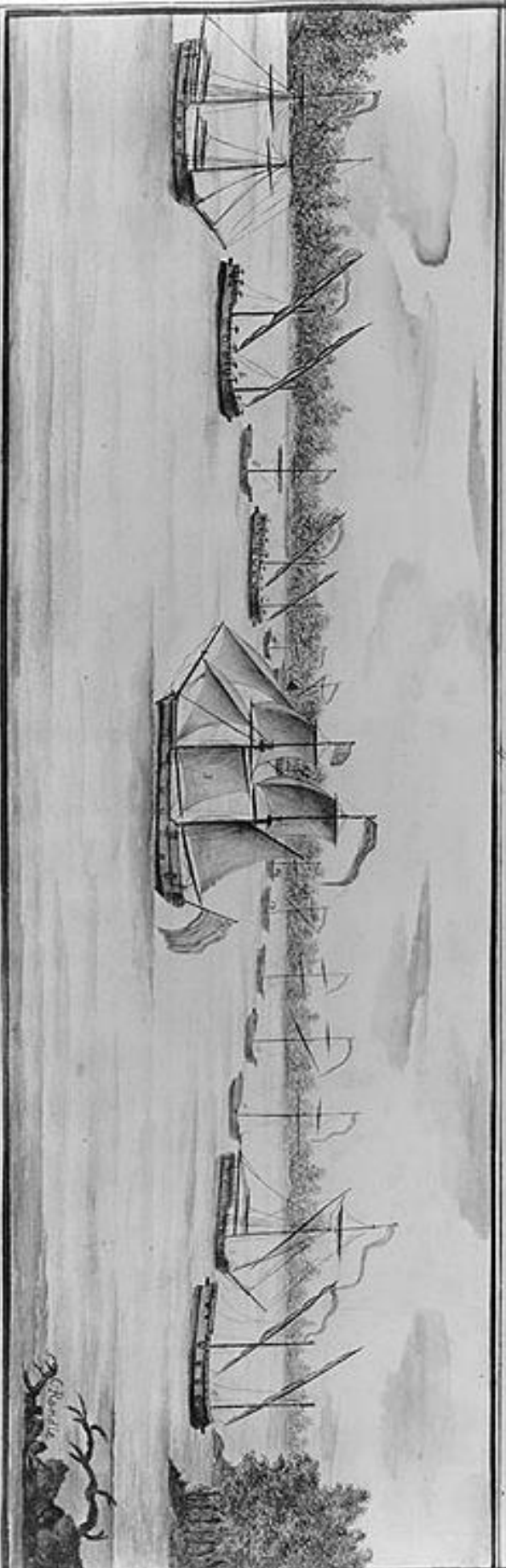
***New Haven* Gondola (Gunboat) one 12-lb and two 9-lb cannon, and possibly 8 swivel guns**

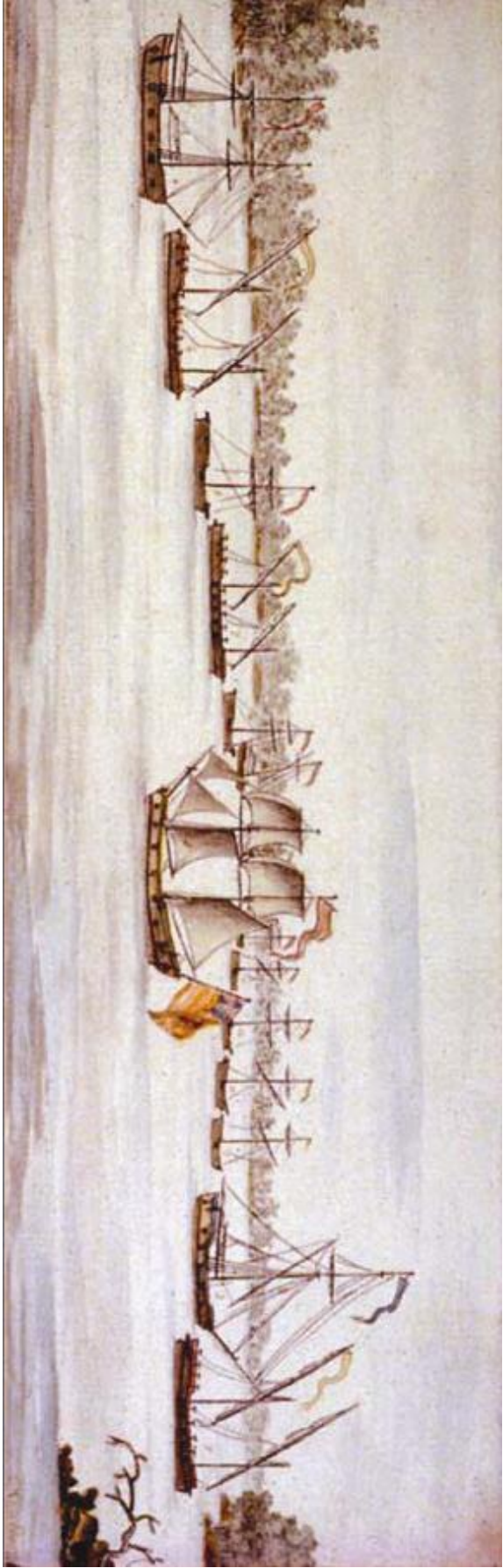
***Spitfire* Gondola (Gunboat) three 9-lb cannon, and possibly 4 swivel guns**

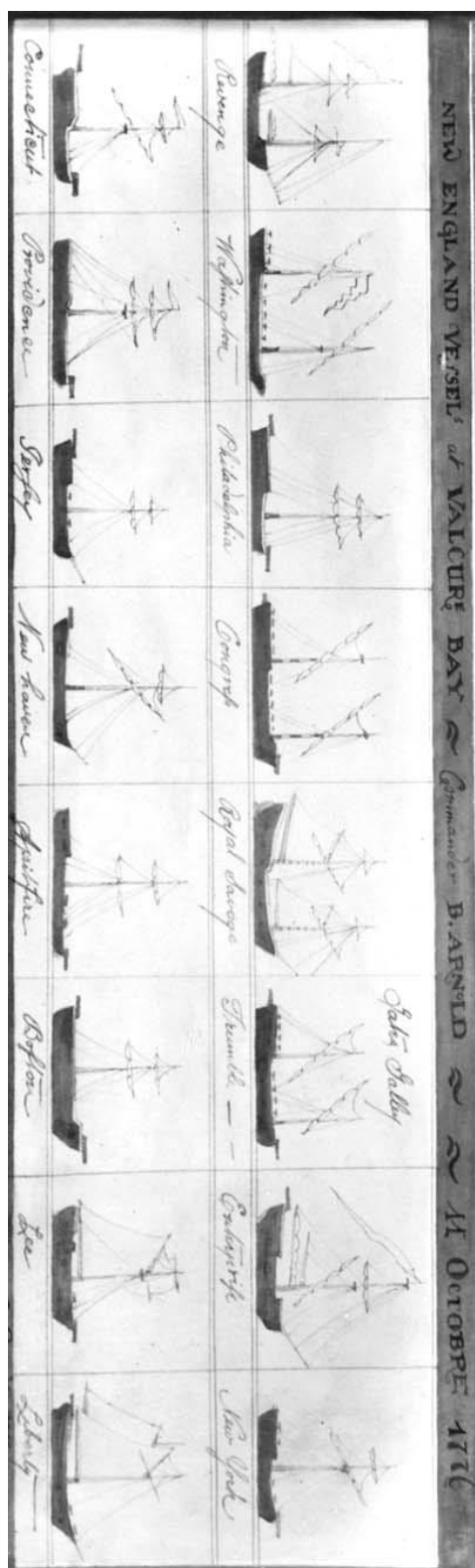
***Boston* Gondola (Gunboat) one 12-lb and two 9-lb cannon, and possibly 8 swivel guns**

Total: 15 vessels

http://www.lcmm.org/shipwrecks_history/Valcour_Bay_Research_Project.pdf

[illegible]





“God Bless our Armes” showing the vessels of Arnold’s fleet at Valcour Bay, 11 October 1776. Russell Bellico, *Sails and Steam in the Mountains: A Maritime and Military History of Lake George and Lake Champlain* (Fleischmanns, N.Y.: Purple Mountain Press, Ltd., 1995), 150-151.

"4 Wagons & Horses, and 1000 Men at a Try." Flat-Bottomed Transport for Soldiers, Supplies, and Vehicles

In 1781 Jean-Francois-Louis, Comte de Clermont-Crevecœur, a sublieutenant with Rochambeau's French army, noted some of the many ways water obstacles were passed on their southward march to Virginia: "We crossed the Delaware [River] by ford and ferry. It is not deep here. In summer the average depth is only 2 to 3 feet ..."; the Neshaminy Creek, in Pennsylvania, was also passed by ferry and ford. On 5 September the army "crossed the Schuylkill [River, at Philadelphia] on a fine pontoon bridge that rises and falls with the tides," and then the "Christina River" in Delaware on the 7th, "the troops in boats and the artillery at a ford 3 miles upstream."³⁴

* * * * *

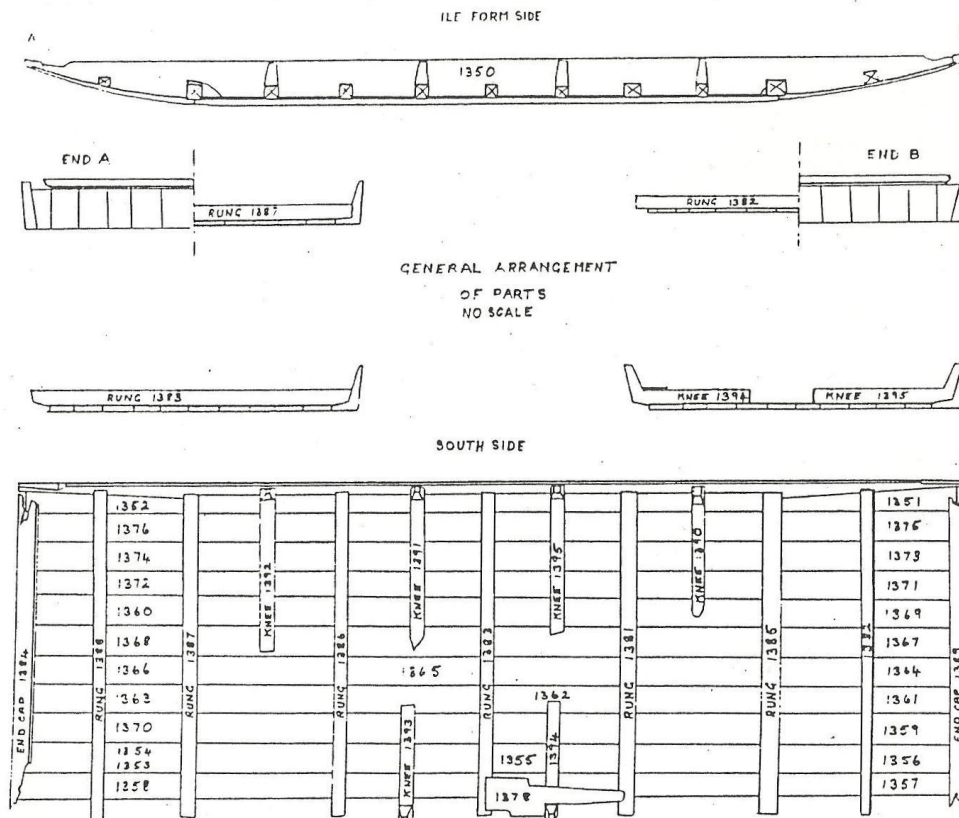
Ferry Boats and River Crossings. Transporting men and materiel across waterways was a complicated affair. General Nathanael Greene issued detailed orders for a crossing at King's Ferry in August 1780,

The Officer commanding at the place of embarkation will take care that the Troops embark in regular order that the Waggoners are sent on Board the Boats as fast as they arrive or as fast as the Boats are ready to receive them: The horses are to be embarked at the same time that the Waggoners are; and to avoid confusion, there must be a proper division of the Boats, one part for the Waggoners, one part for the horses, and one part for the Troops. The Troops and horses are not to land at the Wharf. A good strong party is to be posted on the Wharf to run the Waggoners on board the Boats. Great care is to be taken that the horses are not injured in putting them on board the Boats. Neither men, horses or Waggoners are to be allowed to cross out of the line of march ... unless so ordered by the Commander in Chief. No person is to be permitted to give any directions or orders that is not of the party for embarkation.³⁵ (For more details of that crossing, see endnote.)

While scheduling and manpower was important, the expeditious movement of a large force also depended upon the number and kinds of vessels at hand. Various flatbottomed craft were used to ferry men and supplies over rivers or carry them up or downstream. Some, such as bateaux and Durham boats, merit a separate discussion. These craft, plus pettiangers, skiffs, wherries, canoes, and more, were all used as ferries at one time or another, but the mainstay of river crossings was the flatboat often capable of carrying both wagon and team. The three vessels examined below, scows, "Flat Bottom Boats" and ferry flats, were similar enough, and the terminology sufficiently vague, for them to be grouped together. All were blunt-ended, shallow-draft craft; nomenclature seems to have depended in part upon the size of the vessel, but also reflected differences in draft and carrying capacity. While detailed information on these boats is wanting, a "memorandum for building a ferry-flat," undated but probably pre-1750, describes a craft used on the "West Branch of the River Delaware" whose size and construction was probably typical:

Length, 31 1/2 feet. Breadth at the head, 7 feet 6 inches. Extreme breadth 9 feet. Aft the head, 7 feet 8 inches. At the stern by a regular sweep from the extreme breadth, 7 feet 2 inches. Depth at the highest part of the side 24 inches. The shear 2 inches, to flare 3 inches. The sides to be sawed 5 inches thick at the bottom edge, and 3 1/2 inches at the top edge. The head and stern posts 18 inches wide, and 3 inches thick on

the front edge, and the bottom planks to rabbit on 5 inches - the bottom plank the whole length, and the cross plank the breadth of the flat; the whole 2 inches thick.³⁶



Drawing of an 18th or 19th century flatboat (ferry-flat) recovered from the Trent River in North Carolina. This craft measured slightly over 31 feet long by 11 wide, and is calculated to have carried a 4 1/2 ton load. Michael B. Alford, "The Ferry from Trent: Researching Colonial River Ferries," *Tributaries* (Journal of the North Carolina Maritime History Council), vol. 1, no. 1 (October 1991), 13-14.

Other factors besides vessels hampered ferrying operations. In November 1780 Oliver Phelps, "Superintend[ant of] Continental Purchases," informed Quartermaster General Pickering, "In forwarding public Cattle to Head Quarters the Drovers meet with the greatest difficulty in crossing Hudsons River, Some times have to tarry by the river two or three days before the Ferry men can be prevailed with to carry them a cross and no forrage to be got near the River, so the Cattle are in a starving condition while they are detained there - not less than Thirty has been drowned lately by bad conduct in the Ferrymen - I am repeatedly informed by the drovers, that they are treated with the greatest [Ill-nature?] and ill-language by the Ferrymen - They express much joy at drowning Cattle." The following summer Pickering complained in the same vein to Hugh Hughes: "The ferry-men at Dobbs' ferry have committed great abuses, in direct contradiction to your regulations, particularly in appropriating the ferriages to their own use, & for the sake of that gain neglected public for the sake of private transportation. Ackerman who was sent to superintend them is gone up

to Kings ferry, which it seems is of no consequence, for the ferrymen pay no attention to him. There will probably be more passing at Dobbs' than at Kings ferry; & a good superintend[ent] seems necessary. Perhaps one of your People employed in other less necessary business may be spared for the purpose." Other personnel problems arose from time to time; in August 1781 the quartermaster general complained to Hughes, "The Officer having charge of Major Darby's boats at Dobbs ferry tells me that one of the ferry boats which came to serve from Kings ferry, has deserted, he supposes to Kings ferry. The crew had been furnished with a tent & Camp Kettle for their convenience. The unsteadiness of these people is insufferable." Weather sometimes barred crossings altogether. Deputy Quartermaster Hugh Hughes wrote from Fishkill Landing on the Hudson, 20 February 1781, "This Wind is much against opening the Ferry-way, as it will set all the loose Ice into the Opening instead of clearing it. I have requested Major Keese to attend to it as soon as the Wind & Weather is favorable ..." ³⁷



Ferry below Bristol, Pennsylvania, 1777, by Charles Willson Peale. Martin P. Snyder, *City of Independence: Views of Philadelphia Before 1800* (New York, Praeger Publishers, 1975), fig. 193.

Scores of large and small river crossings played a crucial part in moving troops and supplies during the war. Coryell's Ferry, mentioned by Mifflin in June 1777, was a Delaware River crossing on the Old York Road (present-day New Hope, Pa./Lambertville, N.J.), a major highway from Philadelphia to New York. This ferry was very busy in the summer and autumn of 1777 as elements of Washington's army passed repeatedly in an

effort to counter threatened British movements in New York, New Jersey, and Pennsylvania. Use of this ferry waned somewhat after the theater of war moved from western New Jersey and eastern Pennsylvania and the crossings nearer Philadelphia gained in importance. By contrast the Hudson (or North) River crossings were kept busy throughout the war, and traffic flourished when not hindered by the enemy.

Several crossing operations have come down to us in some detail, giving an idea of the time and effort involved. Quartermaster General Mifflin related in June 1777 that the twenty-nine scows and flatboats then on the Delaware River at Coryell's Ferry could cross "3 p[ieces]. Artillery with Matrosses & Horses, 4 Wagons & Horses, and 1000 Men at a Try." Richard Platt described a December 1780 Hudson River crossing for Timothy Pickering. "By 12 [noon] our van was at Kings ferry - [but] found only one sloop, a scow & five flat boats to avail ourselves of." A large portion of the baggage for two Massachusetts brigades "was embarked by 4 P.M. & [the] vessel sailed - the same Night the Baggage Waggons & Horses of the Conn[ecticu]t Line crossd - yesterday (tho not till late) a reinforcement of sloops & 3 or 4 small Batteaux arrived - the Connt Division, Artillery, Ammunition Waggons & Horses belonging were put over & a sloop loaded with M[assachusetts]. Baggage - last Night Col Baldwin's Corps [of Artificers] & apparatus helped themselves across - and [the] light waggons of ye. 4th. M.B. & many of the 3rd. by the Assistance of Col Sprout's men were transported." After all this labor there still remained more to do. "This morning remains to be unloaded two sloops containing Jersey Baggage & the same Vessels to take in the remainder of the Massachusett's Baggage & whatever Hutting tools &c Major Kiers has to send."³⁸

The crossing at Kings Ferry on the Hudson, much more formidable than Coryell's on the Delaware, had to be passed quickly by both the American and French armies on their way south to Yorktown, Virginia, in 1781. On 21 August Washington wrote the Comte de Rochambeau, "I have the Pleasure to inform your Excellency that My Troops arrived at the Ferry Yesterday and began to pass the River at 10 oClock in the Mornng. and by Sunrise of this Day, they were all compleatly on this Side the River. I hope your Army will be enabled to cross with the same Facility when they arrive." Timothy Pickering noted of the same movement, "the detachments from the American army" reached the ferry on the morning of the 20th, and "the baggage, park, and American troops had crossed by noon of the 21st." Thus, it took at least twenty hours to cross slightly over two thousand American soldiers, with artillery and baggage wagons.³⁹

Four days later the French army began crossing. A sublieutenant in the Soissonnais Regiment wrote, "We camped on the high ground at the edge of the river [below Peekskill, New York] and remained there on 23 and 24 August, the two armies had joined one another here. Meanwhile, we took the artillery and the army wagons across the river on flatboats. This was a long and tedious procedure, since there were very few boats. At this point the river is about two miles wide." Commissary Claude Blanchard echoed this, noting, "This crossing occupied much time, owing to the breadth of the river, which they were obliged to cross in ferry-boats collected in great numbers, but still not enough." A captain attached to the same regiment noted in his diary for 22 August, "The column began its march to King's Ferry ... The General [Washington] ordered me to bring up all the artillery to the ferry and begin loading it aboard and take it across immediately to the opposite bank ... The energy of our soldiers, as well as of the Americans who ran the ferry boats, was such that we crossed the river, which is 2 miles wide here, in eight hours without the slightest accident. This

column was composed of wagons, caissons, guns, and horses." The van of Rochambeau's infantry "reached the ferry at noon [23 August] and camped on the bluffs. It started to cross the river immediately and continued until midnight of the 25th, by which time it was all in camp at Haverstraw 2 1/2 miles from the west bank." The entire force of 4,200 men (excluding artillery) took two and a half days to make their crossing.⁴⁰

The French army, numbering about 5,000, again crossed at Kings Ferry on their return from Virginia in September 1782. On the 15th General Washington called for a "Field officer, two captains. two sub[altern]s, and one hundred and twenty rank and file to be at the [Kings] ferry ... tomorrow morning by sunrise ... to man the boats and assist in crossing the French army." The passage began on the 16th and seems to have taken place over at least two days; on 18 September the commander in chief still required the "flat bottomed boats furnished by the several Brigades to assist in transporting the French army ... to be continued untill further orders."⁴¹

Some further idea of the volume carried by ferry boats is evinced in a list of "Services performed by the Boats & Men to Novemr 25th 1778, at Springfield," Massachusetts. The "convention troops" mentioned below were members of General John Burgoyne's army captured at Saratoga, New York, in October 1777.⁴²

Connecticut River at Springfield, Massachusetts, 1778.

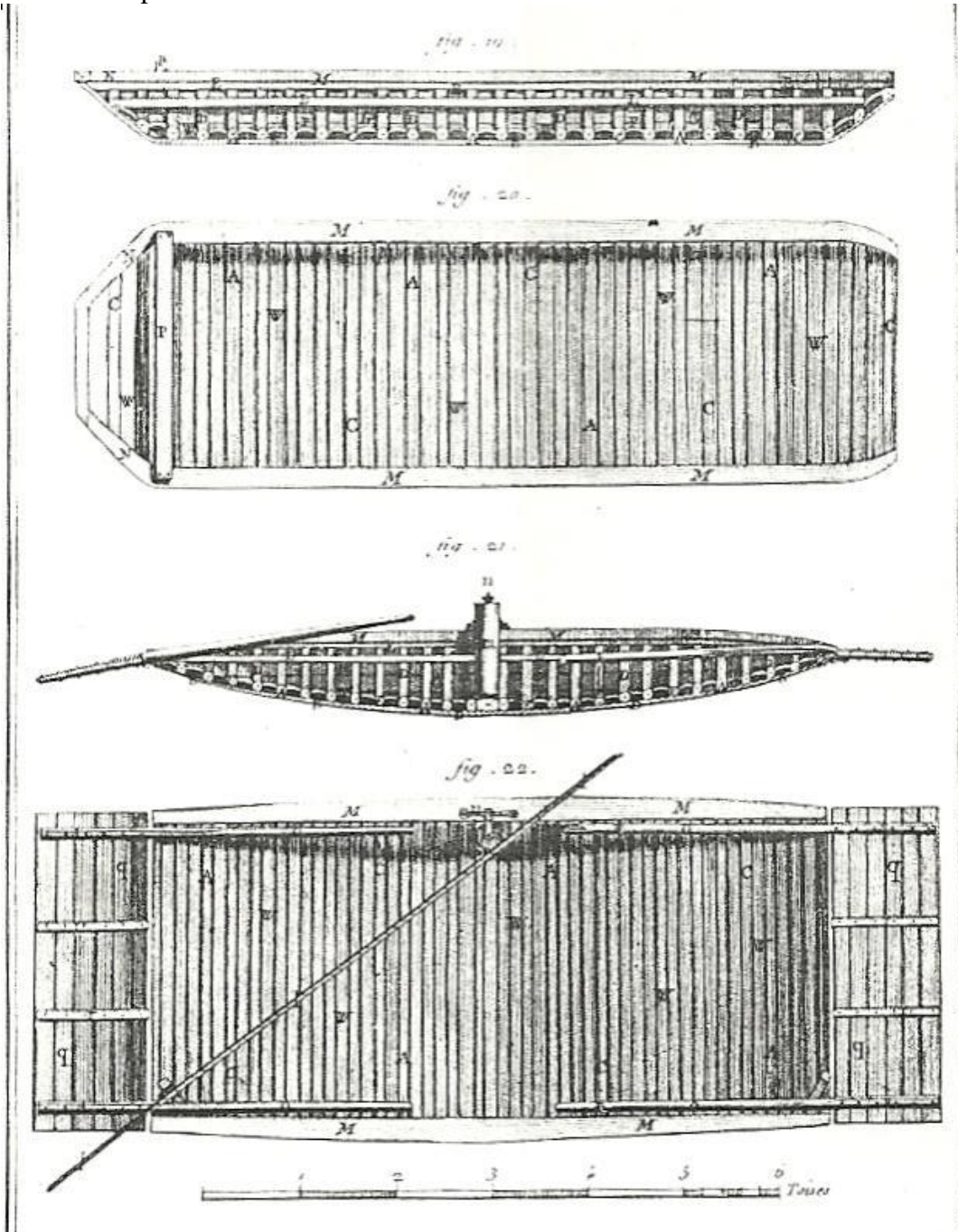
	<u>Teams</u>	<u>Men</u>	<u>Horses</u>
August	459	733	452
September	500	743	590
October	472	899	560
from Novr 1st to 25th	314	751	615
Part of the convention	150	3000	100
troops Men Women & Children, &c.			
Total	1895	6106	2317

(These craft were also used to haul supplies up and down river, as evidenced by an appended note giving charges for "Boating 16 Team loads Salt up the River 8 Miles," "Boating 106 lbs. Flour 10 Miles," and "14 boat loads [of] Stone.")

Two other documents list "Scows" on the Connecticut River near Hartford in 1779. One was a return of vessels "between Hartford & Enfield fit for Immediate Use," the other a "List of Scows at Weathersfield." Between them they give the civilian owners and dimensions of sixteen scows, noting that "most of the Boats on this River want repairs," and "A Number of [Wethersfield] Boats [are] at Hartford Employ'd at the Ferry." Two years earlier Lieutenant Samuel Armstrong had charge of the 8th Massachusetts Regiment's baggage train as it moved towards the Hudson River; on 24 July 1777 they "came to the Ferrey, where we waited with the Waggon's 'till 10 OClock for a Scow to cross with ..." Since "Scows" were indeed used for ferries it is likely they comprised a large part of those vessels mentioned above in the "Services performed ... at Springfield" in 1778.⁴³

These same scows were likely used in June 1781 when Deputy Quartermaster Pomeroy wrote from Hartford, Connecticut, "The Army of France are now passing the River here, vizt. the Infantry and the Cavalry or Legion, at Middletown. They seem to be pretty well satisfied with the alertness of our Boatmen and celerity of Passing the River. I have made

the Provision for Boats & Men as compleat as the present circumstances will admit of, and full equal to what I could expect considering I have neither Power to Command, nor Money to offer the People who do the service."⁴⁴



Two forms of eighteenth French flatboats. **Top:** Scow used for transporting horses, measuring 54 feet long by 15 feet wide. The large Continental army scows were likely similar in form. **Bottom:** Wagon ferry from Diderot's *Encyclopedie*. Approximate dimensions are 61 feet long by 22 feet wide. Denis Diderot and Jean le Rond d'Alembert *Encyclopedie, ou Dictionnaire Raisonne des Sciences, des Arts et des Metiers, par une Societe de Gens de Letres* (Paris, 1751-1765), plate XLVI, figs. 19 and 20 "Plan d'un passe cheval"; figs. 21 and 22, "Plan d'un bac."

(Previous page.) An excellent map of the Hudson River crossing at King's Ferry. "This plan may have been made about the time Clinton took Stony and Verplanck's Points on May 31 and June 1, 1779, since it shows Stony Point occupied by the 17th, 40th, and 45th British regiments, with Jaegers on an outlying hill. When Wayne took the fort on the night of July 15 the garrison consisted of the 17th Regiment, the grenadier company of the 71st Regiment, a body of Loyal Americans, and an artillery detachment. Stony Point was open on the side toward the river, which is here marked 'West Point,' perhaps because of its position on the west side of the river. The road above the fort leads to King's Ferry, which crossed to Verplanck's Point. The inscription in the river between the ferry landings reads, 'Where General Washington always crossed the North River.' Fort Lafayette lies just above the ferry landing on Verplanck's Point. The inscription along the lower road reads, 'Road to Hereckland's Creek or Peekskill,' along the upper road, 'The very same, particularly to our posts.' Below the road on the left bank of the river are the 'Works completed by the rebels.' At the bottom of the plan is the 'Creek which makes this Point a peninsula.' The troop dispositions show Robertson's (Robinson's) Corps below, and the Hessian and English grenadiers at the extreme right. The legend in the box reads as follows: 'Plan of the two posts on Stony and Verplanck's Point. A.B.C. Newly constructed works on our side. D.D.D. An outlying work which lay lower than Fort Lafayette, in which the rebels had three 18-pounders on the rampart side which fired *en barbette*.' The letters given in this description are missing from the plan, except for the letter B, which is found at the extreme lower right." (Source of map uncertain, probably William C. Clements Library, University of Michigan, Ann Arbor.)

Scows and Flatbottom Boats. Since they were so crucial for military movements, scows and flatbottom boats deserve further examination. While ferry flats were often dedicated for service at a specific site and generally transferred traffic across rivers, scows and flatbottom boats not only crossed men and materiel from one side to another, but commonly traveled up and downstream, too. Construction of these craft was generally similar, but scows and flatbottom boats were larger than ferry flats, had a greater capacity, and were more cumbersome. These two craft also had higher sides, giving them more freeboard when loaded and making them more seaworthy.

Several definitions are useful in comparing American ferry-craft with late-eighteenth century British nomenclature: flat-boat, "A broad flat-bottomed boat, used for transport."; scow, "A large flat-bottomed lighter or punt." These last two correlative vessels should also be defined. A lighter is a "boat or vessel, usually a flat-bottomed barge, used in lightening or unloading (sometimes loading) ships that cannot be discharged (or loaded) at a wharf, etc., and for transporting goods of any kind, usually in a harbour." Punts are described as a "flat-bottomed shallow boat, broad and square at both ends ..." William Falconer wrote of punts in 1769, they "are a sort of oblong flat-bottomed boats ... used by shipwrights and caulkers." Nathaniel Portlock wrote in his *Voyage Round the World, 1785-88*, "The carpenter, assisted by the cooper and three other hands, began to build a punt of twelve feet long, six feet wide, and about three feet deep." (Lighters are also mentioned in the description of barges, for which see below.)⁴⁵

Of necessity, flatboats had been used for transport since the war's inception, though it may not have been until 1776 that they were built specifically for army use in any numbers. Some flats were used by Washington's troops on the Hudson River and New York Bay during that summer, and in autumn 1776 the Virginia Navy Board ordered at least thirty

large flatboats for carrying men across Chesapeake Bay; built by Caleb Herbert ("one of the best shipbuilders in Virginia"), these "boats had a forty foot keel, fourteen foot beam and were three feet four inches deep 'to Top of the Gunnail [gunwhale], Eight Inches Wash Board.' Each had twenty oars mounted in iron swivels and a small cannon." Some of these vessels were never delivered, and all were sold to reduce costs the following year.⁴⁶

Again, the problem of nomenclature needs to be discussed. In 1781 several Pennsylvania officers wrote of crossing the Potomac River at "Nowlands Ferry." One called the vessels they used flat-boats, another "Squows," (a third officer termed them "bad scows"). Some officers seem to have recognized the various names were often interchangeable and made an attempt to distinguish between the various flat-bottomed craft by assigning names to each according to their differing qualities and abilities. Timothy Pickering, quartermaster general of the army from 1781 to 1783, seems to have adhered to a system of terminology, which is echoed, with some few lapses, by other people's correspondence and many boat returns. Whether or not such a system was widely used it does reflect the military need for specificity.⁴⁷

Thomas Mifflin's June 1777 letter may have been an early attempt to make some distinction among the several flat-bottomed craft used by the army. He wrote, "We have here 3 large Artillery Flats, four Scows, each of which will carry a loaded Wagon with Horses, 4 flat boats, each to carry 80 Men, 13 Boats on Wagons at this place and 5 others on the Way 6 Miles from this Ferry each of which Wagon Boats will carry 40 Men ..." Mifflin notes the difference between "Artillery Flats" used to carry cannon and crew (possibly with limber and horses), "flat boats" for transporting troops, and scows which could "carry a loaded Wagon with Horses." Another letter calls the first-mentioned craft "artillery scows," probably because of their large size. (Mifflin's "Wagon Boats" had the same capacity as those built later in 1780 and 1781; those vessels were bateaux, 25 feet long, sharp-ended fore and aft.) Later in the year General Nathanael Greene follows the same course, writing from Burlington, New Jersey, in November, "My division arrivd on the other side of the [Delaware] river about ten this morning but the want of scows to get over the Waggon will prevent our marching until the morning."⁴⁸

Troop carrying capacity was another telling attribute. Mifflin's 1777 letter to Washington mentions "4 flat boats, each to carry 80 Men." By the standards of some late-war documents eighty men was the upper limit for a flatbottom boat's capacity. An August 1779 "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c" described scows as carrying "100 Men with their Baggage," while "Flatt bottom Boats" could handle fifty men with baggage. An "Estimate of Stores &c for an Army of Twenty five thousand Men" (circa 1782) includes 150 "Flatt Bottom Boats (to contain 75 men each)." The value of the larger vessels was alluded to by General Washington in February 1782 when he requested Timothy Pickering to "keep all the great Scows in constant repair," adding "as they are so convenient for transporting the Army on a sudden emergency, I should be glad to have the number augmented ..."⁴⁹

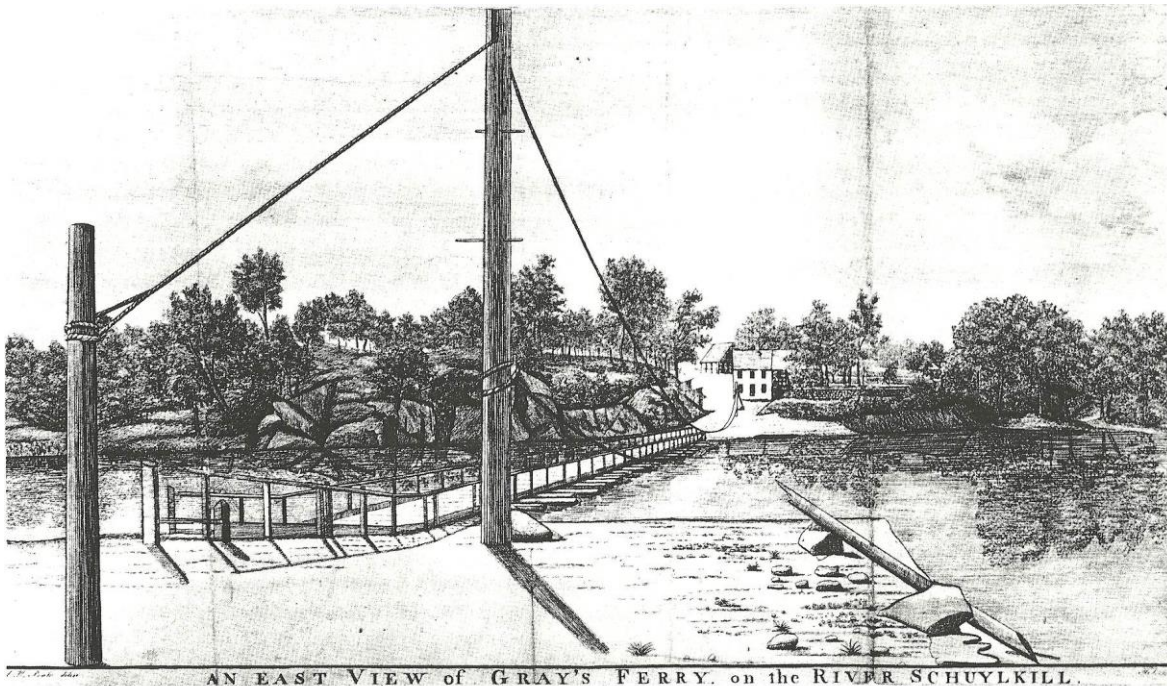
General Israel Putnam's mention of "Two large Scows, which are nearly finished" at West Point in February 1778 highlights the fact of size differences between scows and flatbottom boats. The April 1781 "Return of all Public Craft and Boats on Hudson's and the Mohawk River" is particularly useful because it gives dimensions (length, width, and depth) for some vessels as well as the uses they were put to. Two scows were included on the return, one at West Point measuring 50 feet long by 16 feet wide, with a "Depth" of 3 feet"; another at

Fishkill Landing was 60 feet long and 13 feet wide. A 1782 estimate of construction costs includes "1 large scow, 50 feet long, & 16 feet wide." As for flatbottom boats, five on the April 1781 document were being used as "ferry boats at Kings Ferry," four of them measuring 34 feet long by 8 feet wide, and another the same length by 10 feet in width. Two others were used for "Cazual purposes" at West Point, each measuring 34 feet long by 8 feet wide, with a depth of 3 feet. This last measurement is interesting; whatever their differences, both scows and flatbottom boats had a three-foot depth.⁵⁰

The afore-mentioned listings of scows in and around Hartford, Connecticut, also gave vessel dimensions; for the most part the measurements mesh with Continental Army criteria for scows. Thirteen of the civilian-owned scows ranged from 40 feet long by 10 feet wide to 48 feet long by 11 wide. Three other scows were significantly smaller (within the parameters of Continental flatbottom boats); one was 34 feet long by 7 feet wide, another 20 feet long by 4 1/2 wide, and a third 18 feet long and 4 feet wide.⁵¹

Using these rough criteria, dimensions can be roughly delineated: scows were 40 feet and over in length, some having a width as narrow as 6 1/2 feet; flatbottom boats ranged from 34 feet and under, the smallest yet documented being 18 feet long and 4 feet wide. Both vessel types had a 3-foot depth, were blunt or square-ended, and could be propelled by either oars or setting poles. The exact design and appearance of these craft is not certainly known.

As attested above, although pettiaugers and other craft occasionally served to augment flatboats at ferry crossings, for large troop movements scows and flatbottom boats were indispensable. While there remains much to learn about the construction of these simple but effective vessels, the crucial role they played in transporting Continental army soldiers, supplies, and vehicles throughout the eight-year conflict for our country's independence cannot be denied.



East view of Gray's Ferry, 1789, by Charles Willson Peale. Martin P. Snyder, *City of Independence: Views of Philadelphia Before 1800* (New York, Praeger Publishers, 1975), fig. 77.

Barges: These vessels were used in smaller numbers than scows or flat-bottom boats, but being lighter than other flat-boats, and with a shallower draft, were faster and more maneuverable; this facilitated a quick trip for a small number of passengers. Once again, design details are wanting. There were several categories of barge. One was simply a "rowing boat; esp. a ferry-boat."; a second type was very like a scow, being a "flat-bottomed freight boat, chiefly for canal- and river-navigation, either with or without sails; in the latter case also called a *lighter* ..." In his 1769 *Universal Dictionary* William Falconer defined barge as "the name of a flat-bottomed vessel of burthen, for lading and discharging ships."⁵²

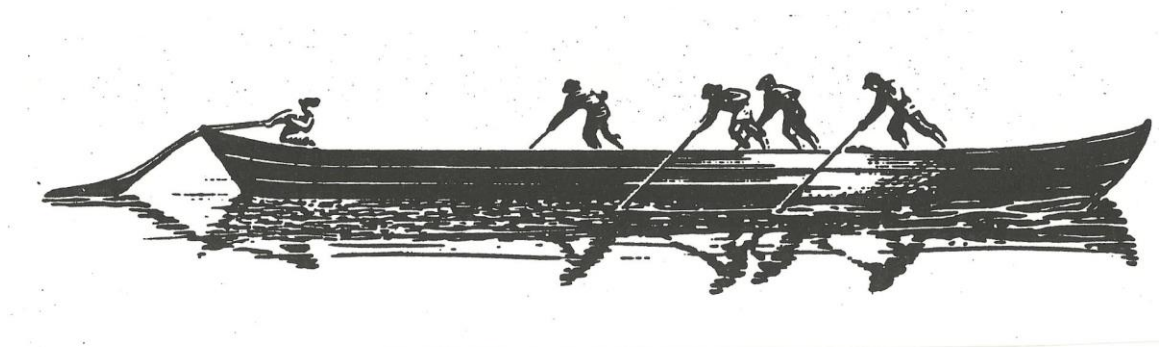
The craft used by commanders on the Hudson River were probably similar to barges described as the "second boat of a man of war; a long narrow boat, generally with not less than ten oars, for the use of the chief officers." Size of Continental officers' barges varied. A 1782 "Estimate of Stores" noted that they had "6 & 8 oars each." General Washington's barge carried twenty-four oars. The 1781 "Return of all Public Craft" lists two barges on the Hudson River; one at West Point belonging to Major General William Heath (dimensions: 26 feet long, 5 feet wide and 1 1/2 feet deep), and another at New Windsor at the command of the Adjutant General.⁵³

An undated bill for the commander in chief's personal barge details its size and equipment. The extreme dimensions were 38 feet long by 8 feet 10 inches wide. The "Inventory of Stores" included one mast, "1 Yard," "1 Rudder," "1 Tiller," "24 Oars from 7 to 24 feet & 2 Boat hooks." The craft had a "Jagermast" and "Boome," with two different types of sail; a "Jager" sail and a foresail. (The term "Jager" applied to mast and sail may be associated with jagger, yagger, or yager, the name for a vessel accompanying a fishing fleet with stores and for transporting fish.) The barge's onboard equipment was also listed: "2 Cullers [flags] 1 Blew [and] 1 Continental," "1 New Drum," 18 spears, "1124 Musket Ball & Buck Shott & 200 Cartridges Empty," "3 Compleat Arm Chests with Pertitions for ammission," fourteen lockers "for Mens Cloathing," "6 Neat Iron Bound Water Cask & 2 Cans," a "Binnacle," and "2 large Graplings."⁵⁴

Most general officers stationed on the Hudson probably had use of a barge. Washington wrote General Heath from Newburg in April 1782 that "The very high Wind this morning has determined me to defer going to West Point; I therefore return the Barge which need not be sent up again as my own will be fit for use tommorrow or next day;" five months later, at Verplanks Point, reference was made to "the Quartermaster generals barge."⁵⁵

Beginning in 1781 Maryland built a number of barges to defend the bay against enemy incursion. In late 1780 "The Defence of the Bay Act" authorized the governor and council to construct or procure "fitted with Sails and Oars and Manned as soon as possible four large Barges or Row Boats Capable of Carrying Swivels and 25 Men at least." Being "Flat-bottomed and drawing very little water, the Maryland barges were ideal for operating in shoal waters." The number requested was increased the following year, and by 1783 eight barges were in operation. There are several descriptions of privately-built barges, some of which were eventually purchased by the state. In response to the General Assembly's Defense Act some inhabitants of Somerset County, on the Eastern Shore, sponsored construction of a "Barge about 50 feet by the Keel, to carry about 60 men and a 24 Pounder in her Head." Another barge was built in Kent County, and made available for government use when "they may require her." This craft's dimensions were 41 feet long, 7 feet 4 inches wide, 2 feet 10 inches deep, and "drawing only twelve inches of water," similar in size to Washington's private barge. The twenty-two oars, 13 to 16 feet long, were plied fore and aft

by single rowers; two rowers per oar amidship. Another group of Somerset County citizens in response to their shores being "Constantly infested with the Enemy's Barges," built their own, "fifty-feet on the keel, fourteen feet beam, and three feet depth of hold," propelled by thirty-two oars, and armed with up to ten swivel guns.⁵⁶



Durham boat. "Diver's Fact Sheet" (circa 1988), The New York Durham Project, New York State Museum.

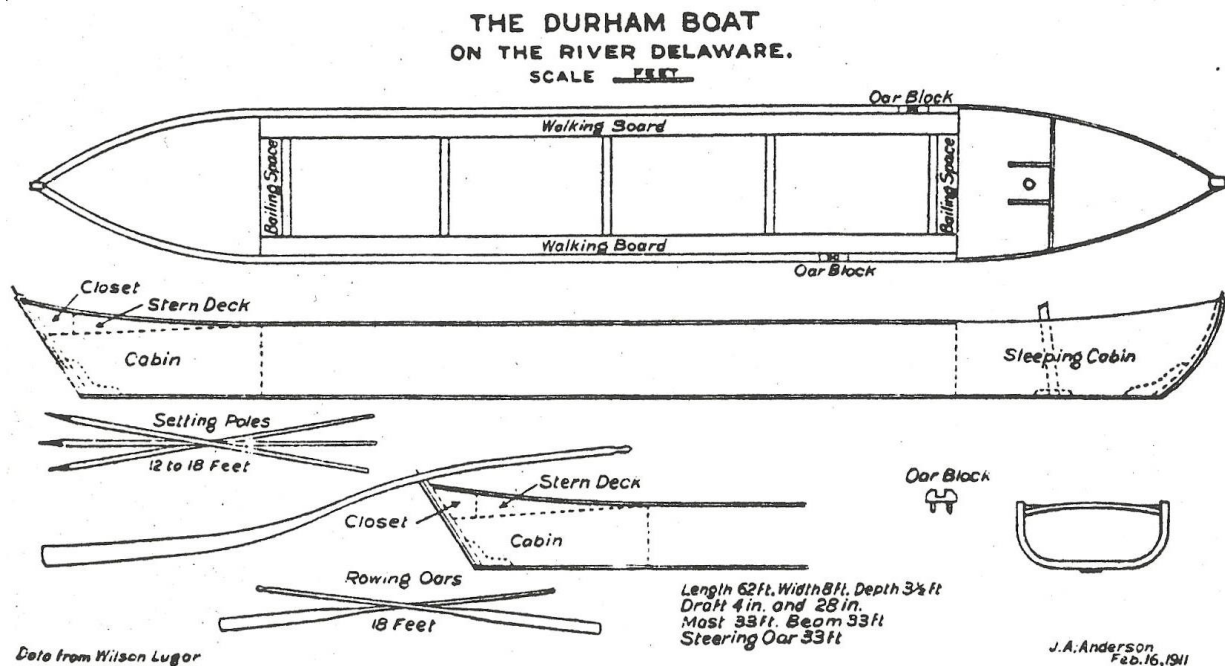
Durham boats: Possibly the most famous river craft associated with the American Revolution. The origin of the design is uncertain; developed for use on the Delaware River by Robert Durham of Pennsylvania circa 1740-1750, it has been conjectured they were derived from New York bateaux.

In 1755 Lewis Evans described Durham boats to be "trough-like, square above. the heads and Sterns sloping a little fore and aft: generally forty to fifty feet long, six or seven wide and two feet nine inches or three feet deep and drawing twenty to twenty-two inches, when loaded." John Wallace Arndt, born in 1815, was very familiar with the Durhams. He, his father (born near Durham, Bucks County, in 1780), and grandfather all built these vessels for use on the Delaware, Susquehanna, and Fox Rivers (the last-named river is in Wisconsin where the family moved in 1824). Arndt detailed the boat's construction in a memoir, describing them to be "of simple build, carrying a large load with a light draft and passes the water easily. They were generally from 45 to 60 feet long, 10 to 12 feet beam, 2 1/2 feet deep, drawing 18 to 20 inches and carrying from 20 to 30 tons." A 19th-century historian, relying in part on information gathered from local people, reported Durham boats to be "sharp at both ends and flat-bottomed because of the shallowness of the stream." They were "propelled by setting poles ... one end placed on the bottom of the river, the other against the boatman's shoulder as he walked from stem to stern of the running board. Oars were sometimes used, and occasionally a jury sail was rigged." The oars, when plied, were rowed from the side opposite the oarlock, giving more traction for the rower. Additionally, the steering sweep could be attached to either end of the boat.⁵⁷

Durham boats were present on the Delaware River at the time of Washington's retreat across New Jersey in autumn 1776. The commander in chief did mention them on 1 December from New Brunswick, when he ordered Richard Humpton, colonel of the 11th Pennsylvania Regiment, "You are to proceed to the two ferry's near Trentown and to see all the boats there put in the best order with a sufficiency of oars and poles and at the same time to collect all the additional boats you (can) from both above and below and have them brought to those ferry's and secured for the purpose of carrying over the troops and baggage in most expeditious manner: & for this purpose you will get every assistance

in the power of quarter master general & any person in this department. You will particularly attend to the Durham boats which are very proper for this purpose. The baggage & stores of the army should be got over the river as soon as possible and placed at some convenient place a little back from it." Washington the same day also informed New Jersey governor William Livingston that "The Boats and Craft, all along the Delaware[^{'s} eastern] side, should be secured; particularly the Durham Boats used for Transportation of produce down the River. Parties should be sent to all the landings to have them removed to the other side, hawled up, and put under proper Guards. One such Boat would transport a Regiment of Men." Even with the army's regiments being severely understrength this claim as to their capacity is greatly exaggerated. A modern source is closer to the mark, stating that one such vessel "could carry a company of men or fifteen tons of equipment."⁵⁸

While the commander in chief had them in mind for ferrying his troops to the safety of the river's west side, it is probable Durham boats were used during the 25-26 December crossing prior to the first battle of Trenton. An important letter supporting this contention was written by General Nathanael Greene, from Bogart's Tavern (now the General Greene Inn, Buckingham, Pennsylvania), 10 December 1776: "I am directed by his Excellency General Washington to desire you to send down to Meconkee ferry - sixteen Durham Boats & four flats - You'll send them down as soon as possible send them down under the care and direction of some good faithful Officer."⁵⁹



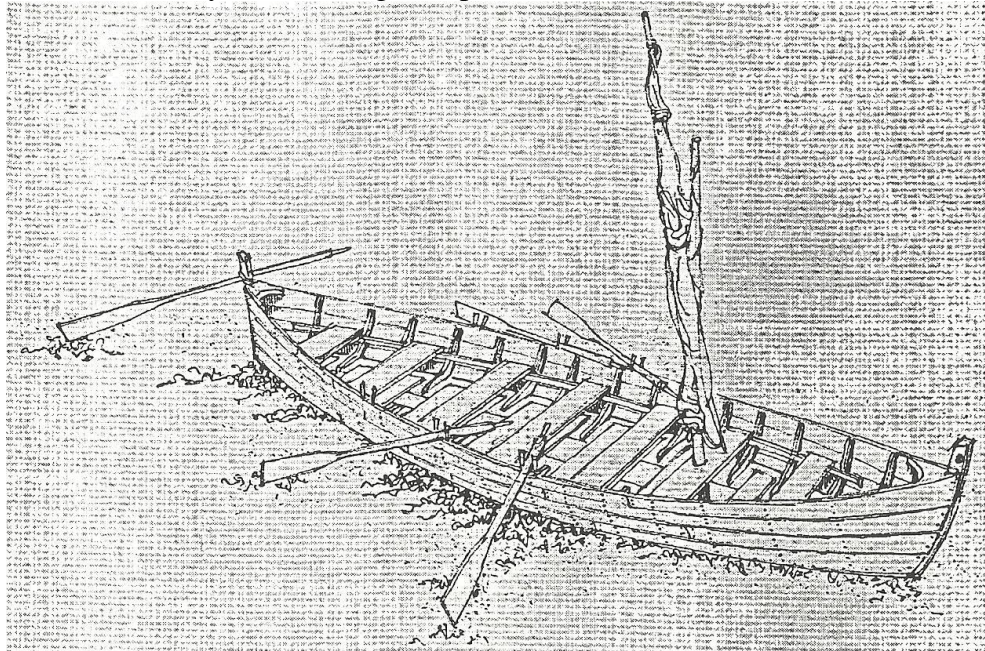
DRAWING OF DURHAM BOAT BY JOHN A. ANDERSON

Made in 1911 from his personal recollection of shape and size and from information obtained from others.

Drawing of Durham boat. B.F. Fackenthal, Jr., "Improving Navigation on the Delaware River: With Some Account of Its Ferries, Bridges, Canals, and Floods," *A Collection of Papers Read Before the Bucks County Historical Society*, vol VI (Allentown, Pa., 1932), 109.

These vessels were used later in the war for carrying provisions and equipment for the army. An August 1779 "Return of the Schooners, Boats &c in the Boat Department" lists thirty-one Durham boats. Seventeen of these were public property (eight at Philadelphia, six at "Reading on the Schylkill," and three at "Coryells ferry on the Delaware."). The remaining fourteen were "hired" Durham boats located at "Esherton on Susquehannah." A 15 March 1780 letter may refer to these same hired boats; Cornelius Cox, deputy quartermaster general, then noted that "There are ... fifteen large Boats private property on this River [the Susquehanna] that will Carry from five to Ten Ton each Boat." "10 boats to carry from 8 to 10 tons" were included in the stores Quartermaster General Nathanael Greene was to have "deposited at *Esherton*, for the ensuing campaign" of 1779. The fact these craft were "to be procur'd ready built," that Durham boats had this capacity, and that a number of Durhams were at "Esherton" in August 1779, suggests they were one and the same.⁶⁰

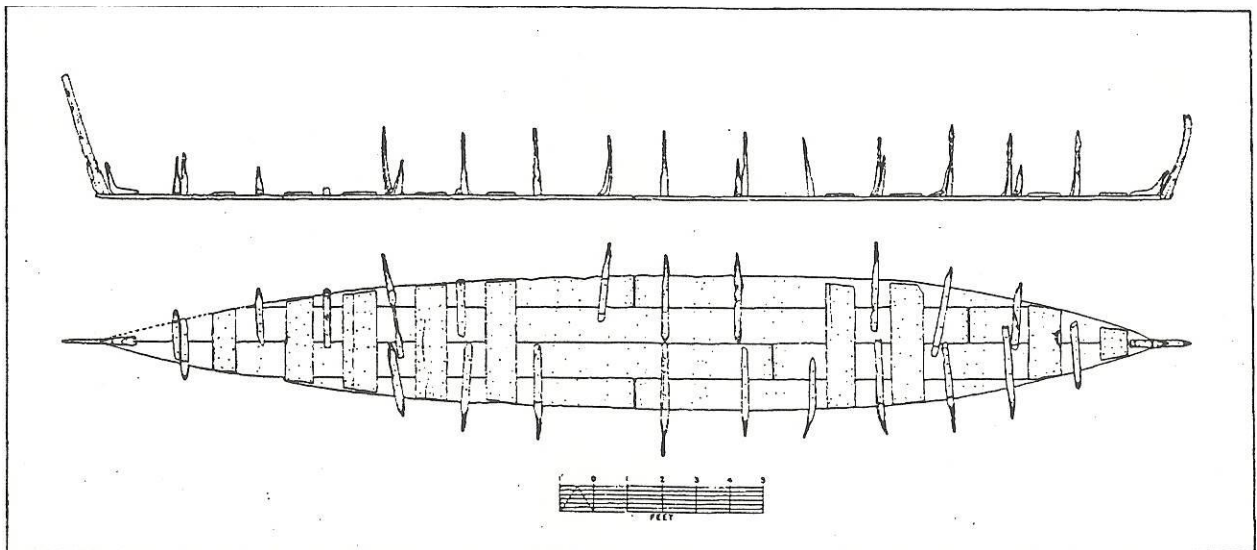
Bateaux: Commonly associated with Benedict Arnold's famous 1775 march to Quebec, bateaux were found as far south as North Carolina and Virginia, and proved a mainstay in moving large numbers of troops and equipment over inland waterways during the War for Independence. Bateaux had been used in Canada and New York since the late-seventeenth century. In all likelihood the basic design was of Dutch origin; historian Russell Bellico wrote that the "typical bateau on Lake George [in the mid-18th century] was 25-35 feet long and held approximately 22 soldiers with provisions. The vessel was a flat-bottomed, double-ended boat with oak frames (ribs) and bottoms of pine planks. While the vessels were usually rowed or perhaps poled in the shallow water, sails were improvised if the wind was blowing in the right direction. One or two 'steersman' would control the direction of the bateau from the stern by use of a long sweep (oar)."⁶¹



An eighteenth century bateau, based on seven sunk in Lake George in 1758, studied by Bateaux below, Inc. David R. Starbuck, *The Great Warpath: British Military Sites from Albany to Crown Point* (Hanover and London, Univ. Press of New England, 1998), 187. (Illustration by Mark Peckham.)

Bateaux first saw large-scale military use during the French and Indian War. In July 1758 an army under British General James Abercrombie set out from the site of Fort William Henry with 6,367 British regulars and 9,024 provincial troops in "900 bateaux and 135 Whale Boats, the Artillery ... being mounted on Rafts." The following month Lt. Col. John Bradstreet's expedition against Fort Frontenac moved up the Mohawk River with "2,600 troops and 300 bateaux men" traveling in "123 bateaux and 95 whaleboats toward Lake Ontario."⁶¹

In the Revolutionary War British armies were transported in these craft via rivers and lakes during the northern campaigns of 1776 and 1777. Captain Georg Pausch, Hesse-Hanau Artillery Company, traveled with General Guy Carleton's Lake Champlain fleet in autumn 1776, and often mentioned the bateaux used to carry troops and materiel. At the Battle of Valcour Island a bateau carrying artillery ammunition was hit and set on fire; Captain Pausch assisted the sinking vessel, taking the survivors onto his "small batteau" until he had forty-two people on board and was himself in danger of foundering. He noted on 23 October that "all the batteaux, 21 in number, the others were detached, formed a chain in the river every night. During the mornings, from ten to eleven o'clock, the batteaux sailed to each bank. The troops cooked and ate, and when the sun set, lay themselves again at anchor in the river." Describing the preliminary movements of General John Burgoyne's 1777 campaign the following spring, Captain Pausch wrote that "These batteaux with which I must still make two sorties into the wilderness, must be pushed and pulled where the water is very scarce and shallow, and also very obstructed with fallen trees." A few months later he reported the situation of Burgoyne's army on the morning of the Battle of Freeman's Farm, 19 September 1777: "... the entire army was set in motion ... However, the Hesse-Hanau Regiment was held back to protect the artillery train, the baggage ... and also the batteaux coming down the Hudson with provisions."⁶²



Drawing of the remains of a bateaux, circa 1758-1759, recovered from Lake George in 1960. David R. Starbuck, *The Great Warpath: British Military Sites from Albany to Crown Point* (Hanover and London, Univ. Press of New England, 1998), 188. (Illustration by Kevin J. Crisman.)

Besides the important role they played in moving Arnold's force through the Maine wilderness in autumn 1775, Continental forces used bateaux during the 1776 and 1777 campaigns in Canada and New York, with hundreds being built. Early in 1776 at least a "dozen bateaux loaded with provisions were required from Albany each day" to supply General Philip Schuyler's northern army.⁶³ Colonel Israel Shreve, 2nd Battalion New Jersey troops, wrote of his experience with these craft in spring 1776; from "the head of Lake George" in April he noted,

the Ice is yet in the Lake so thick that Boats Cant pass, it now is a warm Rain and we Expect the Lake will be passable to morrow, there is 77 Large Battoes Given out to the Different Ridgments here / the Battoes is mostly Loaded with Cannon Stores and provision / we have 26 Battoes for our three Companies, I have Picked out 12 men to Roe my Battoe ... and 2 Steers men, our Battoe is all Loaded, our Baggage in, and Ready to Imbark at an hours Notice / we have to Go from hence 36 miles to ticonderoga, we then Go by Land one mile and an half, hall our Battoes a Cross into Lake Champlain in Carages then Load again Imbark and Go Down Lake Champlain to St. Johns 136 miles from thence Down the River Sorell into St. Lawrence to Quebeck 180 miles in all 352 miles we have yet to Go by Water in Battoes that will Carry between 30 and 40 men Each, I have Got my Battoe Cover'd with an [illegible word] where I Expect to Eat and Sleep / Doctor holms Goes with me, John and Jim the oresmen and all will make 18 in my Boat ...⁶⁴

On May 25th, from "Berthier 45 miles below Montreal 5 miles from the Camp at Sorell," the colonel described his difficulties during the retreat from Canada. "I was Ordered on Board a Battoe, by the Gen. with 10 sick officers and soldiers at point Deshambo in sight [of] 3 men of war with a Little pork and no flowr about half a Loaf of Bread, in this situation we set off[f] against a strong Current for Sorel about 100 miles in our way a Wide Lake we had Bad Weather head winds and often obliged to put to shore where for hard money I Bought Bread Milk and some Eggs at a very Dear Rate no other person But my self [had] a Copper of hard money, in this manner we Come in five Days up to Sorell the 10 sick is all Giting Better But two of my Oresmen was taken as soon as we arrived and both Died in a few Days ..." ⁶⁵ (For more on bateaux in 1776 see Appendix II)

After 1777 large-scale military activity ceased on the Canadian frontier, most troops moving southward, and large numbers of bateaux were built for use by the army on the lower Hudson River. While General Nathanael Greene informed Moses Hazen in September 1779 from West Point that "I would rather prefer flat bottom Boats to Battaux," he went on to say that "either will answer ... I think it will be well for Col Morgan Lewis to keep on building battaux for the present, as they will undoubtedly be wanted for the ordinary duties of the Garrison if they are not wanted for a special purpose." Large numbers were in fact constructed and put to good use over the next few years; some of Lewis's boats may have found employment that autumn when the Pennsylvania Division, then at West Point, was ordered to winter quarters near Morristown, New Jersey. While the troops travelled overland, the divisional baggage went via the river. Lieutenant Colonel Josiah Harmar noted on "November 20th: [1779] ... Struck our Tents at Gun firing - Baggage put on board Batteaus for New Windsor - The Division march'd about Ten O'Clock A.M. by the Forest of Dean, a very rough stony Road, and halted about half a Mile from Junes's Tavern; very disagreeable rainy Night and having no Tents, the Men suffered greatly ..." ⁶⁶

A New Jersey sergeant major with Sullivan's 1779 expedition noted the 24 July arrival at Wyoming of "a fleet consisting of 134 Boats [bateaux] loaded with provisions of all kinds; on the[ir] arrival, they fired 13 Cannon, and were saluted by the like number from the Garrison." Six days later the army left that post after loading additional stores on the vessels. At the same time General James Clinton was gathering supplies on the Mohawk River for the same enterprise. He was ordered to collect at Canajoharie "a number of Batteaus, sufficient to transport ... [five] Regiments, (and of the lightest kind ...)" (Due to the likelihood that Clinton's craft would have to be portaged the portability of these bateaux mattered more than their capacity.) Clinton's force reached Tioga on the Susquehannah on August 22nd 1779, one soldier writing, "This day at 12 o'clock arrived Brigadier General Clinton and his Brigade, also 200 Batteaus."⁶⁷

Upon taking command of the southern army, General Nathanael Greene recommended bateaux for carrying stores via the numerous Virginia and Carolina waterways. In December 1780 he requested that General Edward Stevens report on the Yadkin River concerning the "Depth of Water, the Current and the Rocks, and every other Obstruction" to see whether transport "cannot be performed with Batteaus ..." Greene planned "to construct Boats of a peculiar kind for this Service, that will carry Forty or Fifty Barrels and yet draw little more Water than a common Canoe half loaded." Among his reasons for using the riverways was the lack of "Waggons and Forage ... to transport across Country all by land." The Roanoke and Dan Rivers were also explored for their suitability. Governor Thomas Jefferson ordered that bateaux be built at Taylors Ferry on the Roanoke, and General Greene noted the need for tools and materials for "Building about 100 large Batteaus ..."⁶⁸

There were several "ordinary" duties required of bateaux. A July 1779 "Return of Boats at this post [West Point] fit for service with Oars" listed three bateaux as being "On Command" [detached duty] with the light infantry, and six at the ferry. The April 1781 "Return of all Public Craft and Boats on Hudson's and the Mohawk River," listed one hundred and ninety-five bateaux; of these three were used as guard boats, twelve "to bring Wood for ye Troops," and four for ferry boats. The remainder were "laid up" at various locations.⁶⁹

Carrying ability of Continental Army bateaux differed slightly through the war. Two 1779 returns give their capacity as thirty men; by 1780 this number had been increased to forty. By contrast the bateaux in Amherst's 1759 campaign against Fort Carillon, via Lake George, carried "nine barrels of pork or twelve of flour with approximately 20 men ..." In March 1779 Nathanael Greene was ordered to have ready "at *Estherton*" on the Susquehanna, "150 Batteaux of about two tons burden" for the planned campaign under General John Sullivan against the Iroquois towns in New York.⁷⁰ Just before the movement by bateaux down the Hudson of the bulk of Washington's army in 1782, Edward Bulkly, Connecticut brigade quartermaster, sent Timothy Pickering a "Calculation of Boats." Listed in this document (dated 25 August) were two different-sized bateaux and their capacities.

Length & Breadth (in feet)	Number of men <u>without camp equipage</u>	Number of men <u>with camp equipage</u>
34 7 1/2		
With smooth water	45	40
In a breeze of wind	36	30

26 6 1/2		
With smooth water	30	25
In a breeze of wind	28	20

Bulkly noted, "The above calculation is made to include the five Oarsmen and the Boats to be perfectly tight, but those that I received are very leaky when loaded ..." ⁷¹

Size also varied. Fourteen bateaux found in Lake George in 1960 were probably part of two hundred and sixty sunk on orders of General Abercromby in 1758. These examples have a 32 foot bottom length (34 feet overall). Dimensions given for bateaux listed in the 1781 "Return of all Public Craft ... on Hudson's and the Mohawk River," range from 28 feet long and 5 1/2 feet wide to 35 feet long by 5 feet wide, with the average being about 31 feet long by 5 wide. Seventeen bateaux at Schenectady were the exception, two measuring in at 36 feet long, the remainder being 24 feet in length. Most of these vessels had a depth of 2 feet; twelve 35-foot bateaux had a depth of 2 3/4 feet. In February 1782 a cost estimate was made for three different-sized craft: a "Large Batteau ... 34 feet long & four or five foot Wide at Bottom," "One of 30 feet long and three foot & [a] half Wide at the Bottom," and "One of 28 feet long & three foot and Half Wide." (For 1780 dimensions of bateaux suitable for carrying on wheeled carriages, see page 33.) ⁷²

In April 1782 Quartermaster General Pickering noted that "a common batteau requires five hands." A month earlier "An Estimate of the expences of repairing & building ... boats" mentioned that the bateaux were to have ten oars each. While rowing was the standard means of propulsion, rudimentary sails were occasionally used. In his book on the vessels of Lake Champlain Russell Bellico relates that during the October 1759 British movement up the lake the bateaux used "blanket sails ... each bateau [being] rigged with two blankets," according to a method devised earlier by Ranger Captain James Tute. In spring of 1776 Charles Carroll, one of a three-man Congressional Committee, traveled to Canada. He described the bateau on which he passed Lake George as "36 feet long and 8 feet wide ... and [able to] carry 30 or 40 men ... They are rowed ... [and] have a mast fixed in them to which [a] square sail or a blanket is fastened." ⁷³

Late in the war the Continental Army accomplished its "first considerable move ... attempted by water" (true only if the 1781 conveyance of troops to the Virginia Peninsula via the Chesapeake is not considered). On 31 August 1782 a large portion of Washington's army travelled by bateaux down the Hudson River, from West Point to Verplanks Point. Exact numbers used for this movement are not known, but in February the commander in chief told Timothy Pickering, "I find there are upwards of 200 Batteaux either fit for use or capable of being repaired; as this species of Boats will probably be the most essentially necessary, it is my wish that measures may be immediately taken to compleat and keep in constant readiness for service at least two hundred of them, exclusive of those on ordinary duty ..." ⁷⁴

General Washington, wanting to leave nothing to chance, issued detailed instructions covering every aspect of the movement. On 27 August he directed "The Brigade Quarter

Masters will make a proportionate distribution of the boats which they have received to the regimental Quartermasters, and these again to the respective companies that every thing may be properly arranged previous to the order of embarkation. The Brigadiers will assign four good oarsmen to each boat, and an officer who has some skill in the management to take charge of them ... They will see that scoops are provided for freeing the boats of water in case they prove leaky." This last comment refers to an attribute shared by most bateaux, and one mentioned by German artillery captain Georg Pausch in May 1777, when he noted that his unit's "powder flasks have all been sprung by the dampness in the bateaux and the bad weather ..."⁷⁵

The commander in chief gave additional orders for the movement on August 30th. "Precisely at five o'clock tomorrow morning the general is to beat, on which the tents and baggage of the two Connecticut, and three Massachusetts Brigades are to be put into the bateaux; at seven o'clock the assemble will beat, when these brigades are immediately to march and embark ..." Once on the river the "leading regiment of the first Connecticut Brigade is to advance two hundred yards as a Vanguard and detach one company, which is to keep about a hundred yards in front of it." The New York and New Jersey brigades were not included in this move, having been ordered on 25 August to march overland to Kings Ferry.⁷⁶ Washington's instructions continued:

The boats of each regiment are to keep a breast and far enough a part to prevent interference ... Between each regiment there is to be a space of seventy-five yards; and between the Divisions two hundred and fifty yards ... If any boat shall prove too leaky or break its oars, or from any other cause is unable to keep the line it is to turn out and follow after in such a manner as the prudence of the officer commanding it shall judge best. No batteau is to be without a commissioned officer in it. ... all the baggage that is not in the bateaux with the troops are to follow at the distance of half a mile in the rear ... General and Staff officers Guards are not to join their corps on this movement but may assist in transporting the baggage by water in order to prevent the necessity of waggons ... No women to be admitted into the boats with the troops on any pretence whatsoever. If the boats are ensufficient to transport the troops (with their baggage) without crowding or overloading them the surplusage must march by land under proper officers. The soldiers will take care to fill their Canteens before they embark as there will be no landing for water afterwards. The Artillery annexed to the brigades will proceed by land and join their respective corps at Verplanks point.⁷⁷

These orders included an intricate set of command signals and directions for music. To help with visual commands Washington told the quartermaster general "to provide sixteen small flags as signals for the Boats, viz. eight of white cloath, of any size you think proper from 18 inches to 3 feet square; and eight others of blue, red or green - These flags he would have fixed each upon a convenient staff ..." At the onset, "As soon as the troops have embarked and taken their distances (the Van being nearly opposite to little Dicks ferry or Meig's redoubt) the rear brigade will beat a march which will be repeated to the front as a preparitive; three Cannon will then be fired from the park at Westpoint and the Collum will immediately get in motion; the Musick of the different regiments playing alternately, if the situation of the boats will admit of it: the inspector of Musick will regulate the beats." To allow for all contingencies on their way downriver, additional signals were stipulated (flags by day, musket shots and voice commands at night), for calling halts, landings, etc. The

directive closed with landing instructions: "When the signal for landing is given, the boats are to close up without crowding and row for shore, falling in upon the left of each other, in which order they are to debark at their respective landing places, ascend the bank, and form as fast as they get up into brigade Columns. In this order the head of each Column will be conducted ... to the right of its encampment ... and each regiment take its own ground, Stack their arms, bring up their tents and baggage and establish their camp."⁷⁸

After the voyage was successfully accomplished, General Washington gave his thanks to the officers of the army, "for their very punctual attention to the orders of yesterday, by which the first considerable move that has been attempted by water was made with the utmost regularity and order." Practical matters were then addressed: "The Brigade Quarter masters will see that the boats of their respective brigades are moored at their own landings in such a manner as to be perfectly safe in all weather. The stakes to which they are fastened, must be so well driven as to yield to no wind. The Quartermaster general will furnish materials for repairing the boats, and the Brigade Quartermasters are to see that it is immediately done by men of their own brigades."⁷⁹

In January 1783 the commander in chief had in mind future water-borne military excursions; on the 27th he requested that Quartermaster General Pickering, "take the earliest opportunity the weather may afford to have all the boats that are repairable put into the best order for service as I propose to accustom the troops as soon as the river is navigable to the Manouvres of Embarkation & debarkation."⁸⁰

From the crudely-built craft used during the 1775 march to Quebec to the fleet which transported Washington's army down the Hudson in 1782, and despite their drawbacks, bateaux were indeed the workhorses of the Continental Army. (For more on bateaux, see wagon boats, and vessels in the 1781 campaign below.)

Wagon Boats: The "Wagon Boats" Thomas Mifflin referred to at Coryell's Ferry in June 1777, were reported throughout the war. They were actually flat-bottomed boats transported overland on special carriages. Some of these vessels may have been square-ended, like scows, but most were bateaux, built smaller than usual for ease of transport. In April 1777 General Washington told his quartermaster general that "Ten flat Boats to transport Horses, Artillery and Men, should be directly provided, and fixed upon Carriages, that they may be transported by land ..." This order was executed rather promptly, W. Masters writing on 30 May of "ower safe arival at Corrells [Ferry] wth: a Continental Fleet consisting of eight flat bottom boats, fixed on Carrages ..." A week later Thomas Mifflin mentioned thirteen "Boats on Wagons" at the ferry.⁸¹

Not all vessels transported on wheeled vehicles were wagon boats. In October 1777 the commander in chief ordered Israel Putnam to set "the Boat Builders in the Peekskill Department ... immediately ... to work to make a number of Boats, which may be built some distance back from the Water and brought down upon Carriages." This was due to the probability of an enemy movement up the Hudson with the intention of destroying "the Boats and small craft" on the river. Putnam was also advised that "if the Enemy go down again they may be built convenient to the Water," an indication that these were probably not true "Waggon Boats." Whatever the case, most of the army's wagon boats remained on the Delaware River until two years later, when an August 1779 "Return of the ... Boat Department" listed three "Waggon Boats" at Philadelphia and twenty "Gone from Trenton to Camp." (Washington's forces were then encamped in and around West Point, New York,

on both sides of the Hudson River.)⁸²

In late 1780 particular attention was given wagon boats in anticipation of a major water-borne assault against the British lines above New York City. That November General Washington decided to attempt an attack on the posts at Kingsbridge and the northern portion of Manhattan Island, with a secondary assault or feint on enemy-held Staten Island; a large portion of the army's able-bodied men were to participate, and the general's detailed instructions show the preparation necessary for an amphibious operation. Washington wrote William Heath on the 16th that the enterprise's nominal purpose was to gather forage for the army in the countryside adjacent to the Hudson; to move a portion of the soldiers needed for the mission Heath was "to send by Water five Boats of the largest size that can be conveniently transported on Carriages to the Slote above Dobb's Ferry [on the west side of the Hudson], where I will have them met by Carriages ..." In a postscript, the commander in chief noted that "The Boats should be of the strongest and best built kind." He also requested "five good Watermen with their Arms and Accoutrements, from the Jersey line if they have them, allotted to each Boat under the command of an active intelligent Subaltern (of the same line) who is also to be a good Waterman. If there should be any armed Vessels of the enemy in the River above Dobb's ferry, let me know it, that I may order the Carriages to Kings ferry[.] The Officer and Men are to attend the Boats by Land, as well as Water." General Heath immediately notified Col. Israel Shreve, commanding the 2d New Jersey Regiment, "12 oClock at night ... I mentioned to you that five good watermen would be wanted from your line, it is five to each Boat being Twenty five in the whole, please have them ready early in the morning." Four days later Timothy Pickering was told of "five boats ordered from Kings ferry to Dobb's ferry, which The General directs you will immediately send a proper number of carriages for and bring them to where the other boats are and let no delay attend it ..." ⁸³

On 17 November Major Samuel Darby, 7th Massachusetts Regiment, was ordered to "take charge of the Boats with the Army [including the twenty wagon boats sent from Trenton the previous summer, as well those gathered by General Heath], and see that they are provided with Oars and held in the most perfect readiness for instant use. You will try them in the Water to see if they are quite tight, when full loaded; and you will ascertain the number of Men that each Boat will carry with tolerable convenience, and make report thereof to me." In addition to an admonition to "Keep these instructions to yourself, for some days to come," the major was told not to "delay a moment in complying with every thing therein required." ⁸⁴ Practical instructions in handling the boats were also given:

You will number the Boats, and put them into three divisions, each division to contain about the same number of Men; and to be under the care of an Officer. each boat is to have five Watermen in it, that is four Rowers and one to Steer. these Men are always to have their Arms, accoutrements, and a sufficient quantity of Ammunition with them. They are to be always with the Boats, because the call upon them may be sudden. And for the sake of experiment, I wish it to be tried, what number of Men it will take to carry (on their Shoulders or otherwise) in uneven and difficult ground, one of the largest siz'd Boats. I wish it to be tried also, in how short a time these Boats can be mounted on Carriages from the Water, and put into the Water from the Carriages, each noted separately. You will also see, that the carriages on which the Boats are placed, are good, and so constructed that the Boats will be as little wrecked [racked?] as

possible in their transportation; and that they sustain no injury from the forewheels of the Carriages, in turning short. You will apply to the Qr. Master General for Sheepskin's and Nails to Muffle the Oars ...⁸⁵

Major Darby immediately set about moving the boats, but difficulties dogged him on the way. At "Two Bridges," 22 November, he wrote Pickering, "The Boats that Arived this After Noon is in very Bad order - shall want about six pound of Nails & sum pitch, & sum Oacum, very early tomorrow Morning for to put them in order - the waggons is much racked, sum of the wheels must be shifted before we shall be able to carry them for[ward] ... Shall want at le[a]st two or three Hundred small nails more, for the use of the oars. if those Boats that Come to day is to be moved Part of them with paddles, there must be more of them it will take many of them - tho I am not so well acquainted with paddles as I am with Oars, Nor the people that I have with me ..."⁸⁶

That same day Washington ordered the Quartermaster General to "furnish the Commander of the Boats with materials for muffling the oars ..."; the commander in chief further directed that Pickering "pay particular attention that [the boats] are in good order; well provided with oars; mounted on good carriages and in such a manner that they cannot be injured." The boats were to be moved "through the Notch below the mountain [on Thursday, 23 November] there to remain 'till friday morning ... on friday ... the transportation of the boats from the Notch to Acquakanunk bridge is to commence ... You will also furnish the officer commanding the boats with oakum, thin plank and nails, to repair them with expedition in case of accident."⁸⁷ Major Darby was given further orders for moving the boats on the 22nd:

You will be pleased to distribute your boats into four equal divisions ... both with respect to number and size, numbering the whole 1. 2. 3. &c. each of these divisions you will place under the particular command of one of your subalterns, the whole under your general direction. You will make a previous distribution of the hands to each boat that every officer and man may know his place to prevent confusion.

On thursday twelve O'Clock you are to begin to move the boats, through the Notch below the mountain to the first farm Houses, where they are to halt till friday. On friday at 12 O'Clock they are to recommence their march to Acquakanunk bridge, by the left hand road leading by Henry Garritsons where they are to halt and the horses to be refreshed. The place I would have the Boats stopped at is in the field where a former encampment was about two or three Hundred yards this side the Bridge and Church.

You are yourself, upon your arrival at Acquaquack, to make ... [further] inquiries ... respecting the navigation down the Passaic; the state of the tide, the interruptions windings &ca. in the river, that you may be fully acquainted with every circumstance of that kind necessary for your government.

In all your movements I shall depend upon an absolute precision, and the greatest dispatch practicable ... for on this hangs the most important consequences.⁸⁸

In the meantime Darby continued on with his charges, writing on the 23rd from "the Notch," "have Just arived at this place with 22 of the boats in better order than I Could expect, by the Badness of the way - have Left one of the Boats at the two Bridges, which was brought from West Point, it was so Bad it Could not be put in Order without a grate Deal of time - I had so much to do to the others I was obliged to Leave it behind." In the end the Major labored in vain, gaining only the hands-on experience which recommended him

later for a similar position.⁸⁹

The exact plan for this operation is unknown, as are numbers of troops involved. Instructions for a later proposed attack on the British fortifications (dated December 1st, probably 1780) shows troops crossing from the Hudson's western shore while other forces boated down from New Windsor and West Point; only six or seven hundred men were slated to take part. From all preparations it seems one arm of the November assault was to be launched from the New Jersey side of the Hudson River, while another contingent either pushed off from near Dobbs Ferry on the eastern shore or attacked by land. General Anthony Wayne was ordered to march on Friday, 24 November, "to a mile below Acquaquenack Bridge, advancing a Regiment a Mile or two in your front towards New Ark ..." At dusk "You will then renew your march ... a Mile or two forward [and till it is quite dark] and there halt till further orders ..." To cover the movement's real purpose, "When you arrive at Acquaquenac, you will begin a Forage, for which purpose a number of Waggon will be sent down; but you will do this in such a manner as not to fatigue your Men, whose services may be wanted in a more essential manner."⁹⁰

On the same day (21 November) Colonel Stephen Moylan was ordered to "parade with your regiment [of light horse] at Totawa bridge" on the 24th; from that place he was to send parties "to secure all the crossing places on the Hackensack" River, and to patrol from "below the liberty Pole towards Bergen Town, bulls ferry, Wehowk, Hobuck &c." Washington directed engineer Jean Baptiste Gouvion to survey "the state of the roads from the encampment of the light corps [below Liberty Pole] to Fort Lee; particularly that part of it from the Heights of Fort Lee to the landing place below, to ascertain the practicability of moving down boats in carriages to the landing either in waggon or on the shoulders of men."⁹¹

With a diversionary attack on Staten Island fixed for the night of 24 November Major William Crane was informed by Washington on the 23rd that the "Boats with the Army are inadequate to purposes I have in view; more therefore must be provided at, and in the vicinity of Elizabeth town. they will be wanted to morrow night by one o'clock at farthest ... It is much my wish to know also if it be practicable without creating suspicion to have a few Boats drawn together at the old blazing star or some other unsuspected place in that part of the Sound by means of which a party could be thrown undiscovered upon the Island." The wagon boats under Major Darby's charge were to support the Staten Island operation.⁹²

For some reason the water-borne attack intended for 24 and 25 November 1780 was called off; perhaps the plan was too complicated, the troops and equipment at hand thought insufficient, or the element of surprise lost or considered unobtainable. (One secondary source claims it was blocked by British warships unexpectedly ascending the river.)

Whatever occurred, by the 26th orders were issued to send the army into winter quarters, and the boats at Dobbs Ferry were committed to the care of the "Light companies of the Jersey line." Colonel Shreve informed Maj. Gen. Anthony Wayne from "Pompton Clove 27th Decr. 1780 ... The boats that you are pleased to make mention of were conducted by a party of Jersey Light Infantry to King's-ferry previous to my arrival at this place."⁹³

The worth of these mobile rivercraft was again recognized when the focus of the war shifted southward. In late 1780 General Nathanael Greene was appointed to command the Continental forces in the Carolinas, and in November Washington wrote him, "I intirely approve of your Plan for forming a flying Army." The commander in chief went on to recommend that "if the Enemy should continue to harass those parts of Virginia ...

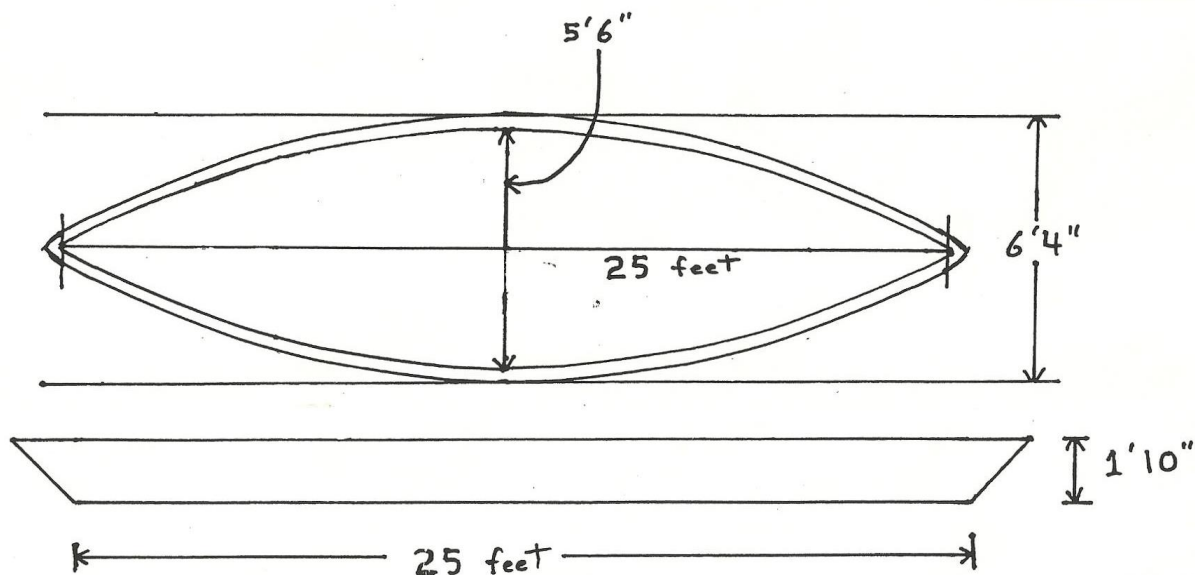
intersected with large navigable Rivers I would recommend the Building [of] a number of flat bottomed Boats of as large construction as can be conveniently transported on Carriages; this I conceive might be of great utility, by furnishing the means to take advantage of the Enemys situation by crossing those Rivers which would otherwise be impassable." He also wrote Virginia Governor Thomas Jefferson on the subject, telling him on 9 December, "I will endeavour to obtain a *Model* for the construction of Boats, and transmit it by an early conveyance."⁹⁴

On 19 December General Washington asked William Heath to "procure from Major Darby, or some other person acquainted with the construction of Boats, a written *Description* of such Flat-bottomed Boats as are most convenient to be transported on Carriages; it should be so intelligible as to be perfectly understood by Boat Builders, as it is designed for a Model to construct a number upon, in Virginia ... In the construction, two things are to govern; convenience of the Men, and the transportation of the Boats on Wheels. Major Darby, (under whose care the Boats were at Passaic) had an opportunity to form his judgement on both these points and recommended a particular kind." The following day General Heath sent Washington "Major Darby's opinion of the model of a flat bottomed boat of the best construction for the convenience of men, and transportation of the boats on Carriages".⁹⁵

Dimensions of a (flat Bottomed Boat or) Batteaux

	feet
Length upon the floor	25
Width upon the floor Midships	5 6
Width midships from Gunwhale to height Gunwhale	6 4
perpendicular height of the sides in board	1 10
Sharp head & stern	

Such a boat will carry 40 men & has been found by Major Darby the best size to transport on carriages.⁹⁶



Bateaux like the one above were recommended in December 1780 as "the best size to transport on carriages," and described as having a "Sharp head & stern," with a capacity of 40 men. In August 1782 a Connecticut brigade quartermaster made this "Calculation of Boats;" the vessels listed in the document were probably bateaux.

Length Breadth (in feet)	Number of men without camp equipage	Number of men with camp equipage
34 7 1/2		
With smooth water	45	40
In a breeze of wind	36	30

26 6 1/2		
With smooth water	30	25
In a breeze of wind	28	20

Bulkly noted, "The above calculation is made to include the five Oarsmen and the Boats to be perfectly tight, but those that I received are very leaky when loaded ..." ("Dimensions of a [flat Bottomed Boat or] Batteaux" (Major Samuel Darby, 1780), Nod. Record Books, NA, vol. 103, reel 29, p. 29. Edward Bulkly to Timothy Pickering, 25 August 1782, Misc. Nod. Records, NA (reel 86, no. 24994.)

On December 27th Washington sent the description on to Governor Jefferson, telling him, "The inclosed are the dimensions of the most convenient Flat Boats ... The plan was given to me by an Officer who has made experiments with those of different kinds." Unfortunately, Benedict Arnold's late-December 1780 invasion of Virginia temporarily halted the state's efforts to build wagon boats.⁹⁷

The story of these craft does not end with Greene's southern army. In February 1781 the Marquis de Lafayette was sent with a detachment of light troops to oppose the British in Virginia. Lafayette decided to construct a number of carriage boats according to Major Darby's design on the Mattaponi River in Virginia: some time in April or May 1781 "Major General The Marquis de la Fayette" ordered from Virginia's deputy quartermaster for immediate delivery "25 Boats to be Built & mounted on Carriages," "100 Good Draught Horses for the Boats," "25 Carriages with four Wheels ... to be built," "Setts of gears" and drivers for the carriages, 150 oarsmen, and 150 "Oars with Stuff to Muffle them." An

uncorroborated source claims they were completed in time to be used during the Yorktown Campaign that autumn. More carriage boats of the same pattern had been built for Washington's main army, and numbers followed the troops on their southward march to Yorktown.⁹⁸

1781 Campaign: Bateaux, Flat Boats, Wagon Boats and Other Craft.

Many vessels were used by Washington's army to support operations on the Hudson River and Virginia Peninsula during the summer and autumn of 1781, and Major Darby's wagon boats played a small part in the effort against British forces trapped at Yorktown.

Soon after Samuel Darby's recommendation for a standard design, the high command considered the construction of additional wagon boats for the army. Timothy Pickering wrote the commander in chief in January 1781: "Very great disadvantages have arisen from the variety of sizes & fashions of the boats that were mounted on carriages; and probably not half of them will be fit for service another campaign. Colo. Hughes is procuring lumber that will enable him to build a great number of boats. Those for carriages should be uniform and of the same size to prevent any confusion or delay in mounting them in the dark for then any carriages would fit any boat, & take up the first which came to hand. Or if for particular purposes a few boats of one or two more sizes & fashions be thought necessary they may be so distinct in their forms & sizes as to prevent mistake in mounting them. Should your Excellency approve of my idea on this subject & be pleased to mention the different military purposes for which you judge boats on carriages may be required, I will endeavour to have them constructed accordingly." In his reply, Washington approved Pickering's "idea of a particular construction of boats to be transported on carriages," and again mentioned "Major Darby, who from having had charge of the boats at Preckness [New Jersey] last campaign had ... an opportunity to judge the kind which would be most convenient."⁹⁹

While a pattern for wagon boats was being discussed, and numbers constructed, other vessels were being built and collected on the Hudson River in preparation for joint Franco-American operations against British-held New York. General Washington wanted enough flat-bottomed boats, especially bateaux, to cover any exigency, and the spring months were spent trying to ascertain the condition and numbers of existing vessels. Dan Carthy informed Quartermaster General Pickering in late April from West Point, "My Conjecture was in some measure wrong about the situation number and size of the Batteaux here ... In all we have about sixty only twenty of which are fit for any immediate use - fifteen or Twenty might (with three or four men to bail Constantly) answer to throw a body of Troops a Cross the river ... The residue are totally useless untill some boards arrives to repair them - among the whole exclusive of those appropriated to the Ferry - is only one flat bottomd Boat - which I have orders to send to Kings Ferry as soon as it gets some necessary repair."¹⁰⁰

To rectify the situation additional bateaux were being built to the northwards by General Philip Schuyler, who promised to produce one hundred in twenty days. An aide to Washington relayed Schuyler's 25 June comments on the matter to Pickering: "As our Boards are all of the Lenth of 14 feet, I find they will work to best Advantage if the Boats are 32 feet instead of 35 feet long, and that each Boat will require 12 lb. of 20d. Nails; 14 lb. of 10d. Nails, and 8 lb. of 8d. If the Nails and Oakum arrive in Season and the Weather

prove favorable, I am in Hopes to compleat the Boats in Twenty Days after my arrival in Albany; as Mr. Cuyler informs me that 150 Carpenters may be procured ..." The aide, Jonathan Trumbull, closed by saying that the commander in chief "being exceedingly anxious for the Completion of the Boats, hopes that no failure may happen on your Part, to produce any the least Delay to the finishg the Number mentioned by Genl Schuyler, in the Time he has sett."¹⁰¹

As summer came on Washington was increasingly anxious about collecting the necessary watercraft. Writing from Peekskill, on 28 June, he confided to General Alexander McDougall, "I find, unless vigorous measures are taken to draw all the Boats together immediately, we shall never have them in readiness for use when wanted. I have therefore written most pressinglly to Major Darby to have all the Batteaux instantly collected at Peekskill." The commander in chief wrote Darby the same day, "Col. Pickering informs me there are now 24 Boats compleatly repaired at Wappingers Creek. Be pleased to send a party to bring these instantly to Peekskill Creek. Let these Boats, and every Batteau at West Point, that is fit for service (including all those now used as ferry Boats, and on every other duty) be hurried to Peekskill with all possible expedition. The work must not cease, or the Men rest a moment day or Night, until 35 or 40 Batteaux are got down the River." He added in a postscript, "Heavy Flat Bottomed Boats or those not in good repair may be given to the Ferry and to the other necessary services from which good Batteaux are taken."¹⁰²

Shortly afterwards Washington decided that, "the 2d. [New York] Regt. will be detain'd at Albany ... [where] Genl. Schuyler is building a number of Flat Boats for the public; so many of them as are ready when that Regt. is order'd down may be man'd by the Troops, and the Boats loaded with plank or such other materials as may be procur'd." On the same date, 9 July, General Schuyler was told that, "the number of Boats already ordered, will be sufficient. I would not wish you to procure any More to be built; those that are buildg I would have Lined within side, that they may be strong and capable of bearing considerable Weight without Injury." (This last comment is interesting. On 21 July Samuel Darby mentioned that "one of the boats Orderd to dobbs [Ferry] is a lined boat & will answer to Carry Horses"; it is possible this was a bateau, though it is doubtful that type of craft was suited to carrying horses. If the vessels Schuyler was to strengthen were indeed bateaux, the desire to have them lined with extra planking would fit in with Pickering's 1782 comment that, "The common batteaux being built with pine boards, are of course very tender, and altogether unsuitable for the rough services to which those in common use are applied ...")¹⁰³

In the weeks following, efforts to collect the army's boats escalated and once more Samuel Darby had charge of the vessels. From "Camp at Peekskill" on 30 June Quartermaster General Pickering informed him that "The barge lately used by the Adjutant Genl. is at Hawses Landing on peekskill Creek. Be pleased to take her & her appurtenances under your care, to be applied for such services for which you shall find to be useful." On 16 July Darby apprised Pickering of the bateaux being built "at Wapping Creek. I found 29 New boats finish'd and la[u]nchd, four more nearly ready to la[u]nch all of a very good size for Carr[i]ages. they also inform me they shall have the Number of fifty Compleated this week, if the weather be good - The boats are not so wide ... as the dementions I gave them by three Inches, but the length much the same." Affairs in the Boat Department were finally looking up.¹⁰⁴

July and early August 1781 were spent reconnoitering British fortifications on upper

Manhattan and awaiting word from the French fleet under the Comte de Grasse. As the allied armies converged on New York boats were allocated to carry much needed stores to support them. On 20 July Henry Dearborn wrote Major Darby, "As our communication by water [via the Hudson River] is again open, the sooner you get your fleet [comprised chiefly of bateaux] under way the better, loaded with provisions. Colo. Stuart will give directions respecting the kind of provisions you will bring down from time to time." The major was also to be on the alert for a British advance up the river: "If at any time when you are coming down the river with stores or provisions, the weather is not so Clear as to admit of your seeing whether the coast is Clear or not, you will advance two or three Boats, keeping them at a proper distance from each other, & from the main body to give seasonable intelligence if the coast should not be clear - a firing at or near Dobbs ferry should always be a sufficient signal to prevent coming down river with any number of boats." Dearborn then expressed other watercraft needs and restrictions: "We want a light whale boat to be kept here as an express boat if you have one to spare. ... if you have not one I believe Colo. Hughes has one at Fish kill. Sloops or any other Vessels that depend on sails only, are not proper for our transportation, as they much more liable to be taken than boats. - All provisions & stores are to be landed at Dobbs ferry for the future."¹⁰⁵

Since two major ferry crossings were now open Timothy Pickering made provisions to secure sufficient flatboats to facilitate the movement of men, vehicles, and materiel over the Hudson, still with a potential enemy threat in mind. The quartermaster general sent several letters concerning the matter; to W.E.W. Kiers, 20 July 1781,

As a Post is now established at Dobbs ferry, on this as well as on the other side of the River, it is necessary that one ferry boat capable of carrying horses & carriages should be sent down thither, immediately. If two boats could be spared from Kings ferry I should be glad. One however must be sent, & manned with a good crew. Let Mr. McGuire select them accordingly. Let him especially send one trusty man who may safely be charged with the boats.

Major Darby will send down some of his boats [i.e., bateaux] to be stationed at the ferry; let the ferry boat come with his.¹⁰⁶

To Samuel Darby the same day,

Col Dearborn wrote you this morning desiring that you would send your boats with provisions to Dobbs ferry. The General desires that the present opening in the river may be improved to the best advantage.

I have proposed to lessen our land transportation by directing the stores coming from Trenttown & Morristown to Dobbs ferry. The General consents to it with this caution - That particular care be taken that the stores come in small convoys, & no deposits be made either at the ferry or on the road. This requires that we have boats enough stationed at Dobbs ferry to take in at once the loading of at least one, if not two brigades of teams the instant they arrive on the western side. I am therefore to request you to send down an active Officer with a competent number of boats well manned for this service. They may come loaded with stores. I have ordered one of the large boats with a good crew of ferrymen from kings ferry to be sent down with your boats. If there be among yours one boat lined, that will answer to [carry] horses across occasionally, & carriages, when the ferry boat is insufficient, I will thank you to send that down with those destined for the service at Dobbs ferry.¹⁰⁷

On July 21st Major Darby wrote of sending "10 Boats for the use at dobbs ferry. they will serve to transport 200 barrels a Cross at a time - their is no provisions at this place at present, to Carry down. I am at a loss whether to detain the boats untill the provisions arive or not, but for fear the boats shall be wanted shall send them immediately, - their is sum Q[uarter]M[aster] stores which the boats will take in, & Carry down ... I shall as fast as the provisions arive send it to dobbs Ferry with out loss of time." By the 25th Pickering had matters in hand, notifying Assistant Deputy Quartermaster Aaron Forman, "I have now got Boats enough at Dobbs ferry to take over 200 Barrels of Flour at once. Let your transportation of provisions and stores ordered to the army be turned thither. If the Conductor can as he approaches the ferry, go a head, to give notice of the coming of stores, the Boats may be in readiness to receive them. I mention this because if the stores rest any time on the western side they may be in danger."¹⁰⁸

The lower Hudson crossings would prove crucial to the upcoming campaign, and no effort was spared to supplement their operation. Pickering stated on 11 August, "There will probably be more [traffic] passing at Dobbs' than at Kings ferry ..."; to augment traffic flow he requested "a good superintend[ant]" for Dobbs Ferry and told Deputy Quartermaster Hughes that "More ferry boats are also wanted, capable of taking on carriages: for Colo. Dayton says the market Waggons are increasing daily, & already wait a long time for passages. Will you consider what shall be done in respect to the ferriage of these people? You fixed the fare of fowles &a. at so much by the dozen unless when coming to the Officers of the Army. Be pleased to favour me with your Idea on this head, in all the cases which will naturally occur. Some are coming over with fowls, lambs calves &ca. others with vegetables & some with liquors, who yet are to [be] sutlars. some come on horse back & some with waggons."¹⁰⁹

On 14 August positive news was finally received from De Grasse and the decision taken to move the French and American armies to Virginia in an attempt to invest and capture Cornwallis's force at Yorktown; in conjunction with this decision, preparations were made to ferry the troops to the west side of the Hudson River. To advance this goal Pickering wrote Hugh Hughes on the 16th, "All the scows and other boats capable of transporting horses & carriages will probably be wanted in a day or two at farthest at Dobbs ferry: let me intreat you to have them sent down immediately to Kings ferry & there wait in readiness at the first notice from me to be brought down to Dobbs ferry. Two empty schooners or sloops are also instantly wanted, which I request you will send down immediately to Dobbs ferry. I have also desired Major Darby to bring down immediately to Kings ferry ... forty of the new boats built at Wappings Creek." Precautions were also taken to allow for boat repair, "losses & breakage"; "Be pleased to order down the necessary oars with a surplus ... The ship carpenters taken from the line are to come down with these boats if taken from the creek, otherwise with one or two as should be requisite to transfer themselves & baggage. They must bring down six sets of carpenters tools with them 40 or 50 [pounds] of oakum & one barrel of tar."¹¹⁰

Quartermaster General Pickering wrote Darby the same day, "The service requires that all your boats with their crews be brought down immediately to Dobbs ferry. They should be here by sunrise tomorrow morning ... You will send the boats down under your officers but I wish you to go yourself to West point, and obtain General McDougalls order for forty of the new batteaux built at Wappings Creek, and hands enough to bring them down to Kings ferry where you will please to remain with them till farther orders. - Two empty schooners

or sloops are wanted instantly at Dobbs ferry if there be any at Kings ferry or West Point ..."

From Kings Ferry on 17 August, Major Darby replied, "I shall send all the boats I can man to dobbs ferry this tide under the Command of Capt. Buell - I shall immediately go to west point for the other boats my self - their is neither schooner nor sloop at kings ferry, if their is any at west point shall shew them your Orders for going to dobbs ferry - I have sent to Major Kirse respecting the ferry boats." The following day Assistant Quartermaster General Hughes reported from Fishkill, "One of the Boats taken down is a large flat bottomed one & will answer for transporting Horses &c - The new Scow Carthy writes me went down today Another I ordered to attend from New Windsor. [illegible] is to tow her down [with] his Pettiauger - I have detained Nothing at this Ferry but a little Pettiauger - The other is at the Creek repairing in order to go to Kings ferry or elsewhere as Necessity may require ..." No stone was left unturned in the effort to find watercraft; Timothy Pickering told Hugh Hughes, "Do not suffer one scow to remain above kings ferry. Colo. Dearborn informs me of one that was sunk near Kings ferry, which he wrote to Kiers to get up & have ready for immediate service. I wish he may not neglect it."¹¹¹

On August 18th Washington wrote of being "much disappointed in not having the Boats sent from Wapping Creek to King's Ferry, as requested by Colonel Pickering. You will be pleased ... to order One hundred and fifty Men [at five men per boat] to bring thirty of the aforesaid Boats to Kings Ferry; from whence the Men may return immediately to West Point." The reason for this evidently was "Genl. McDougall's caution [which] ... prevented his furnishing Major Darby with men to bring down the boats untill he had the Commander in chiefs positive order for it. That goes by this express: but the Genl. thinks 30 boats sufficient for the present. I mean of the Wappings creek boats ..." These bateaux were to follow the army on their southward march; to accomplish this Timothy Pickering asked for "the carpenters (who are soldiers) from Wappings to fit the carriages at Kings ferry on which to mount these boats, as I every day expect they will be called for." In his old-age reminiscences 1st New York Regiment veteran John Hudson recalled, "We carried on our march boats so large that it took a wagon and eight horses to draw them and two inch plank in quantities by the same conveyance. These were to enable us to form flotillas to cross our troops upon the water courses which lay in our route." These carriage or wagon boats also assisted in transferring the allied armies to New Jersey. (For more on wagon boats in the Yorktown Campaign, see below.)¹¹²

Some wagon boats had been used in the Continental Army's June operations against New York, in which General Benjamin Lincoln's forces had originally been planned to make a water-borne assault below the British lines at Kingsbridge; in the event, Lincoln's troops landed above Kingsbridge to support the French, but the overall attack failed. In preparation for the march to Virginia, the American army crossed the Hudson on 20 and 21 August, the French forces from the 22nd to the 25th. Washington then decided to take along his mobile watercraft, writing in his diary on 21 August that, "During the passing of the French Army [over the Hudson River at Kings Ferry] I mounted 30 flat Boats [the bateaux built at Wappings Creek] (able to carry about 40 Men each) upon carriages as well with a design to deceive the enemy as to our real movement, as to be useful to me in Virginia when I get there." (A number of carriages came from further up the Hudson and were in some disrepair. Timothy Pickering noted this in a 25 July letter: "Major Darby tells me the wheels of the boat carriages from Albany are not [trued?], & are besides so worn as to be far enough from circles: Will it not be best to take them off, & fix other wheels to the carriages

as soon as may be?"¹¹³ (See pages 14-15 for descriptions of the August 1781 Kings Ferry crossings.)

The first troops began marching south shortly after crossing the Hudson. General Washington informed Robert Morris of this from Kings Ferry on August 24th: "We have been delayed here longer than I expected, by the difficulty of crossing the North River. The American Troops march tomorrow Morning ... It will take a very considerable number of Craft to carry us down the Delaware and I shall be obliged to you for keeping in mind my request, that you would assist the Qr.Mr. in procuring them and the Vessels in Chesapeak should he call upon you for that Purpose." The need to cross several large rivers and the opportunity to use the Delaware River, Chesapeake Bay, and James River, in Virginia, to facilitate this movement (given enough transport vessels) meant that watercraft would be a crucial element in the campaign against Cornwallis; in the end the allied forces had to rely heavily on privately-owned vessels, mostly sail-powered sloops and schooners, hastily gathered for the purpose. The letters and directives issued during this period detail transportation concerns and how the move south was to be accomplished.¹¹⁴

Washington set out the order of march to General Lincoln, on 24 August from Kings Ferry; the boats mentioned are the carriage-borne bateaux accompanying the army:

The Detachment under your Command is to march to Springfield in New Jersey, by two Routs; the left Column ... is to be compos'd of the light Troops, and York Regiments (if Courtlands should get up to you in time) and four light field pieces with the Baggage of these sevl. Corps. The right column is to consist of the Parke of Artillery; Ordnance Stores; The Quarter Masters and Commissary Stores the Baggage of the Staff; the Cloathing, Boats, and other things, covered by Colo. Olneys Regiment and the Corps of Saprs. and M[in]ers. ... [when] our destination is no longer a secret, you will send forward an Officer of activity and resource to Trenton, to arrange matters for passing the covered and such other Waggon as the Qr.Master Genl. shall think necessary, over the River; as also the Artillery, and such of the Ordnance Stores, as Genl. Knox ... may choose to send to head of Elk by Land. The Troops, Common Baggage, and other things are to go by Water, if the means of transportation can be provided; but this is scarcely to be expected, a due proportion of what is provided must be allotted to the French Army.

The Troops, Baggage and Stores which go by Water are not to halt at Phila. but to proceed immediately to Christiana Bridge; or as near to it as circumstances will admit.¹¹⁵

By 28 August Lincoln's detachment was nearing the Delaware River. The commander in chief's instructions of that date were as follows, "You will March to morrow at four OClock in the morning, in two Columns, for Trenton. The left column is to consist of the three Brigades above ... the Baggage belonging to them, and 6 field pieces (two to each Brigade). The right column will consist of the remaining artillery, Boats, Baggage, and Stores of every kind to be escorted by the Corps of Sappers and Miners." When the portable boats reached Head of Elk their carriages were likely taken apart and loaded aboard for the voyage down the Chesapeake while the teams continued south overland.¹¹⁶

In the meantime efforts were made to collect vessels on the Delaware. On the 27th Samuel Miles was informed that, "In consequence of a total alteration in our Plans, and the movement of a large Body of Troops to the Southward; I have despatched a Messenger for

the sole purpose of having Provision made at Trenton, for the Transportation of them to Christiana [Delaware] by Water. You will therefore be pleased to have the greatest possible number of Sloops, Shallops and river Craft of all kinds, fit for transportation of Men, Artillery and Baggage collected from every quarter where they can be found, and brought to Trenton by the 31st. Inst. at which time the head of the Column is expected to arrive: Let others be procured and ordered to follow to the same place, as fast as may be, untill Orders are received to the contrary." Miles replied to Washington from Philadelphia two days later: "... I am sorry to acquaint your Excellency that all the River Craft and top Sail Vessels in this Harbour that can possibly be got ready for sailing within the time limited or for [many?] days after, I much fear will fall short of your expectation. however I hope to have between twenty and thirty sail of River Craft, which will carry on an Average One hundred men, or prehaps some more, at trenton by the 31st. and others shall follow as fast as possible."¹¹⁷

His success can be seen in a "List of Water Craft engaged by Saml Miles DQM," 29 August 1781, which included the owner's names (none owned more than one listed vessel), vessel types, and number of men each could carry. Included were three Continental schooners (capacity 100 men each) and a number of privately-owned vessels: one schooner (holding 30 men), two sloops (160 men each), seven sloops (150 men each), five sloops (130 men each), three sloops (100 men each), three sloops (50 men each), and three able to carry 30, 60, and 70 men respectively; also listed were four wood flats with capacities of 50, 60, 60, and 100 men. Two appended notes, dated Philadelphia, 30 August, state, "There are 6 Craft that I know of at & near trenton that will carry on an Average 100 each," and "there are some few topsail Vessels that might go within a few miles of trenton. I believe not more than four that can sail imediately. those would carry, perhaps, One thousand or twelve hundred Men, and there are three or four Wood flats arrived to day that are not Mention'd."¹¹⁸

Washington made his plans accordingly. To General Lincoln, 31 August:

... I have too much reason to fear we shall not be able to procure Craft eno' to embark all our Troops, Stores, Baggage, &c. upon the Water, in which Case we must go by Land. You will ... find what will be most cumbersome and Heavy to transport by Land and let that have the first Chance in the Transports by Water ... many if not all of the Covered Waggons with some others will possibly be found necessary to go by Land, with the light Field Pieces and perhaps some cannon Carriages; the Heavy Cannon, Mortars and Hoitzs [howitzers] with Cloathg and Entrenchg Tools will most conveniently go by Water; the Cannon to be divested of their Carriages.

Colo Nelson at Trenton informed me that he thort a Ford might be found, by which the Waggons and Carriages might be easily passed at that Place ... You will please to consult him on that Subject.

When you are on the Root from Trenton I fancy there is a Road leading direct to a Ford across the Nesamuny Creek above the Ferry past Bristol; if so it will be most expeditious to pass by that Rout and avoid the Ferry which will be troublesome and occasion much Delay. ... You will send down ... 100 pickt Men who are acquainted with Water ... to assist in Embarkg and forwardg the Stores at this Place [i.e., Philadelphia]. ... The Waggons and whatever else goes by Land, will proceed by the Shortest Rout, immediately to the Head of Elk ...

You will appoint an active Officer to superintend the Embarkation at Trenton ... another Officer of like Character, must go on with the first Embarkation to Christiana, to superintend the Debarkation, with this Officer some Troops must go down to the

place of Debarkation, to assist in unloadg, forwardg the Stores, &c. ...

P.S. Inclosed is a List of Craft sent up. The Topsail Vessels will not be sent, and the Wood Craft will be wanted for other Purposes from here.¹¹⁹

This movement was intended to take the army from Trenton, New Jersey, down the river to Christiana, Delaware, and overland to Head of Elk where troops and supplies could take ship down the Chesapeake Bay. Later on the 31st the commander in chief informed Lincoln of some modifications to the movement. "Since my Letter of this Mornng, upon Consultation with Count Rochambeau, I find that he is inclined to have the French Troops march by Land from Trenton to Head of Elk, which will give a larger proportion of Craft for the American Baggage and Troops. ... after alot[ting] a Sufficiency for the French Baggage &c. ... [you will] first put on Board such Heavy Stores and Baggage, Cloathg Tools Garrison Carriages &c. &c. as Colo Lamb and you shall think proper, and then Embark the Troops on Board the Water Craft and let them fall down the River to Christiana Bridge as soon as possible, reserving only such Number as will be necessary to cross by Land with the Waggons and Baggage ..." The carriage mounted vessels accompanying the army were also to be put to use: "The Q M G will see the [wagon] Boats comg on with Colo Cortlands Regt. put in Repair, as soon as they Arrive [at Trenton]; these will take down the Regt. which accompanies them and perhaps some other Matters."¹²⁰

Timothy Pickering reiterated the transport situation to Henry Dearborn on 31 August, suggested the best route once over the Delaware, and discussed taking both wagon boats and some of their carriages to Virginia.

The General has left it to me to determine what number of carriages shall accompany the troops or meet them at any given point ... I know that at the place of expected operation neither waggons nor horses are to be obtained. I am therefore decided ... That so many should go on as are necessary to move the detachment, without depending on the country thro' which we pass for assistance.

Mr. Meng now occupies	23 Teams
The cloathing	11
The Boats	30
Spare provisions (under Davis) <u>11</u>	
Total	75

Mr. Meng I suppose will want for common services not exceeding --- 10.

The Cloathing I presume will be distributed, as well as the spare provisions - & the boats will probably go no farther by land than the Head of Elk. So that there will be a plenty of spare teams from whence to chuse the best to go on.

If General Lincoln can induce the officers to leave at Trenton a great proportion of their lumber [i.e., excess baggage], it will be a happy circumstance ... otherwise they will be an age in getting to the place of their destination - not so much for its great distance merely, but from the number of large rivers that are to be crossed that are but ill provided with boats. Think of the late crossing [of] the Hudson, where so many boats were provided, & then let Gentlemen judge what time will be lost on crossing four or five rivers some of greater breadth than the Hudson.

As soon as the boats arrive, please to direct all the carpenters to repair any damage they may have sustained ... If 15 of the best boat Carriages are selected, they may be

taken to pieces, put on board the boats, & with so many troops as they will carry, go to Christiana Bridge, from whence at two trips they may take all the boats over to the Head of Elk; or if inconvenient to take down more than ten carriages, they will of course take the boats over in three trips. Let the parts of the same carriage be marked alike (Cogswell's branding irons for numbers would be convenient) to prevent delay in putting them together.

Colonel Neilson will shew you a ford at Trenton which he was to try with a waggon: if found practicable, you will cross the carriages there. On this side [of] Bristol, instead of coming to Neshaminy Ferry, you take the right road at the fork, & go to a fording place - if the tide be up, you pass up the river to the second fording place, which may be crossed at all times except in a fresh[et]. The bottoms are good ... The 1st fording place is about a mile above Shamminy ferry, the 2d. half a mile above that.

I suppose all Cortlandts regt. [numbering 429 officers, rank and file] & their baggage may go down in the batteaux, & their necessary teams go empty by land.¹²¹

Washington reached Head of Elk by September 7th, and from that place informed General William Heath, "I am thus far on my Way to Virginia with the Troops under my Command, we are now embarking the heavy Baggage, Stores and some of the Troops, the remainder will march by land to Baltimore, as we have not Vessels to convey them from this."122 Plans were immediately made to start the armies, their wagons and equipment on the last leg of their journey to the Virginia Peninsula. The same day the commander in chief wrote the letter above, he issued a memorandum to General Lincoln; here are some excerpts.

- 1 A skilful Navigator, and a man of respectable character, should be appointed Commodore. He is to give to each Skipper his orders; fix Signals for the whole to be governed by; To keep them in compact order; Run them to Burwells ferry, or James town on James River, where they are to Debarke unless they meet other orders on the passage. And to return with all possible Expedition to Baltimore for the remaining Troops ...
- 4 The Boats would be very convenient to debarke the Troops and Stores, and for crossing the River of Yorke, if we should establish ourselves on both sides ...
- 6 No Moment is to be lost in Baking bread and providing Salt provisions of some kind or other for the Voyage.
- 7 You will ... endeavour as much as possible, to keep the Corps compact, the Companies as little divided as possible, and that the Officers are not seperated from their Men.
- 8 Some field Artillery (in the proportion allotted to the Corps on the March hither) ought, I think, to accompany them by Water (if it be practicable) depending on Horses at the place of debarkation in Virginia.
- 9 In all cases, let every Corps, and parts of Corps, have their Tents, Baggage &ca with them in the same Vessel that no inconveniency may arise from a seperation.
- 10 When it is ascertained what Vessels will be here, and the number of Men (exclusive of the Stores) they will carry and [these are] moreover [assigned] as many to the french Army as will be sufficient to carry the Grenadiers and Chassiers that are to embark with the Infantry of Duke Lauzens legion (amounting to abt. 1000 Men) you will be able to estimate the number of American Troops that can embark with the first division. All the rest are to move on to Baltimore to wait the return of the Vessels, or procurement of others to transport them to the point of operation in Virginia.

- 11 My Guard except a few Men and the Women of it, with my Baggage is to go with the first Troops, and I shall be obliged to you to take care that the whole are put into one Vessel, and a safe one; other things, and Troops may (if the Vessel is sufficient) serve to fill her ...
- 14 If there should not be a sufficiency of Vessels at Baltimore to Transport all the Troops at once, fix with the Baron Viominel (or Officer commanding the French Army at that place) the Corps that shall embark and let them proceed by Corps as fast as Vessels can be obtained ...
- P.S. The Tow ropes or Painters of the Boats ought to be strong and of sufficient length otherwise we shall be much plagued with them in the Bay and more than probably lose many of them.¹²³

Besides the fact there were insufficient watercraft to convey them, animals and vehicles posed difficulties for long-distance water transport. For that reason, large quantities of supplies traveled overland to Yorktown. The commander in chief's orders for his personal guard (then numbering some seventy N.C.O.'s, rank and file) reflect the reality of the situation.¹²⁴ To Lieutenant William Colfax,

At the head of Elk ... Sir: Three or four Trusty men, the Woman [sic] of the Guard, the Box of papers, and such parts of my Baggage as will be particularly named to you, with all the cover'd Waggons and such others as the Q.M. Genl. shall direct are to go round by Land to the Army in Virginia.

The Guards, Stores and other Baggage, are to be embarked on board of some good Vessel ... and to proceed with the rest of the Transports to the place of debarkation in Virginia. The best security for your liquors and other stores which are liable to be pilfered or otherwise wasted, will be to place them in a scituation in the hold where they cannot be got at easily.¹²⁵

Overland travel was also troublesome, due chiefly to road conditions and water crossings. General Washington to Brigadier General George Weedon, 10 September,

The Waggons of the French and American Armies, the Cavalry, and the Cattle of both are upon their march from the Head of Elk to the point of operation below. The roads, from the specimen I have seen, are very bad, and stand in need of considerable repairs; I have therefore to beg that you will immediately upon receipt of this, apply to the County Lieuts. or Civil Magistrates to have them put in order from the Ford at the Falls of Rappahannock to Caroline Court House; And it is my earnest wish that the Ford itself may receive every assistance, that it is capable of in a short time. If proper measures could be adopted by the Counties on each side the River, it certainly might be rendered more practicable and safe for the Waggons (which for the sake of dispatch) must pass it.¹²⁶

To Colonel James Hendricks, deputy quartermaster general at Alexandria, 10 September, "The Baggage Waggons, Cavalry and Cattle of the French and American Armies are to cross at George Town, where I am told the landing Places are bad. I have desired Colonel Wagener (instead of marching the Militia to Williamsburg) to employ them in repairing the Roads from George Town to the Ford of Occoquan and entreat you in earnest terms, to see that the landings on both sides are made good, and at all events encreased; that proper kinds of Boats for the transportation of Carriages and Horses are collected and every thing in

readiness to give quick dispatch, as the occasion is pressing and delays may be dangerous; unless the landing places are encreased, and [any?] number of Boats will be useless, and great delays follow."¹²⁷

Large numbers of vessels were still needed to transport allied troops and some equipment down the Chesapeake and up the James River. The commander in chief informed General Lincoln on 11 September, "It is to be feared from the Scarcity of Craft ... on the Bay, that you will not be able to embark the whole of our Troops at two Trips. Of this ... you will be the best Judge upon a Calculation of the Vessels that carry the first Division and the Number that may be collected at Baltimore by the time of the second Embarkation." In the event all the troops could not be transported on the second trip he recommended that the remaining regiments march overland. He closed by noting, "The Time is fast slipping away [and] the most expeditious Mode should be taken to collect our whole Force at the Point of Operation." Lincoln wrote the same day, "The first division of the troops were embarked and ready to sail today at 12 o'clock and are now only waiting for the turn of the tide. The embarkation would have taken place 24 hours sooner, had not several of the large vessels run on ground. We have on board Colo. Scammell's Brigade, Colo. Lamb's [artillery] regt., 2d. regt. of Jersey, Sappers & Miners and the corps of Artificers ... Besides the Grenadiers & Chasseurs, the Infantry of Duke Lauzun's Legion, and the [French] Artillery." Lincoln also noted, "A return of their strength I inclose. I also inclose a return of the stores on board the fleet." This last-mentioned list showed that the vessels at "Elk Landing" included at least twelve sloops and eighteen schooners.¹²⁸

General Lincoln went on to state that he intended "to embark tomorrow with the 1st. Jersey Regt Rhode Island & Genl. Hazen's regiments in the few vessels left and in the batteaux [i.e., wagon boats], and will go in them until I meet more convenient craft. The strength of these regiments is also enclosed ... I should have sent Genl. Hazen with the first division, had not his men been better for the boats." (He perhaps refers here to the wagon boats.) "Genl. Clinton will set out this afternoon for Baltimore where I have informed him, he is to embark his brigade after the first brigade of the French troops have been provided with vessels."¹²⁹

Several documents indicate watercraft numbers and types used for this movement, and, later on, to carry supplies and food during siege operations. The aforementioned "Invoice of Ordnance & Stores Shipped on Board Sundry Vessels, at Elk Landing," September 1781, lists twelve sloops and eighteen schooners used to carry supplies and equipment down Chesapeake Bay. A "List of Vessels employed in the Cheasapeak Septr. & Octr. 1781," shows twenty sloops and sixty schooners used to transport flour and other stores for the troops. Another return includes twenty-five schooners and four sloops "taken into transport service at Baltimore Sept & Oct. 1781," and gives "An Account of Vessels Lost in the Expedition" including one sloop, two schooners and four rowboats. An "Estimate of Freight ... for the Transportation of Provisions to the American Army during the siege of the Earl of Cornwallis - from Alexandria ..." lists eight schooners and two sloops carrying flour, salt, and bread to the army; this document also includes a list "of Vessels taken into public service at George Town Potomack to transport Stores to the Army in Virginia" with an entry dated 20 September for the "Flatt Isabella" carrying 100 barrels. Finally, an "Estimate of Money due on Contract made for the passage of the Army stores, Baggage &c. ... from Christiana Brigade to Virginia, and from thence to the Northward Commencing 28 August 1781," enumerates costs for hiring wagons and vessels (twenty-two sloops and fifty-four

schooners), pasturage, local damage incurred, etc. Among other items is 360 pounds for "the hire of Vessels employed to transport provisions from this Post [Georgetown] to James River, for the army." Using these returns, there were at least twenty-two sloops, sixty schooners, several shallops, and rowboats in unknown numbers, supporting the allied armies during the campaign.¹³⁰

The Allies' voyage down the Chesapeake was largely uneventful, one exception being the French fleet's departure from the bay on 5 September to oppose Admiral Graves's ships in open waters; de Grasse's ships returned inside the bay on the 10th after their success in the Battle of the Chesapeake. On 15 September Washington notified Congress, "In consequence of my having been informed of the sailing of the Fleet from the Capes, and being apprehensive that we were not assured of the security of our Navigation on the Bay, I had Ordered the Troops which were embarked at the Head of Elk, to stop their proceeding untill we had further intelligence. Orders are this morning gone on to press them forward with every dispatch possible." The same day General Benjamin Lincoln was told to "come with your Troops to the College landing in James River, where unless you receive other Orders, you will debark."¹³¹

And what of Major Darby's wagon boats? Once the allied armies reached the Virginia Peninsula those vessels were put to work hauling equipment and provisions, and ferrying men. The first American troops reached the James River landings on 20 September, and by the 26th the forces of Washington, Rochambeau, and Lafayette all combined at Williamsburg; four days later the siege of Yorktown was begun. On 14 October, two outlying British redoubts, 9 and 10, were taken in night assaults, and on the 16th Cornwallis planned to move his troops to the northern side of the York River in an attempt to escape, but was prevented by a severe storm. The next day the British commander decided that surrender was the only remaining option; the capitulation took place on 19 October 1781.¹³²

Washington next mentioned wagon boats near the end of the siege, possibly in conjunction with a move to counter a suspected British withdrawal over the York River to Gloucester Point. Directions to Timothy Pickering, 14 October, "You will be pleased to have the Flat Boats which are in James River mounted upon Carriages as expeditiously as possible and brought in the first instance into the old Field in front of Head Quarters, where they may remain upon their Carriages till wanted."¹³³ Pickering drafted his reply that evening at 7 PM:¹³⁴

I have this moment returned from Trebells landing, whither I went to day to search for the batteaux, a return of which I have now the honour to inclose.

About ten days since, when your Excellency was at the landing, I recd. by an aid your direction to have the boats collected & repaired. I had previously committed the care of them to commodore Barron, & urgently requested him to have them collected. He now informs me that he found at that time but four or five boats at the landing. There are five there now, one only of which requires any considerable repair.

He had recd. none from the french. I therefore went on board the nearest Vessels who had some boats. Others were with the Romulus a league down the river, & none could be delivered without the order of her commander, For this purpose & to satisfy myself of the number actually in their possession, I went down to the Romulus. The Capt of her has engaged to have the twelve batteaux under his direction delivered to Commodore Barron by tomorrow morning. Commodore Barron will himself go to Hog Island to bring over those now there.

The six carpenters I brought from Kings ferry on purpose to repair the boats were by Genl. Lincoln's orders (as I understand) left at Elk to repair one of the batteaux. There they remained till the last of Septr. when they came on in a vessel which has run ashore below, but which Commodore Barron has sent another vessel to relieve. Two of the carpenters arrived in Camp to day. I have not seen them nor am informed what has become of their Batteaux. It was unfortunate that they were left behind. As they would have attended solely to the boats, most that are now missing would probably have been saved.

P.S. I asked Commodore Barron about the boats of the French Fleet. When the Marquis St. Simons army was landed, 45 large boats that would carry from 50 to 100 men each were used. They will land the men so near the shore that the water will be only knee deep.

Report of the Batteaux		
Brought from the North River	30	
Left at Elk	1	
With the French	12	
at Trebells landing	5	
at Hog Island employed in	3	20
bringing over beef		
missing	9	
		30

Pickering next told Major Cogswell, wagonmaster general, on the 15th to "Take all the carriages that are done & push them off to Trebells Landing, & there apply to the officer commanding Militia for sufficient help to mount as many of the best boats as you have carriages for. There must be no delay. ... You are to bring up the boats to the field in front of head quarters & there let them stand till you report to me what you have done." One or two days later Lieutenant John Brown of "Colo. Richardsons Regt. of Militia" was ordered "to take charge of the boats (now mounted on carriages) in the old field in front of head quarters. You are immediately to cut down boughs of trees to cover them from the sun [and prevent the craft from drying out], placing the boughs in the best manner to answer that purpose. - Inclosed is an order on my store keeper for two axes for this service ..."¹³⁵

The reason for Washington's concern with the wagon boats was alluded to by Timothy Pickering in a 16 October letter to Commodore James Barron: "I write with so much solicitude about the boats because the Commder in Chief is to the last degree anxious about them; & this anxiety arises from the probability that the boats may be of essential use in the future operations against Cornwallis." Quartermaster General Pickering had given Barron detailed directions for the vessels' disposition in the first part of this missive. "The commander in chief has consented to have some boats at the landing, but only so many as are absolutely necessary for unloading the Vessels arrived & arriving with stores. - I have therefore sent for only four boats more, making with those recd. last night, 16; the remaining 4 ... you will retain, taking perfect care of that not one of them be lost. For this end will it not be best (untill you have watermen on whom you can depend) to have them brought together every evening & put under the care of a sentry; the boats to be secured with painters, or hauled up on the beach so far that there will be no possibility of their going adrift. And in the course of the day, unless you have two men assigned to each boat, who shall never quit them but be accountable for their safe keeping, there will be danger of

losing them. - These men may be taken from the militia at the landing for the present. ... I beg you to procure me forty or fifty pounds of oakum, or junk in proportion, to enable me to repair the boats when leaky ..."¹³⁶

On the 16th Washington enigmatically informed French admiral the Comte de Grasse, "we shall have more [small boats] than can be employed exclusive of the flat-bottomed boats of the Army, which are [here] mounted on Waggon and ready to be moved down to the River, if Your Officers approve their construction." The next day the commander in chief wrote the admiral, "Sixteen Flat Boats will be ready to meet the ships whenever the Wind shall admit their ascending the River." Perhaps they were intended to provision the ships or transfer ashore additional stores and men.¹³⁷

The last we hear of Major Darby's boats "mounted on carriages" during this campaign came after Cornwallis's surrender, when they were merely another item of unneeded equipment to be dispensed with. On 4 November Washington ordered the quartermaster general to "endeavour to collect all the Flat Boats, bro't with the Troops from the Northward; such of them as are fit for Service, you will deliver to the Q Master General of the French Army if he wants them, and take his Receipt; or if not wanted by him, have them placed in some safe Deposit."¹³⁸ Ten days later Pickering was still trying to comply with the commander in chief's directions, and informed Jeremiah Wadsworth from Williamsburg:

About the 21st. Ulto Commodore Barron left seven American batteaux in James River chiefly about or near Trebells Landing; but two of them were in possession of a French Vessel then there. I desired Major Claiborne to send a suitable person to take care of them, but I suppose he could not do it, for the same reason that we cannot do a thousand other necessary things - the want of money to pay him. just before I left camp I sent a person to see how many remained at Trebells when not one was to be found; & the French Vessel was gone. Probably private people have taken most of them away. Commodore Barron can tell you exactly where he left them & where you may find some of them. Wherever you find them, I hereby give you full power to take possession of them, & apply them to such uses as you think, for the benefit of the French Army. They are all of one fashion & size & easily distinguished from any other boats in the river.

Sixteen batteaux of the same kind were carried from James to York river, where they have been employed as well by the French as Americans & some of them I believe have been lost or carried away: for twelve only could be found when I left Camp. I was directed by the General to deliver them to the QMG of the French Army, but this was impossible as they were still in use ... Genl. Lincoln said he would have them collected & delivered ... You may find them useful to you. But there will be no possibility of preserving them unless there be watermen appointed, one or more of whom shall always go with each boat when sent on any service. Perhaps you can get this done from the French Army or Navy.¹³⁹

Early in 1782 the possibility that wagon boats might be used in the upcoming campaign prompted the commander in chief to tell Pickering once again, "that it will be well to cast in your Mind, the means for mounting a number of the Boats on travelling Carriages, whenever it may become necessary." It is not known if this was accomplished or whether any such craft were used that year.¹⁴⁰

Even after Lord Cornwallis's surrender on October 19th much work remained for the watercraft. Pickering told General Edward Hand on the evening of the 22nd "To give proper

dispatch in transporting persons & stores from Gloucester to York, & have proper care taken of the boats, I find that about fifty watermen will be very necessary. If officers experienced in that way were selected to command them, it would be best." Accounts had to be settled, too. To this end Timothy Pickering wrote Major Claiborne on November 8th, "I find that a few shallops belonging to Virginia have been employed in transporting troops or stores to the Army, during the Siege of Cornwallis: I wish to have exact information of the names of such Shallops or small vessels, their masters & owners names - their just tonnage - and the number of days they have been in service ... When I receive these certificates I shall transmit them to Robert Morris Esqr. who will furnish money to pay the Hire of the Vessels. The general rate is a shilling (Pennsya. Curny p day p ton) The number of rations drawn by these Vessels while in service ... to be deducted from the hire of the Vessels." It can truly be said that the hired vessels and their crews, as well as soldier-manned flatboats, were crucial to the successful outcome of the campaign.¹⁴¹

**"For the purpose of sounding Haverstraw Bar."
Miscellaneous Small Craft**

Whaleboat: Described as a "long carvel-built boat, sharp at both ends, and steered with a rudder or an oar, used in whale-fishing." (for a definition of carvel-built, see *Sloop*.) Robert Rogers used them in 1756: "Our rendezvous was appointed at Albany [New York], from thence to proceed in four whaleboats to lake George." Whaleboats were used extensively in the northern lakes and rivers during the French and Indian War (1755-1764). (For reference to whaleboats used in the 1758 British expeditions, see *Bateaux*.)¹⁴²

These craft were most conspicuous in the so-called "Whaleboat wars," a series of small-unit actions waged in Connecticut and Long Island via the intervening sound. A typical raid took place in May 1777. On the 25th Washington had written Brigadier General Samuel Parsons, "I shall approve of your purchasing the Forty Whale Boats mentioned ... I think great good may result from little occasional expeditions to Long Island ... destroying any Magazines of forage, Provisions &ca. they may attempt to lay up. I would even ... go further, and consent to an Expedition immediately to Long Island ..."¹⁴³

Two days before the commander in chief's letter Colonel Return Jonathan Meigs led a foray comprised of one hundred and seventy men from Guilford, Connecticut, "under convoy of two armed sloops, and crossed the sound to Southold." The reported British force had marched for New York but a smaller party was at Sag Harbor, about fifteen miles away. "The whaleboats were transported overland to the bay, 130 men embarked, and at midnight they arrived within four miles of Sag Harbor. Here the boats were secured in a wood under a guard, and the detachment marched to the harbor, where they arrived at 2 a.m." Despite the fire of a twelve-gun schooner Meig's force destroyed twelve brigs and sloops, "120 tons of hay, corn, oats; 10 hogsheads of rum; and a large quantity of merchandise. Six of the enemy were killed and 90 taken prisoners." The Americans had no casualties in the action and returned safely to Guilford.¹⁴⁴

Whaleboats were also used on the Hudson River. On 12 June 1777 Genral Israel Putnam requested from his headquarters at Peekskill, "a number of men more wanted to go in the whale Boats - those of any Regiment (except what are ordered to march) who are acquainted with the Water to parade at Head Quarters to-morrow morning at nine o'clock." On 30 July he ordered McDougall's and Huntingdon's Brigades to prepare themselves to

march "at a Minutes Warning and all the Partys Detachd from Either of the Brigades ... Except the guard at Danbury & those on Bourd ye. Ships and Whale boats are *ordered* Emediatly to Join their Respective Regiments." The whaleboats he mentioned were likely used for river patrol and other light duties. In July 1781 David Humphreys, one of Washington's aides, notified Captain John Pray that three new whaleboats built at Wappings Creek were to serve as guard boats, even if they had "already been appropriated to any other service ..." (Earlier that year Assistant Quartermaster General Hughes, at Fishkill, noted, "The Whale Boats will be finished this Day & order'd to West point." These craft were also built at Wappings.)¹⁴⁵

A July 1779 return of boats at West Point shows three "Whale Boats" along with three bateaux on command [i.e., detached duty] with the Light Infantry, one whale boat with General Putnam, and one with General Heath. A return for the following month lists a total of eleven whale boats; in addition to the five boats previously mentioned six were stationed at West Point. In October 1780 Colonel James Livingston, 1st Canadian Regiment, wrote of the lack of troops at Verplanks Point, exacerbated by his having to discharge the crews of eight whaleboats due to their being militia soldiers.¹⁴⁶

Whale boats could carry armament, usually in the form of a swivel gun, and their versatility made them useful for various tasks. A typical excursion occurred in July 1780 when General Robert Howe was asked to furnish Pilot Abraham Martlings "with two Whale Boats well armed, for the purpose of sounding Haverstraw Bar." Howe was asked to keep the enterprise secret, for fear that "the enemy ... might by sending up a Galley, interrupt it intirely."¹⁴⁷

The capacity of these boats varied. The eleven boats returned in 1779 carried eighteen men each, while a 1782 "Estimate of Stores" called for fifty whale boats each capable of carrying ten men.¹⁴⁸

Skiff: A skiff was a "small sea-going boat, adapted for rowing and sailing; esp. one attached to a ship and used for purposes of communication, transport, towing, etc. Hence, a small light boat of any kind." 1791, "The port of Lymington ... is chiefly frequented by light skiffs, rigged in the cutter-form, with a jib and boom." In August 1779 four skiffs were on the establishment of the Boat Department, two on the Delaware River and two on the Susquehanna. Three "Skiffs" at West Point in 1781 measured 18 feet long by 4 feet wide and 1 1/2 feet deep.¹⁴⁹

Rowboat: Though necessarily ubiquitous, we have few records of these craft in Continental service. Seven "Row Boats" were on the Delaware at or near Philadelphia in August 1779, and during the Yorktown Campaign a number of private vessels were hired to support the army; among these were four "Row Boats" recorded as having been "Lost in the Expedition."¹⁵⁰

Wherry: This vessel has been defined as a "wide sailing barge with a single mast and a large mainsail, used to transport freight on the Norfolk Roads in England," or a "light rowing-boat used chiefly on rivers to carry passengers and goods." A 1780 source defines a yawl as "a wherry or small ship's boat, usually rowed by four or six oars" or "A large boat of the barge kind." Only one such craft was found to be owned by the Continent, stationed at Trenton, New Jersey, in August 1779.¹⁵¹

"Round futtuck boat": A vessel of this description owned by the Boat Department was at Philadelphia in the summer of 1779.¹⁵²

The *Oxford English Dictionary* defines futtock as "one of the middle timbers of the frame of a ship, between the floor and the top timbers." Evidently the "round-futtock" boat's hull was rounded rather than flatbottomed. A likely connection with the Philadelphia craft dates from May 1779 when Benjamin Eyre, overseeing boat-building on the Susquehanna River, was preparing vessels to supply General John Sullivan's campaign against the Iroquois upriver. "By 18 May ... just twelve boats [were] working the river. To complicate the situation, the first boats turned out by Eyre's people proved inadequate for handling the rapids found upstream. Eyre adjusted his design by adding keels and round futtocks to provide the boats with better strength and to prevent them from sticking on rocks."¹⁵³

"The best Oars men in the Army" Soldiers Serving in Boat Crews and at Ferries

Soldiers played a prominent role in manning the various craft used by the Continental army for defense and transport on inland waterways.

Seventeen-seventy-six was the first year soldier-sailors proved their worth. In August of that year the men of Colonel John Glover's 14th and Colonel Israel Hutchinson's 27th Continental Regiments, from Marblehead and Salem, Massachusetts, manned the boats which safely evacuated Washington's army from Long Island on the night of the 29th/30th, after their defeat in the battle two days earlier. Four months later Glover's Regiment was again called upon, this time to ferry Continental troops across the Delaware River prior to the 26 December attack on Trenton.¹⁵⁴

In the meantime, to the north, Brig. Gen. Benedict Arnold had built a fleet of sloops, gunboats, gundalows (gondolas), and galleys on Lake Champlain to oppose an expected British invasion. To man these vessels Arnold sought sailors among those regiments serving in New York. The new galleys and gundalows of Arnold's Champlain fleet were launched during July and August 1776; their crews consisted of officers with sailing experience, and 754 volunteers and drafted men from regiments in the Northern Army serving at Fort Ticonderoga and its dependencies. Each galley had a crew of eighty men, while the gundalows were manned by forty-four. As historian Philip Lundeborg put it, "This was an 'army fleet,' built and manned by the Continental Army and commanded by a general."¹⁵⁵

This trend continued as more and more vessels were needed for transport and defense. General orders, New York, 13 August 1776: "General Greene to send for ten of the flat bottomed Boats which are to be kept under Guard at Long Island: No Person to meddle with them, but by his special order. Thirty seven Men (Sailors) are wanted for the Gallies. Eighty men properly officered and used to the Sea, are wanted to go up to Kingsbridge, with the ships and rafts." General Washington wrote from Valley Forge, Pennsylvania, in March 1778, that "As the No[rth]. Carolina Troops, now serving on Board the Gallies [on the Delaware River], are exceedingly wanted with their Regiments, I must insist that they be sent to Camp immediately ..." Sometimes procuring soldier/sailors was a problem. In August the commander in chief told Colonel William Malcom at West Point that, "If you can contrive to man the Gun Boats when they are fitted, I am very willing that they should be kept at the Fort. I cannot spare a sufficient number of men from the line for that service,

the Regiments are already too much reduced by the draughts for Waggoners &ca." Two years later Washington notified General Benedict Arnold, "There are eight Men of Colo. Putnams Regt. who were employed as Bargemen by Genl. Howe and left at West point. You will be pleased to send them down to join their Regt. ..." High-ranking officers' barges plied the waters of the Hudson River till the war's end; General orders, Verplanks Point, 5 September 1782, "A Corporal and six oarsmen are to be drawn from the Line to man the Quartermaster generals barge untill further orders."¹⁵⁶

At West Point in October 1780, following Benedict Arnold's defection to the enemy, orders called for "The Gun Boat ... to be Posted arm'd with 1 Sub[altern] 1 sarjeant 1 Corporal and 24 Privates in the River opposite fort Montgomery, a non Commissioned Officer and six men are to be landed on each side the River Directly opposite the Boat, this Guard is intended to examine all Boats coming up or going down as well as such are a Drift and upon Discovering the approach of the Enemy to give the alarm by Firing the Gun a matross to be assigned the Boat for this Service."¹⁵⁷

Small craft, such as bateaux, used in large numbers for transporting troops and supplies required a large contingent of soldier/boatmen to crew them. Colonel Israel Shreve, commander of the 2nd New Jersey Regiment, told his wife of their northward movement and tried to allay any fears she might have entertained for her son. "This Army begins to march for Tioga, a fleet of 117 Boats [bateau] Loaded, 1400 pack horses Loaded, good fat Cattle, about 5000 souls in all. A Grand movement for this Country, such a one as Never was seen before in those parts. - It falls to Lieut: John Shreves Lot to Command a boat. I have furnished him with a set of the best hands from Woodberry [on the Delaware River], (old fishermen) ..." Thus, even a unit recruited for the most part from inland counties had its share of seasoned boatmen.¹⁵⁸

Precautions were taken to ensure sufficient boat crews as the army prepared for the 1781 campaign. In March Washington called for "A return ... to be made of all the oarsmen in the several regiments digested into Brigade returns and sent into the Adjutant General's office by the 4th. of April next." In June, at New Windsor, New York, he required that "A Captain, five sub[altern]s, six serjeants and one hundred rank and file of the best Oars men in the Army ... be drawn from the line at large, in as equal proportion as such men can be had and placed under the command of Major Darby who is to receive all the boats ordered to Westpoint and will put them in the best order he can."¹⁵⁹

There were drawbacks to the system of drafting men from the ranks. By 1782 Quartermaster General Pickering was bemoaning the "loss and destruction of boats" which he attributed "principally [to] their being committed to the management of soldiers indiscriminately." He noted that, "Until persons are employed whose sole duty it is to take care of them, they never will be preserved. In ordinary service a boat should never move without one of those persons in her. But to provide crews or even cox-swains, for all the boats, would create vast expence." His recommendation was to "inlist a company of watermen, from which the boats in ordinary service, at Newburgh-ferry, West Point and Kings ferry, should be manned; the residue with their superintendant, to be stationed at West Point and have in charge all the boats not in common use. These spare boats may be collected, during the campaign, in the creek opposite to West Point; and being daily inspected by the spare watermen, & frequently by their superintendant ... they will be in constant readiness for service. Thirty or forty watermen will ... be sufficient for all these purposes." It is not known if this plan was ever effected.¹⁶⁰

Soldiers often served as ferrymen, too. At West Point in July 1779, the commander in chief stated that, "The Quarter Master General having occasion for the watermen engaged by him for the use of the ferries (and who are now employed at this place) they are to be relieved by an equal number or as many as are absolutely necessary to the duty from Paterson's, Late Larned's and the North Carolina brigades." Unfortunately, these men did not always perform admirably. Oliver Phelps, "Superintend[ant of] Continental Purchases," wrote Timothy Pickering in November 1780, "In forwarding public Cattle to Head Quarters the Drovers meet with the greatest difficulty in crossing Hudsons River, Some times have to tarry by the river two or three days before the Ferry men can be prevailed with to carry them a cross ... not less than Thirty has been drowned lately by bad conduct in the Ferrymen - I am repeatedly informed by the drovers, that they are treated with the greatest [Ill-nature?] and ill-language by the Ferrymen - They express much joy at drowning Cattle ... as the care of the Ferry is in your department ... I am well assured ... that you will rectify such Abuses."¹⁶¹

And sometimes a local ferry operator suffered and sought retribution. At a 29 March 1779 courtmartial "Lieutenant Colonel [William] Smith, Deputy Quarter Master General for the district of Springfield ... was tried upon the following charges," among other things, "That he ... has laid out large sums of public money to build boats, and without order has established a continental ferry across the Connecticut River where the country ferry has been for ages established, and inlisted a number of men for the term of one year with Continental Pay and rations, at great expence, while the country ferry-man offered to supply the Continental Ferry to acceptance and dispatch for the sum of two hundred pounds pr. year. ... the Court find, That Colonel Smith built three scows and a batteau at Springfield by order of General Greene ... that he man'd the same according to his own discretion, and that his proceedings therein were approved by General Greene." In the end, the colonel was found innocent of the charges.¹⁶²

* * * * *

In autumn 1782 Daniel Carthy chronicled watercraft still being used by the Continental Army on the Hudson near West Point; he also mentions practical matters involved in offloading stores from vessels and how they could be handled.

Return of the Boats at West Point ...

1 Batt[eaux].	at the Ferry
2 Do	at Constitution Island, with the Corps of Sappers, & Invalid Guard s[t]ationd there
1 Do	with artillery artificers at the red House
2 Do	with Engineer bringing down sand from New Windsor, for the Magazine.
1 Do	to take provision over the river, for the Hospital
5 Do	in the basin (one of which, Totally unfit for service) kept for the occasional Calls of the Garrison.

Total 12

N.B. I have made the above return of the Boats, that you might see how those we have are employ'd: as I must at the same time, *by direction of General Knox*, make application to you, for twelve more, in order to make floats, by putting plank athwart them, as you have done. to the effect, that we may unload the Vessels, with the greater expedition; as they arrive here from time to time, as they can only come a long side of

the wharf at high water; & it being very uncertain, whether they will at all times, bring up any of your Floats; or either of the scows. if the the [sic] matter could be managed so that each sloop, should also bring two of the Floats in tow; or one of the scows, we should have no occasion for the twelve additional Boats for the purpose above mention'd as they would serve to unload the Vessels fast enough, if they could not get in, along side of the wharf: on account of the tide &c.

General Knox has Concluded, to distribute the wood [planks or firewood?] in three different places, viz. at the Chain Battery ... another at the wharf & a third ... at the Forage Landing ... a Vessel Laden cant Come in at low water within the distance of one hundred, & forty yards from the shore so you will see that flatts or scows, to unload with are absolutely indispensable. If you conclude to send me the boats, I must also beg you to send an order for plank, or boards, to lay across them; as I have none here ...163

That watercraft played such a prominent military role during the War for Independence in a country where waterways formed an important part of the transportation network is not remarkable. The wide variety of vessels used by the Continental Army is also not surprising; lacking a fleet of its own, or any other water transport, the army took civilian craft into service or copied their designs anew to fill any void. Eventually, a few vessel types were settled upon which particularly lent themselves to the troops' transportation needs. What I find fascinating are the insights revealed by military records into Revolutionary period watercraft, and the further understanding to be gained into just how integral a part the vessels played in the army's logistical system.



Ferry-flat used to cross the Oklawaha River in Florida, circa 1956. Power was provided this craft via an engine on the riverbank. John Perry, *American Ferryboats* (New York, Wilfred Funk, Inc., 1957), 7.

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For a detailed study of the large-scale ferrying operation during the 1778 Monmouth Campaign see:
“Reach Coryels ferry. Encamp on the Pennsylvania side.’: The March from Valley Forge to Monmouth Courthouse, 18 to 28 June 1778”

<http://www.scribd.com/doc/133301501/“Reach-Coryels-ferry-Encamp-on-the-Pennsylvania-side-”-The-March-from-Valley-Forge-to-Monmouth-Courthouse-18-to-28-June-1778>

Endnotes:

<http://www.scribd.com/doc/133293312/Endnotes-“Reach-Coryels-ferry-Encamp-on-the-Pennsylvania-side-”-The-March-from-Valley-Forge-to-Monmouth-Courthouse-18-to-28-June-1778>

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5. Division and Brigade Composition for Washington’s Main Army after 22 June 1778

Appendix

I. British Flatboats and Landing Craft

The British army and navy became increasingly adept at amphibious operations during the 18th century, and by the time of the American War had developed several watercraft types to facilitate landing troops and equipment. Some of these craft were used in American waters, and in at least one instance far inland, as described in Major General Phillips' brigade orders in Canada:

June 3rd 1776. Lieut. Twiss is to proceed to Three Rivers and give his directions for constructing of Boats the description of one of these Boats is, a Common flat Bottom called a Kings Boat or Royal Boat calculated to Carry from 30 to 40 men with Stores and Provisions, with this only difference, that the Bow of each Boat is to be made square resembling an English punt for the conveniency of disembarking the Troops by the means of a kind of Broad Gang board with Loop-holes made in it for musquetry, and which may serve as a mantlet when advancing towards an Enemy, and must be made strong accordingly.

Don N. Hagist notes, "This design features a bow-ramp which, when raised, offers protection for the troops, and which includes holes for returning musket fire. A widely-reproduced picture of troops being transported across the Thames river shows flat-bottomed boats ... similar to those described in General Phillips' order ... These boats have long bow ramps which can be raised and lowered using ropes which extend from the top end of the ramps, over vertical poles at the bow, to the middle of the boat; the boats are shown with the ramps pulled up to an almost vertical position." The last-mentioned craft, shown carrying troops and vehicles, were more like scows used on inland waterways, and are pictured in "A View of Gravesend in Kent with Troops passing the Thames to Tilbury Fort." (Anne S.K. Brown Military Collection, Providence, RI. Reproduced in *1776: The British Story of the American Revolution* (Times Newspapers Limited, London, 1976), 112-113. Don N. Hagist, "Extracts from the Brigade Orders of Major General Phillips &ca in Canada" (MSS, Royal Artillery Institution, Woolwich); published in "Notes and Queries," *The Brigade Dispatch*, vol. XXIX, no. 2 (Summer 1999), 23.)

A picture from a British artillery manual of the period, and captioned "The use of the Mantlet and wall piece to cover Troops in their descent on an Enemy's Coast," depicts what appears to be a large flatbottomed ship's boat, with a blunt bow, landing two light artillery pieces on shore. Planks running the length of the boat carry the cannon, and are the same width as the wheels. Two planks extend from the bow on to the beach for offloading. The boat looks to be a type commonly used for transporting troops and ordnance from shipboard. A contemporary model represents a similar flat-bottomed boat carrying troops; such craft can be seen in the paintings "The landing of the British forces in the Jerseys" 20 November 1776 (watercolor, attr. to Capt. Thomas Davies, Royal Regiment of Artillery), and Robery Cleveley's painting "The occupation of Newport, Rhode Island, December 1776" (executed by a captain's clerk who witnessed the event, this painting actually depicts Kip's Bay landing in September 1776). All are pictured in Robert Gardiner, *Navies and the American Revolution 1775-1783* (London, Chatham Publishing, 1996), 61, 62-63. (Adrian B. Caruana, *Grasshoppers & Butterflies: The Light 3 Pounders of Pattison and Townshend*

(Bloomford, Ontario, Museum Restoration Service, 1980), "The use of the Mantlet ...," 30. David Chandler and Ian Beckett, eds., *The Oxford Illustrated History of the British Army* (Oxford and New York: Oxford University Press, 1994), 115. See also: Richard Harding, *Amphibious Warfare in the Eighteenth Century: The British Expedition to the West Indies, 1740-1742* (The Boydell Press, Woodbridge, Suffolk, and Rochester, N.Y., 1991))

For a discussion of the Hudson River crossings by Crown forces during the March 1780 attack on Paramus see:

John U. Rees, "The Enemy was in Hackansack last night Burning & Destroying ...': British Incursions into Bergen County, Spring 1780"

Part 1. "So much for a Scotch Prize.': Paramus, New Jersey, 23 March 1780"

<http://www.scribd.com/doc/133062410/%E2%80%9CSo-much-for-a-Scotch-Prize-%E2%80%9D-Paramus-New-Jersey-23-March-1780>

See also:

Hugh Boscawen, "The Origins of the Flat-Bottomed Landing Craft 1757-58," *Army Museum '84* (Journal of the National Army Museum, Royal Hospital Road, London, UK, 1985), 23-30.

Don N. Hagist, "A New Interpretation of a Robert Cleveley Painting" (manuscript submitted to *The Mariner's Mirror*).

Richard Harding, *Amphibious Warfare in the Eighteenth Century: The British Expedition to the West Indies, 1740-1742* (Suffolk, U.K. and Rochester, N.Y.: The Boydell Press, 1991)

Thomas More Molyneux (captain), *Conjunct Expeditions: On Expeditions that have been carried on jointly by the Fleet and Army with a Commentary on a Littoral War*, 2 vols. (London: 1759)

D. Syrett, "The Methodology of British Amphibious Operations during the Seven Years' War and the American Wars," *Mariners' Mirror*, Vol. LVIII (1972), 269-80.



Colonel John Howard: "... the Detachment of Guards under my Command consisting of 300 Men marched to Spiken Devil Creek ready to be embarked at 7 O'Clock Wednesday Evening; the Boats ... did not arrive till half past 10, which occasioned our not reaching Closter Landing till 12 O'Clock at Night." Royal Navy officers had charge of as many as twenty-four flatboats during the March 1780 Paramus operation. This contemporary model represents a Royal Navy flat-bottomed boat carrying troops. Georgian full hull model, raised 3/4 view, circa 1758, National Maritime Museum, Greenwich, U.K. Pictured in Robert Gardiner, *Navies and the American Revolution 1775-1783* (London, Chatham Publishing, 1996), 61, 62-63. With thanks to Robert Brooks and Fellow Gregory J.W. Urwin.

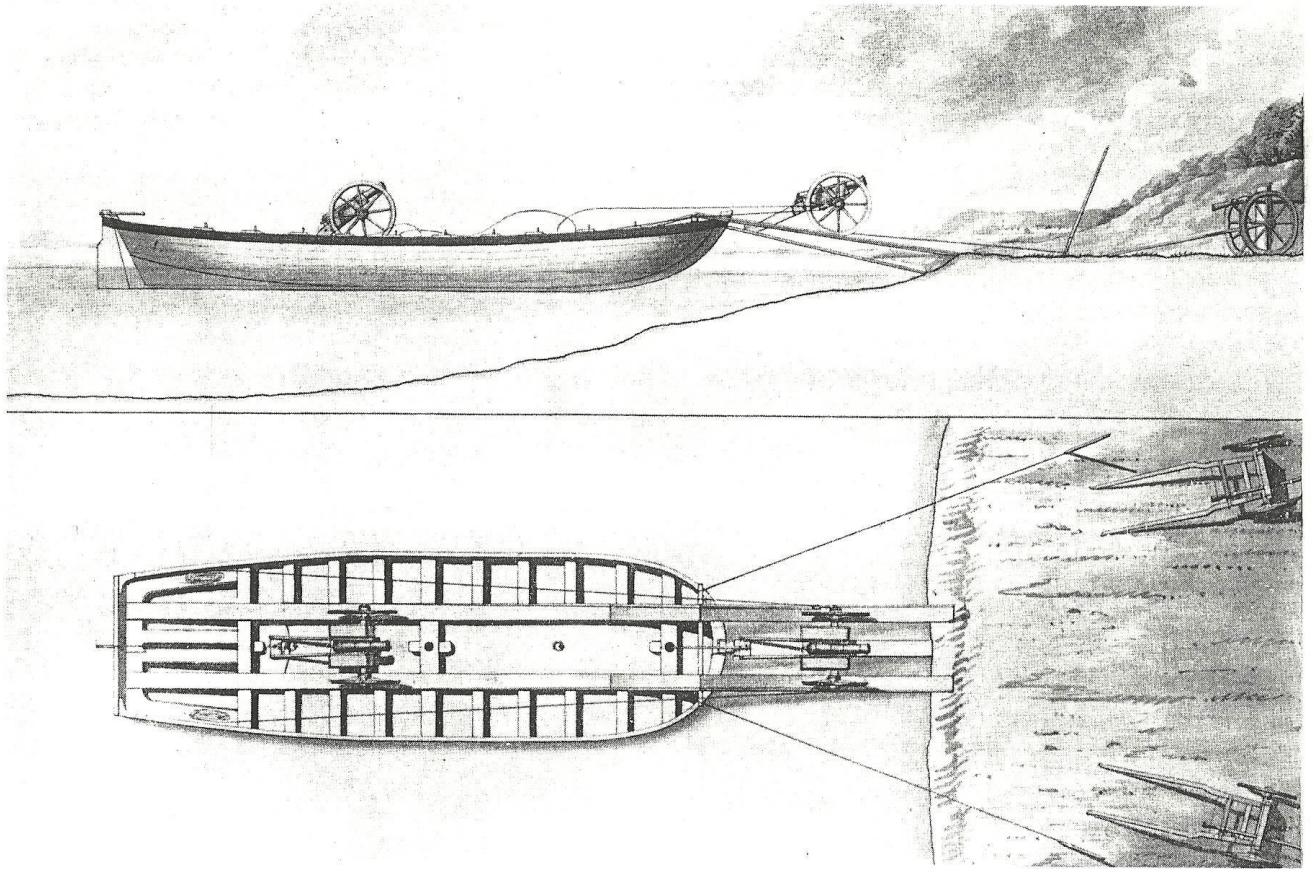


**Period model of Royal Navy landing boat, circa 1776.
National Maritime Museum, Greenwich, U.K.**



(Above and following page.) Royal Navy flat-bottomed boat, the type used in the March 1780 Paramus operation. Detail from painting by Robert Cleveley erroneously titled, "The occupation of Newport, Rhode Island, December 1776" (executed by a captain's clerk who witnessed the event); the image actually portrays the landing at Kip's Bay, Manhattan Island, on 15 September 1776. National Maritime Museum, Greenwich, U.K., PAH9491. Pictured in Robert Gardiner, *Navies and the American Revolution 1775-1783* (London, Chatham Publishing, 1996), 61, 62-63. With thanks to Fellows Linnea Bass and Gregory J.W. Urwin. See also, Don N. Hagist, "A New Interpretation of a Robert Cleveley Painting" (manuscript submitted to *The Mariner's Mirror*).





"The use of the Mantlet and wall piece to cover Troops in their descent on an Enemy's Coast," depicts what appears to be a large flatbottomed ship's boat, with a blunt bow, landing two light artillery pieces on shore. Planks running the length of the boat carry the cannon, and are the same width as the wheels. Two planks extend from the bow on to the beach for offloading. The boat looks to be a type commonly used for transporting troops and ordnance from shipboard. Adrian B. Caruana, *Grasshoppers & Butterflies: The Light 3 Pounders of Pattison and Townshend* (Bloomford, Ontario, Museum Restoration Service, 1980), 30.



(Above and following pages.) British landing scows with bow ramps for carrying troops, artillery, and wagons, from F. West, "A view of Gravesend in Kent, with troops passing the Thames to Tilbury Fort, 1780," Anne S.K. Brown Military Collection.

<http://library.brown.edu/cds/catalog/catalog.php?verb=render&id=1168005922765625&view=showmods>

How widely used scows of this type were used is unknown, but they may have been seen only on British home waters. My first thought was that the pictured movement may have been instigated by fears of a French invasion, but learned that that scare occurred in 1779. Don Hagist notes that this painting, "is part of a series, 'A Collection of Views of Old London and its Environs.' This makes me doubt that the picture is depicting any specific event, but instead is just a general view to show what the area looks like ... Tilbury Fort was a major installation guarding the Thames approach to London from the sea; as such, it was always garrisoned. Troop movements like the one shown probably took place with some frequency rather than being an unusual event. Besides that regular activity, London was abuzz with military goings-on in 1780 - the training camps like Warley were ongoing, and the Gordon Riots occurred that year, so there were certainly plenty of troops moving about. In August 1780 there was a mock attack on the fort by 5000 troops, and in 1780 another fort, New Tavern fort, was begun nearby with a field of fire coordinated with that of Tilbury."

Alfred Temple Patterson, *The Other Armada: The Franco-Spanish Attempt to Invade Britain in 1779*, (Manchester, U.K.: Manchester University Press, 1960).





London Printed by J. Bask

A view of GULFESTON or KENT with THROTTLEPORE the THAMES to Tilbury bar.

1745

1745

II. More on Bateaux in the 1776 New York and Canadian Campaign

John Shreve "was but thirteen years of age when he entered the army"; he described in his memoirs his regiment's movement northward in 1776. In November of 1775 the 2nd New Jersey Regiment was authorized to be raised by the legislature of that state. Colonel William Maxwell,

took charge of four companies, rendezvous in Trenton, and the other four companies were under the command of my father in Burlington... the companies were all completed in December, but clothing, arms and other equipments could not be procured for all the men until the month of February [1776]. Maxwell's men were supplied first, and marched for Canada with the other three [companies of the 2nd New Jersey] ... They passed over Lakes George and Champlain and down the River St. Lawrence on the ice to the plains of Abraham at Quebec. My father followed the last of February with his four companies, and took me with him. We passed through Trenton, past Sussex Court House in New Jersey and Kingston (alias Esopus) to Albany in New York, where we stayed several weeks waiting for the ice to disappear in the lakes; here we were joined by Colonel Buel's regiment from Connecticut and several companies from Pennsylvania. We proceeded up the Hudson river to old Fort Edward, then over to Fort George, at the head of Lake George, where we remained some time [waiting] for the ice to pass out of Lake Champlain and the river St. Lawrence, collecting batteaux and loading them with cannon balls, bombshells, and other military stores. When the ice was gone out of Lake Champlain we, with 25 or 30 men in each boat, cut through the ice a considerable distance in Lake George, passed Ticonderoga, Crown-point and through Lake Champlain; then passed Fort St. Johns down the rapids to Fort Chamblee, from thence down the beautiful River Sorel to the River St. Lawrence, thence down the latter river between several islands, then through Lake St. Peter, said to be thirty miles wide each way, the St. Lawrence passing through it. A heavy gale of wind came on us as we were in the middle of the lake; we all reached the shore in safety in the dark night, but several of the batteaux filled with water. Next morning we got into the river below, and passed down in a heavy shower of snow by the town of Three Rivers, Point Shambo [Deshambo or Deshambeau], and landed at Wolfe's Cove in sight of Quebec City; they fired cannon shot at us, which fell short of us, but we heard the shot or balls whistle, which were the first English bullets that I ever heard screaming in the air, but not the last.

The accuracy of Lt. Shreve's memory is confirmed by his father's April to June 1776 letters, in which Colonel Shreve frequently mentioned travelling via bateaux. General Philip Schuyler to Lt. Col. Shreve:

Albany April 5th: 1776 Sir You will march the Companies of Colo: Maxwell's Regiment under your Command to Fort George with all possible Dispatch. Carriages will be provided at Half Moon to transport your Baggage to Stil-water; from whence it will go in Batteaus to the first Falls above Saratoga and be landed at Mr. Peter McLorin's and from thence will be conveyed in Carriages to Fort George.

Be particularly careful that no Depredations on the Inhabitants are committed by the Troops under your Command on their March, as such practices will be punished with unremitting severity.



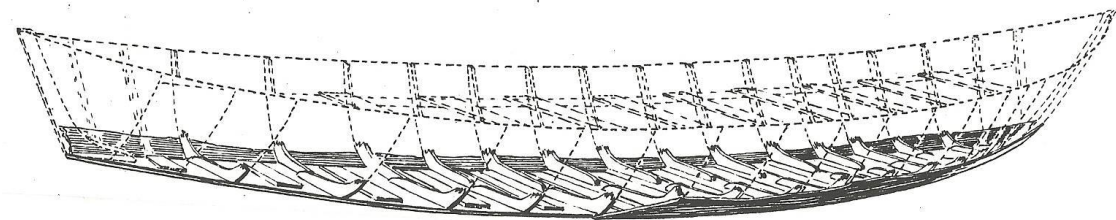
Bateaux with a full complement of crew and passengers. Photograph courtesy of Fort Ticonderoga.

Israel Shreve to Mary Shreve, undated, but probably April 5th or 6th 1776,

To morrow morning I am to march off from here for Canady with all our Ridgement that Is here, Capt. Harmen and Willet Goes this morning and one York Company / yesterday 4 Companies of Coneticut fources went off, Lt. Col. Wm. Allen is here, as is Capt Byard Capt. Crage Capt Ross & Capt Walson And Capt. Bunner, all from Philadelphia ... about 15 Days ag[o] a party of the Enemy at Quebeck Consisting of 65 men Came out of the City to Git fire wood who were all taken prisoners by our people / this news Came here by the Canady and is thought Certainly to be true, - the Lakes is now passable by Water, which makes the General hurry us of[f] as fast as he Can, - in the Course of 8 or 10 Days I expect there will be at Least three thousand Troops at Ticonderoge where we are all to EmBark in Battoes that will Carry 30 men Each, and all Go together to the Camp near Quebeck where we are much wanted ... Instead of an Idle Life I find so much to Do that I scarcely Know how the Day spends ... [Postscript] Aduie, people just Giting up and this Day shall be Greatly hurried as we are to march to morrow morning precisely at 7 oClock according to General orders

Israel Shreve to Mary Shreve, Fort George, 16 April 1776,

I and my Son are in Good health, and I hope you and my Daughters are Like wise in Good health, we are now at the head of Lake George where we have been a week / I had the honour to Command this at place 2 Days after I arrived, then General Schuyler arrived and took the Command, General Thomas, Major Brewer & Major Thomas, the Generals two AidaCamps are here / I have the honour to mess and Lodge with them in the same Room, the General is a Sociable free sensible man [who] Appears to be between 50 & 60 years of age - the Ice is yet in the Lake so thick that Boats Cant pass, it now is a warm Rain and we Expect the Lake will be passable to morrow, there is 77 Large Battoes Given out to the Different Ridgments here / the Battoes is mostly Loaded with Cannon Stores and provision / we have 26 Battoes for our three Companies, I have Picked out 12 men to Roe my Battoe, Viz. Serjt. John Chattin, Serjt. James Paul, Robert Wright, Wm. Hunphreys, Wm. Crator Foster, Isaac Fowler, George Car, John Cox, John Benny, and Wm. Seeds, all of Capt. Falkners Company, and Serjt. Thomas Smith Corporal Jacob Ludley, John Smith and John Scoby, of Capt. Howell's Company which makes 12 ores men and 2 Steers men, our Battoe is all Loaded, our Baggage in, and Ready to Imbark at an hours Notice / we have to Go from hence 36 miles to ticonderoga, we then Go by Land one mile and an half, hall our Battoes a Cross into Lake Champlain in Carages then Load again Imbark and Go Down Lake Champlain to St. Johns 136 miles from thence Down the River Sorell into St. Lawrence to Quebec 180 miles in all 352 miles we have yet to Go by Water in Battoes that will Carry between 30 and 40 men Each, I have Got my Battoe Cover'd with an [arnold or arrol?] where I Expect to Eat and Sleep / Doctor holms Goes with me, John and Jim the oresmen and all will make 18 in my Boat, - there is 5 Ridgements on their march from Cambridge for Canady they will Come in our Road at Toconderoga and all Go Down the Lake with us / we have here one full Ridgement and part of 4 more when we all Git together in Canady we shall have 8 or 9 thousand men, - we Expect warm work as soon as we arrive ...



Howard I. Chapelle's drawing of a salvaged Lake George bateaux. John Gardner, *The Dory Book* (Camden, Me., International Marine Publishing Co., 1978), 21.

Israel Shreve to Mary Shreve, Ticonderoga, 19 April 1776:

Just arived at this place, we have Been two Days Comeing from fort George Down the Lake 36 miles we was very much Obstructed by the Ice, Last night I with our three Companies, Capt. Willis & Harmer [Josiah Harmar?] Slept in the woods at the foot of a

mountain where there was no appearance of human trace, we made Large fires Loped Bushes to keep of the Due, and Slept very well / this night Got in a Good house, I have the Command of 24 Loaded Boats Laden with Cannon Ball, provisions, &c, we have our Battoes and their Loads to hall one mile and an half then we shall preceed Down Lake Champlain to St. Johns, there stop one Day then preceed Down the River Sorell into St. Lawrence then Down to Quebeck, in all by water from this place 300 miles, - I my Son, Robert Wright and all the officers is well and in high Spirits, General Thomas Come Down with us and is now here, Goes on tomorrow to take the Command at Quebeck - I Just now saw Capt. Cheesman Lt. from Quebeck the 2nd. Instant, on his way to the Congress who promist to Deliver this Letter he says when he Left Quebeck we had an army of 4000 men and was all Ready to Attempt to storm the City he says that we have Lost but 2 men since the Defeat one of the 2 belonged to Capt. Williams from Philadelphia. This Gentleman say he thinks the City will be Taken before we arrive...

Israel Shreve to Mary Shreve, "Berthier 45 miles below Montreal 5 miles from the Camp at Sorell the 25th May 1776":

I am stationed with 250 men under my Command for a few Days, - the Particulars of our situation I have sent to Mr. Stillee ... I sent from Albany 84 Dollars to you Which was all the money I Could then Command Except about 20 pounds in hard Money I Kept hearing that paper money would not pass in Canady - This Little sum of hard money has kept me my son and 25 other persons from almost perishing. I was Ordered on Board a Battoe, by the Gen. with 10 sick officers and soldiers at point Deshambo in sight [of] 3 men of war with a Little pork and no flowr about half a Loaf of Bread, in this situation we set of against a strong Current for Sorel about 100 miles in our way a Wide Lake we had Bad Weather head winds and often obliged to put to shore where for hard money I Bought Bread Milk and some Eggs at a very Dear Rate no other person But my self [had] a Copper of hard money, in this manner we Come in five Days up to Sorell the 10 sick is all Giting Better But two of my Oresmen was taken as soon as we arrived and both Died in a few Days (Both strangers to you) I now Live well but have become almost a slim man, having Lost at Least 4 or 5 Inches in thickness, and am Obliged to have my Jackets taken in ...

Israel Shreve to Mary Shreve, from "Ile Auxnoix 17th June 1776,"

Dear Spouse

In Great haste I write thes by Col. Dugan who is going to Philadelphia; the American Army is Lieveing Canady, Last friday our Army at Sorel under the Command of Gen - Sullivan was ordered at Break of Day to dismantle the Batteries load the Cannon in Battoes together with the stores baggage &c. I had the care of the Rigth. I see every thing done or put to rights in the morning then got lieve of the Gen to proceed in Calashes to St. John 35 miles I set out on foot in Company with Col: Graden [and] Capts. Shute, Brearley, Stout Little John Lucas of Philada: [is] now [a] Lt: in Col Gradens Rigth. from Cambrige I marcht on foot untill my feet wore out, then hired Calashes in 2 days got to St. John, much fatiaged yesterday Come to this place with some boats loaded with sick stores &c. I am now over my fateage in Good health I have sent John home out of trouble Do send him to school some where at the lowest expence Gen Bargoine is following our army with an army far supearor to ours. Our army left Camp at Sorel at noon the Enemy took possession of it at 3 oClock the same day our Army is now at Chamblee and St.

John gitting over the Battoes Cannon stores &c. We have about three thousand five hundred fit for Duty now at the above posts I Expect we shall in the course of a week or 10 days be at Crown Point there stand and when properly reinfourst prehaps return to Canady again I Cant say much about private afairs at this time, I shall be able to send often to you what you want &c. It Grieves me very much on account of our Bad success in Canady this Campain, Every thing goes against us here. I have been in no Battle yet several of our men [were] lost at the late affair at 2 Rivers [Tres Rivoires] (Bob: Wright Well) I hope you are well, God bless you, my love &c: I Remain your true and faithful husband Israel Shreve

Sources:

"Personal Narrative of the Services of Lieut. John Shreve of the New Jersey Line of the Continental Army", *Magazine of American History*, vol. 3, no. 2 (1879), 564-565.

Philip Schuyler to Israel Shreve, 5 April 1776, Israel Shreve Papers, University of Texas, copies in the collections of New Jersey Room, Special Collections, Alexander Library, Rutgers Univ., New Brunswick, N.J.

Israel Shreve to Mary Shreve, undated, Albany, probably 5 or 6 April 1776; Israel Shreve to Mary Shreve, Fort George, 16 April 1776; Israel Shreve to Mary Shreve, Ticonderoga, 19 April 1776; Israel Shreve to Mary Shreve, "Berthier," 25 May 1776; Israel Shreve Papers, Buxton Collection, Prescott Memorial Library, Louisiana Tech Univ., Ruston, La.

Israel Shreve to Mary Shreve, "Ile Auxnoix," 17 June 1776, Israel Shreve Papers, New Jersey Room, Special Collections, Alexander Library, Rutgers Univ., New Brunswick, N.J.



**The bateaux *Moon* on the Delaware River.
(Photograph courtesy of Scott Lance.)**

Endnotes

1. W. Masters to George Washington, 30 May 1777, George Washington Papers, Presidential Papers Microfilm (Washington, D.C., 1961), series 4, reel 42 (hereafter cited as GW Papers).
2. W. Masters to Washington, 30 May 1777; Thomas Mifflin to Washington, 8 June 1777, *ibid.*, series 4, reel 42.
3. *The Compact Edition of the Oxford English Dictionary* (Oxford University Press, 1971), 4100 (hereafter cited as *OED*).
4. Arthur Pierce Middleton, "Ships and Shipbuilding in the Chesapeake Bay and Tributaries," Ernest McNeill Eller, ed., *Chesapeake Bay in the American Revolution* (Centreville, Md., 1981), 99 (hereafter cited as Eller, *Chesapeake Bay in the American Revolution*).
5. Marshall Booker, "Privateering from the Bay, Including Admiralty Courts and Tory as well as Patriot Operations," Eller, *Chesapeake Bay in the American Revolution*, 267-268.
6. *Ibid.*, 269.
7. "List of Vessels employed in the Chesapeake Sept. & Oct. 1781," Miscellaneous Numbered Records (The Manuscript File) in the War Department Collection of Revolutionary War Records 1775-1790's, National Archives Microfilm Publication M859, Record Group 93 (Washington, D.C., 1971), reel 92, no. 26800 (hereafter cited as Misc. Nod. Records, NA). See also "Water Transportation" in the Yorktown Campaign, August to November 1781, *ibid.*, reel 92, no. 26673. Memorandum, 27 September 1781, *ibid.*, reel 97, no. 25107.
8. Hugh Hughes, "Return of Canvas wanted for Public Vessels, Wagon Covers &c. Fishkill May 25th 1781," "Provision Return for the Quarter Master Generals Department commencing February 1st and ending the 10th 1783," and Provision return, 11 to 20 March 1783, *ibid.*, reel 94, nos. 27521, 27500, 27504. "Value of Sundry Vessels," 1783, *ibid.*, reel 97, no. 28366.
9. *OED*, 2870. "A Return of Vessels Employed on Public Service on Hudsons River," November 1778, The Papers of the Continental Congress 1774-1789, National Archives Microfilm Publications M247, (Washington, DC, 1958), reel 192, vol. 1, 137 (hereafter cited as PCC, NA). "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, *ibid.*, reel 192, vol. 3, 113. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, series 4, reel 76.
10. *OED*, 346, 634, 2870; a 1779 French engraving and 1794 *Rigging & Seamanship* shows the cutters of that period "were rigged like the half of an old schooner, with square topsails." William Falconer, *An Universal Dictionary of the Marine*, 1769 (1776 edition); a cutter was "a small vessel ... furnished with one mast, and rigged as a sloop" (as cited in *OED*). Lee Bienkowski, "An Introduction to Ships of the American Revolution," *The Continental Soldier* (The Journal of the Continental Line), vol. XI, no. 3 (Summer 1998), 33-36. (Citation for this information is given as, Gershom Bradford, *The Mariner's Dictionary* (New York, N.Y., 1952), cutter, 66-67; sloop, 245.)
11. *OED*, 2667. Dean King, John B. Hattendorf, and J. Worth Estes, *A Sea of Words: A Lexicon and Companion for Patrick O'Brian's Seafaring Tales* (New York, N.Y., 1995), 324 (hereafter cited as King, Hattendorf, and Estes, *A Sea of Words*). "A Return of Vessels Employed on Public Service on Hudsons River," November 1778, PCC, NA, reel 192, vol.

1, 137. "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, *ibid.*, reel 192, vol. 3, 113. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, series 4, reel 76. Timothy Pickering to Benjamin Lincoln, "An Estimate of Articles to be provided for the main army for the campaign 1782," 23 April 1782, Numbered Record Books Concerning Military Operations and Service, Pay and Settlement Accounts, and Supplies in the War Department Collection of Revolutionary War Records, Record Group 93, National Archives Microfilm Publication M853 (Washington, D.C., 1973), vol. 103, reel 29, 92 (hereafter cited as Nod. Record Books, NA).

12. Kevin K. Olsen, "The Periaqua: A Traditional Workboat of the New York/New Jersey Area," *The American Neptune*, vol. 54, no. 3 (Summer 1994), 199-204 (hereafter cited as Olsen, "The Periaqua: A Traditional Workboat of the New York/New Jersey Area"). Claude V. Jackson III, "The Tool Bag: Periauger, Pettiagua, Petty Puzzler: Kunner, Cooner, Colloquial Conundrum," *Tributaries* (Journal of the North Carolina Maritime History Council), vol. 2, no. 1 (October 1992), 33; includes a 1736 drawing of a pettiAuger on the Savannah River. Howard I. Chapelle, *American Small Sailing Craft: Their Design, Development, and Construction* (New York, W.W. Norton & Co., Inc., 1951), 18-19. Richard M. Lederer, Jr., *Colonial American English: A Glossary*, (Essex, Ct, 1985), periauger, 169 (hereafter cited as Lederer, *Colonial American English*). *OED*, 2185.

13. Olsen, "The Periaqua: A Traditional Workboat of the New York/New Jersey Area," 200-201. For a general discussion of the schooner rig, see, Howard I. Chapelle, *The Search for Speed Under Sail, 1700-1855* (New York, Bonanza Books, 1982), 10-11, 55-59, and Chapelle, *The History of American Sailing Ships* (New York, Bonanza Books, 1982), 31-32.

14. *Ibid.*, 199-200, 202.

15. "An Estimate of the expences of repairing & building the boats necessary for the public service on the Hudson, during the ensuing campaign," 4 March 1782, Nod. Record Books, vol. 103, reel 29, 67. "A Return of Vessels Employd on Public Service on Hudsons River," November 1778, PCC, NA, reel 192, vol. I, 137. "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, *ibid.*, reel 192, vol. 3, 113. Olsen, "The Periaqua: A Traditional Workboat of the New York/New Jersey Area," 200.

16. Washington to Israel Putnam, 22 May 1776, John C. Fitzpatrick, ed., *The Writings of George Washington*, vol. 5 (Washington, D.C., 1932), 77, (hereafter cited as Fitzpatrick, WGWW). D. Niven to Richard Platt, 30 March 1781, and Timothy Pickering to Washington, 10 May 1781, Misc. Nod. Records, NA, reel 82, nos. 23814, 23895. Timothy Pickering to unknown, 10 May 1781, Nod. Record Books, NA, vol. 127, reel 26, 1.

17. Pickering to Major Keese (ADQM), 17 June 1781, *ibid.*, reel 26, vol. 82, target 2, 86. "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, PCC, NA, reel 192, vol. 3, 113; this return listed one "PettyAuger" being used as a ferry at Fishkill Landing. Dan Carthy to Timothy Pickering, 23 July 1781, Misc. Nod. Records, NA, reel 82, no. 23867. Timothy Pickering to Benjamin Lincoln, "An Estimate of Articles to be provided for the main army for the campaign 1782," 23 April 1782, Nod. Record Books, NA, vol. 103, reel 29, 92.

18. Timothy Pickering to Washington, 3 March 1782, GW Papers, series 4, reel 83.

19. *Ibid.*.

20. Ibid.. Washington to Timothy Pickering, 4 March 1782, Fitzpatrick, *WGW*, vol. 24 (1938), 41-42.
21. Lederer, *Colonial American English*, 210. *OED*, 2766.
22. John W. Jackson, *The Pennsylvania Navy, 1775-1781: The Defense of the Delaware* (New Brunswick, N.J., 1974), 24, 48, 50, 61, 304 (hereafter cited as Jackson, *The Pennsylvania Navy*).
23. Timothy Pickering to Capt. Travis, 24 September 1781, Misc. Nod. Records, NA, reel 86, no. 24998.
24. Lederer, *Colonial American English*, 108. Howard I. Chapelle, *The History of the American Sailing Navy: The Ships and Their Development* (New York, N.Y., 1949); 94, diagram of British gunboat, Lake Champlain, 1776; 103, diagram of British gundalow *Loyal Convert* (ex-American *Convert*), 1776; 109, diagram of American gundalow *Philadelphia*, 1776; 110, restoration of Arnold's original design for American gundalows on the St. Lawrence and Lake Champlain. Philip K. Lundeborg, *The Gunboat Philadelphia and the Defense of Lake Champlain in 1776* (Vergennes, VT, 1995) (hereafter cited as Lundeborg, *The Gunboat Philadelphia*). Israel Putnam to Washington, 13 February 1778, GW Papers, series 4, reel 47. Timothy Pickering to Hugh Hughes, 2 and 3 August 1781, Nod. Record Books, NA, vol. 82, target 3, reel 26, 60-61. Timothy Pickering to Benjamin Lincoln, "An Estimate of Articles to be provided for the main army for the campaign 1782," 23 April 1782, *ibid.*, vol. 103, reel 29, 92.
25. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, reel 76.
26. Lederer, *Colonial American English: A Glossary*, 99. Jackson, *The Pennsylvania Navy*, 12-14.
27. *Ibid.*, 18, 409 (notes 41, 43).
28. *Ibid.*, 15-16.
29. *Ibid.*, 17, 408 (note 33). William Henry Smyth (admiral), *The Sailor's Word-Book: An Alphabetical Digest of Nautical Terms* (1867), as cited in *OED Compact Edition*, 312. Lundeborg, *The Gunboat Philadelphia*, 36-43. See Howard Hoffman, Ship Plan, Gondola *Philadelphia*, drawing no. 00122, sheet 13 of 16, Anchors, Fireplace and Cooking Utensils, Division of Armed Forces History (Naval Section), National Museum of American History, Smithsonian Institution. Harold L. Peterson, *The Book of the Continental Soldier* (Harrisburg, Pa., 1968), 147-148. George C. Neumann and Frank J. Kravic, *Collector's Illustrated Encyclopedia of the American Revolution* (Harrisburg, Pa., 1975), 91.
30. *Ibid.*, 16, 18.
31. Arthur Pierce Middleton, "Ships and Shipbuilding in the Chesapeake Bay and Tributaries," Eller, *Chesapeake Bay in the American Revolution*, 116-117.
32. *OED*, 2225, 3847. King, Hattendorf, and Estes, *A Sea of Words*, 403.
33. Jackson, *The Pennsylvania Navy*, 142, 220, 291.
34. Journal of Jean-Francois-Louis, Comte de Clermont-Crevecœur (sublieutenant, Soissonnais Regiment), Howard C. Rice and Anne S.K. Brown, eds. and trans., *The American Campaigns of Rochambeau's Army 1780, 1781, 1782, 1783*, vol. I (Princeton, N.J. and Providence, R.I., 1972), 45 (hereafter cited as Rice and Brown, *The American Campaigns of Rochambeau's Army*).

35. Nathanael Greene's orders, Verplanks Point, 3 August 1780, Richard K. Showman, ed., *The Papers of General Nathanael Greene*, vol. VI (Chapel Hill, N.C., 1991), 177 (hereafter cited as Showman, *The Papers of General Nathanael Greene*). General Washington's orders for the 4 August 1780 river crossing were as follows:

"Head Quarters, Peekskill, Thursday, August 3, 1780 ... The Army having moved to the present ground in Consequence of the Enemy's dispositions to make a combined attack upon our Allies at Rhode Island, for the purposes of taking such advantages as their absence from New York might afford or obliging them to relinquish their intended Expedition; and the latter having apparently taken place, probably in consequence of the movement on our part, the Army will recross the river tomorrow to prosecute the original plan of the Campaign. The Troops will move by the right and the order of embarkation will be as follows the Baggage of each Division crossing with it: Corps of Light Infantry. Right Wing: Pennsylvania division, Stirling's ditto, Connecticut ditto. Park of Artillery with intrenching tools &ca. Left Wing: Howe's Division, McDougall's do, Steuben's do. Baggage of Committee of Congress. Commander in Chief and General Staff. Flying Hospital. Quarter Master General's Stores. Commissary General's Stores.

The First Division or Corps of Light Infantry will move so as to be at the Ferry at 4 o Clock in the morning. The other Divisions successively will have two hours previous notice from the Quarter Master General when to be at the place of Embarkation; and will be punctual in their Movements to prevent delay.

The Adjutant General will draw as many men from the Line as the Quarter master General may demand for assisting in crossing over the Army with Expedition.

The Motives for divesting the Army of its baggage and part of the Tents having ceased they are as soon as possible to return to the Troops.

Lieutenant Colonel Gouvion will take the Command of the Corps of Sappers and Miners.

The Inspectors and Sub Inspectors are requested to attend at the Orderly Office at five o'clock this Afternoon.

Each Division as soon as they arrive at VerPlanks point will turn out two hundred good oarsmen to transport the Baggage of the Division across the Ferry where they are to remain 'till relieved by as many from the next division in the order of march; Also two Field Officers, one to command at each Ferry way. These Field Officers to remain 'till reliev'd by two from the next Division. They will receive particular orders from Major General Greene.

A Detachment from the Line will be turned out to assist in transporting the Waggons and Baggage of the General Staff &ca.

After Orders

Major General Arnold will take command of the Garrison at Westpoint and Major General Lord Stirling succeeds to the Command of the left Wing. During Major General St. Clair's Command of the Light Infantry Brigadier General Wayne of course will command the Pennsylvania Division."

Surgeon James Thacher, 16th Massachusetts Regiment, recorded the army's movements, as well the July 31st/August 1st and August 4th/5th 1780 river crossings:

"August.[1780] -Orders are given for the army to be in readiness for a movement.

According to orders, our brigade marched from Prackanes on the 29th of July, and encamped at Paramus at night, fifteen miles. The men were exceedingly affected with the heat and fatigue. We marched on the succeeding day at two o'clock in the morning; at this early hour, the drums beat the reveille, which summons us from our hard beds and slumbers, in haste we roll up our travelling bed furniture, strike our tents, order them thrown into the wagons, mount our horses, and with a slow pace follow the march of our soldiers, bending under the weight of the burden on their backs. We arrived at the North river and crossed the ferry, August 1st, where we found the whole of our main army collecting to a point. All the troops from West Point that can be spared,

and detachments from different stations, have formed a junction in this vicinity. Two brigades have been selected from the different regiments in the main army, to form a corps of light infantry, to be commanded by the Marquis de la Fayette. They have been reviewed by the commander-in-chief and other general officers, on the grand parade, and are pronounced to be as excellent a corps as can be produced in any army. The marquis is delighted with his command, and is at his own expense providing for them some extra equipments. It is understood that General Clinton has despatched a part of the British fleet and army on an expedition against our allies, the French fleet and army at Rhode Island. The whole of our army having crossed to the east side of the Hudson, it is conjectured that his excellency contemplates some important enterprise against the enemy at New York, or at least to compel General Clinton to recall his expedition from Rhode Island, for his own safety. Our commander-in-chief has ordered that the army disencumber itself of all heavy baggage, which, with the women and children, are to be immediately sent to West Point, and that the troops have constantly two days' provisions cooked on hand, and hold themselves in readiness to march at a moment's warning. Such is our condition for order and regularity, that the whole army, which occupies an extent of several miles, can be put in motion, and take up a line of march in less than one hour. The horses belonging to our baggage wagons and to the artillery are constantly in harness, and those belonging to the officers are kept in readiness; every man and every horse are taught to know their place and their duty.

Marching orders, so soon as issued, are communicated to each brigade and regiment. The whole line of encampment resounds with martial music; all is bustle and activity, but free from confusion. The drums and fifes beating a march, the tents are instantly struck and thrown into wagons, the line of march commences, every subordinate officer and soldier follows his commander, and whether to rush into battle and encounter the dogs of war, or only to manoeuvre in the field, it is no man's business to know or, inquire. The secret is where it ought to be, in the breast of him who directs our destiny, and whom it is our pride to obey. Such is the state and condition of a well-regulated and disciplined army, and such only can attain to military fame and glory. It is now ascertained, August 4th, that the formidable manoeuvre of our army has effected the object intended. The enemy's expedition to Rhode Island has returned to New York, in consequence probably of the alarm excited for the safety of that city. Orders are now received for our army to recross the Hudson to the Jersey shore. Our brigade crossed the ferry in the night of the 5th, and encamped in a field about five miles from the ferry. The crossing of the whole army, occupied three days and nights, during which a vast number of large boats and floats were continually in motion. On the 6th, marched to Greenbush, and on the 7th and 8th, the whole army arrived and encamped at Orangetown. The light infantry, under the Marquis, is constantly advanced three miles in front of the army. The fatigue and extreme heat during this march, have produced very unfavorable effects on our troops, and they are now becoming sickly. Cholera-morbus, dysentery and remittent fevers, are the prevailing complaints, which demand all my attention." General orders, 3 August 1780, Fitzpatrick, *WGW*, vol. 19 (1937), 311-313.

James Thacher, *Military Journal of the American Revolution* (Hartford, Ct. 1862), 206-207.

36. William C. Reichel, *The Crown Inn, Near Bethlehem, Penna., 1745. A History* (1872), 60, 62. In 1756 David Nitschmann was given the grant and patent for the ferry at Bethlehem, Pennsylvania. He was to find a place "for erecting and keeping a ferry ... over the ... West Branch of the Delaware ... for transporting and carrying over the same all persons, wagons, carts and other carriages, horses, cattle, goods, wares, merchandises and things whatsoever ... all other persons on either side of the said branch" were "strictly forbidden" "from taking or carrying over the same within the distance of one mile above or below the said ferry hereby settled and established, for hire, reward or pay ..." Part of Nitschmann's responsibility was in "making wharves and landing-places and providing necessary flats and boats, and the constant attendance necessary thereto ...", *ibid.*, 62-64.

37. Oliver Phelps to Timothy Pickering, 27 November 1780, Misc. Nod. Records, NA, reel 82, no. 23736. Timothy Pickering to Hugh Hughes, 3 and 11 August 1781, Nod. Record Books, NA, vol. 82, target 3, reel 26, 74-76. Hugh Hughes to Richard Platt, 20 February 1781, Misc. Nod. Records, NA, reel 82, no. 23785.
38. Thomas Mifflin to George Washington, 8 June 1777, GW Papers, series 4, reel 42. Richard Platt to Timothy Pickering, 1 December 1780, Misc. Nod. Records, NA, reel 82, no. 23737.
39. Washington to Comte de Rochambeau, 21 August 1781, Instructions to Major General Benjamin Lincoln, 28 August 1781, Fitzpatrick, *WGW*, vol. 23 (1937), 25, 59. Henry Johnston, *The Yorktown Campaign and the Surrender of Cornwallis 1781* (New York, 1881), 87; 88, notes 1 and 2 same page (hereafter cited as Johnston, *The Yorktown Campaign*). Charles H. Lesser, ed, *The Sinews of Independence: Monthly Strength Reports of the Continental Army* (Chicago and London, 1976), July/September 1781 returns, 206, 210 (hereafter cited as Lesser, *The Sinews of Independence*). The American troops which crossed at Kings Ferry numbered approximately 2,147. Breakdown as follows (all based on September 1781 return except Lamb's Artillery and Sappers and Miners): Light Infantry (Scammell and Hamilton, 384, 265), 1st and 2nd New York (391, 429), Rhode Island Regiment (392), Sappers and Miners (86), Lamb's Artillery (approx. 200). The Jersey troops were already in New Jersey, and Hazen's Regiment crossed at Dobbs Ferry.
40. Journals of Jean-Francois-Louis and Louis-Alexandre Berthier (captain, attached to the Soissonnais Regiment), Rice and Brown, *The American Campaigns of Rochambeau's Army*, vol. I, 40, 255. Johnston, *The Yorktown Campaign*, 89, 116-117. Rochambeau's forces in New York were as follows: artillery, 600; Lauzan's Legion, 600; and four Infantry Regiments (Bourbonnois, Deuxponts, Soissonois, and Saintonge) of 900 men each. Total (exclusive of artillery), 4,200.
41. Journal of Jean-Francois-Louis, Rice and Brown, *The American Campaigns of Rochambeau's Army*, vol. I, 79. General orders, 15, 16, 18 September 1782, Fitzpatrick, *WGW*, vol. 25 (1938), 159, 169.
42. William Smith (deputy quartermaster general), "Services performed by the Boats & Men to Novemr 25th 1778, at Springfield, each Month," PCC, NA, reel 192, 249.
43. [?] Hubbard [deputy quartermaster general], "List of Scows on Connecticut River between Hartford & Enfield fit for Immediate Use," and "List of Scows at Weathersfield, on Connecticut River," 31 August 1779, *ibid.*, reel 192, vol. 3, 107, 109. Joseph Lee Boyle, ed., "From Saratoga to Valley Forge: The Diary of Lt. Samuel Armstrong," *The Pennsylvania Magazine of History and Biography*, vol. CXXI, no. 3 (July 1997), 240-241 (hereafter cited as *PMHB*).
44. Ralph Pomeroy to Timothy Pickering, 24 June 1781, Misc. Nod. Records, NA, reel 87, no. 25150.
45. *OED*, 1018 (flat-boat), 1622 (lighter), 2361 (punt), 2667 (scow). Thomas Jefferson wrote in 1780 that "I have empowered Colonel Carrington to have twelve boats, scows or batteaux, built." (Cited in *OED*, Jefferson, *Correspondence*, 1859, vol. I, 254.).
46. General Washington noted in June 1776, "As it is and may be of great Importance, to have a Communication with the Jerseys and Long Island, I have had several Flat Bottom Boats built for the purpose, and have thoughts of getting more for Passaic and Hackensack Rivers where they may be equally Necessary for the Transporting our Army, or part of it occasionally, or succours coming to or going from it." In August he ordered "General

Greene to send for ten of the flat bottomed Boats which are to be kept under Guard at Long Island ...," Washington to President of Congress, 16 June 1776, and general orders, 13 August 1776, Fitzpatrick, *GW*, vol. 5 (1932), 143, 425. Joseph A. Goldenberg and Marion West Stoer, "The Virginia State Navy," Eller, *Chesapeake Bay in the American Revolution*, 178.

47. Scow - "A large flat-bottomed rowed boat ...," King, Hattendorf, and Estes, *A Sea of Words*, 325. "Military Journal of Major Ebenezer Denny", *Memoirs of the Historical Society of Pennsylvania*, vol. VII (1860), 238. "Journal of Captain John Davis of the Pennsylvania Line", *PMHB*, vol. 5 (1881), 291. "Journal of Lieut. William McDowell of the First Penn'a. Regiment, in the Southern Campaign. 1781-1782", John Blair Linn and William H. Egle, *Pennsylvania in the War of the Revolution, Battalions and Line 1775-1783*, vol. II (Harrisburg, Pa., 1880), 297. "Diary of the Pennsylvania Line. May 26, 1781 - April 25, 1782", *ibid.*, 677. The foregoing "Diary" includes the journals of both Captain Joseph McClellan and Lieutenant William Feltman.

48. Thomas Mifflin to George Washington, 8 June 1777, *GW* Papers, series 4, reel 42.

Dimensions of a (flat Bottomed Boat or) Batteaux

	feet
Length upon the floor	25
Width upon the floor Midships	5 6
Width midships from Gunwhale to height Gunwhale	6 4
perpendicular height of the sides in board	1 10

Sharp head & stern

"Such a boat will carry 40 men & has been found by Major Darby the best size to transport on carriages," "Dimensions of a (flat Bottomed Boat or) Batteaux," December 1780, *Nod. Record Books*, NA, vol. 103, reel 29, 92. Nathanael Greene to George Washington. 21 November 1777, Showman, *The Papers of General Nathanael Greene*, vol II (1980), 202. In autumn 1779 for reasons unknown Maj. Gen. and Quartermaster General Nathanael Greene wanted the sides of some scows raised. General Washington to Capt. Moses Bush: "Head Quarters, West Point, September 26, 1779 ... The probability of having occasion for a number of Boats, of a particular construction, induces me to request you immediately to raise the sides of as many River Scows as Maj. Genl. Greene Qr. Mr. G. shall direct. He will write you particularly on the subject. The Business requires the utmost dispatch, and is of so much public importance that it authorizes me to give the order and will justify you in quitting the Business in which you are at present engaged." Washington to Moses Bush, 26 September 1779, Fitzpatrick, *GW*, vol. 16 (1937), 343.

49. Thomas Mifflin to George Washington, 8 June 1777, *GW* Papers, series 4, reel 42. "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, *PCC*, NA, reel 192, vol. 3, 113. "Estimate of Stores &c for an Army of Twenty five thousand Men ..." (1781 or 1782), *Nod. Record Books*, NA, vol. 103, reel 29, 17. Washington to Timothy Pickering, 21 February 1782, Fitzpatrick, *GW*, vol. 24 (1938), 15-16.

50. Israel Putnam to Washington, 13 February 1778, *GW* Papers, series 4, reel 47. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, *ibid.*, series 4, reel 76. "An Estimate of the expences of repairing & building the boats necessary

for the public service on the Hudson, during the ensuing campaign," 4 March 1782, Nod. Record Books, NA, vol. 103, reel 29, 67.

51. [?] Hubbard, "List of Scows on Connecticut River between Hartford & Enfield fit for Immediate Use," and "List of Scows at Weathersfield, on Connecticut River," 31 August 1779, *ibid.*, reel 192, vol. 3, 107, 109.

52. *OED*, 168.

53. *Ibid.*. "Estimate of Stores &c for an Army of Twenty five thousand Men ..." (1781 or 1782), Nod. Record Books, NA, vol. 103, reel 29, 17. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, series 4, reel 76. See also, "Return of the Schooners, Boats &c in the Boat Department," August 1779, PCC, NA, reel 192, vol. 3, 179. This listing shows four barges at Philadelphia, Pennsylvania.

54. "Bill Agnst. His Excellency's Barge," no date, Misc. Nod. Records, NA, reel 92, no. 26789. *OED*, 545.

55. Washington to William Heath, 4 April 1782, Fitzpatrick, *WGW*, vol. 24 (1938), 102. General orders, 5 September 1782, *ibid.*, vol. 25 (1938), 132.

56. Arthur Pierce Middleton, "Ships and Shipbuilding in the Chesapeake Bay and Tributaries," Eller, *Chesapeake Bay in the American Revolution*, 117-118.

57. Earl J. Heydinger, "The Reading Boat," *The Dutchman*, vol. 6, no. 4 (Spring 1955), 30-34; original source, L.P. Gipson, *Lewis Evans* (Philadelphia, 1939), 165. John Wallace Arndt, "All About the Durham Boat," Collections of the Bucks County Historical Society, Fol. 14, Mss. 179. William W.H. Davis, *History of Bucks County, Pennsylvania*, vol. II (originally published 1905, reprinted Pipersville, Pa., 1975), 140-141. See also, Seymour Dunbar, *A History of Travel in America*, vol I (New York, 1937), 282.

58. Washington to Richard Humpton, 1 December 1776, Transcribed and annotated by Harry K. Swan, 10 April 1983, Swan Historical Foundation, Washington's Crossing State Park, Titusville, New Jersey. See also, Washington to the President of Congress, 1 December 1776, Fitzpatrick, *WGW*, vol. 6 (1932), 318-319:

"Brunswick, December 1, 1776.

Sir: I yesterday had the honor of writing you and to advise of our arrival here. I am now to inform you that the Enemy are still advancing, and that their Van guard had proceeded as far as Bonum, a small Town about four miles this side of Woodbridge, according to my last intelligence ... I have sent forward Colo. Humpton to collect proper boats and craft at the Ferry for transporting our Troops and it will be of Infinite importance to have every other craft, besides what he takes for the above purpose, secured on the West side of Delaware, otherwise they may fall into Enemy's hands and facilitate their views." Washington to William Livingston, 1 December 1776, *ibid.*, 321. Showman, *The Papers of General Nathanael Greene*, vol. I (1976), 378, note on Battle of Trenton.

59. Nathanael Greene to anonymous, 10 December 1776, original document in the collections of Williams College, Williamstown, Ma. Copy courtesy of David Fowler, David Library of the American Revolution, Washington Crossing, Pa. William W.H. Davis in his *History of Bucks County, Pennsylvania* (vol. II, 120) quotes from Greene's 10 December letter, stating that his correspondent was General James Ewing, of the Pennsylvania Associators.

60. "Return of the Schooners, Boats &c in the Boat Department," August 1779, PCC, NA, reel 192, vol. 3, 179. Cornelius Cox to John Mitchell (with enclosed "Return of Publick Boats on the Susquehana"), 15 March 1780, *ibid.*, reel 93, vol. 5, 449-450. Washington to Nathanael Greene, 2 March 1779, Fitzpatrick, *WGW*, vol. 14 (1936), 176-177. Copy of list

of stores needed for General John Sullivan's 1779 expedition from original dated "Camp Middle Brook," 2 March 1779, this copy is signed by C. Sheriff, and executed circa July 1779, PCC, NA, reel 78, vol. 3, 276-279.

61. Russell Bellico, *Sails and Steam in the Mountains: A Maritime and Military History of Lake George and Lake Champlain* (Fleischmanns, N.Y., 1995), probable Dutch origin, early use, and description, 25-26 (hereafter cited as Bellico, *Sails and Steam in the Mountains*).

61. Ibid., 62, 64, 73.

62. Bruce E. Burgoyne, ed., *Georg Pausch's Journal and Reports of the Campaign in America* (Bowie, Md., 1996), 37-43, 66, 73; for further mention of bateaux for transport see, 48, 50, 58, 65, 69 (hereafter cited as Burgoyne, *Georg Pausch's Journal*).

63. Bellico, *Sails and Steam in the Mountains*, 132.

64. Israel Shreve to Mary Shreve, Fort George, 16 April 1776, Israel Shreve Papers, Buxton Collection, Prescott Memorial Library, Louisiana Tech University,

65. Israel Shreve to Mary Shreve, 25 May 1776, *ibid.*

66. Nathanael Greene to Moses Hazen, 13 September 1779, The PCC, NA, reel 192, 97. "Lieut. Colonel Josiah Harmar's Journal. No: 1. Commencing November 11th: 1778.", 11 November 1778 to 2 September 1780, 74, Josiah Harmar Papers, William C. Clements Library, Ann Arbor, Michigan.

67. Washington to James Clinton, 19 April 1779, Fitzpatrick, *WGW*, vol. 14 (1936), 415. Journal of Sgt. Major George Grant, 22 August 1779, *Journals of the Military Expedition of Major General John Sullivan Against the Six Nations of Indians in 1779* (Glendale, N.Y., 1970), 108, 109.

68. Showman, *The Papers of General Nathanael Greene*, vol. VI (1991), 512-513, 514.

69. "Return of Boats at this post fit for service with Oars," West Point, 29 July 1779, PCC, NA, vol. 3, reel 192, 151. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, series 4, reel 76.

70. "Return of Boats at this post fit for service with Oars," West Point, 29 July 1779, and "Return of Vessels, Boats and Scows in public service at Fishkill, West Point &c," 6 August 1779, PCC, NA, vol. 3, reel 192, 113, 151. "Estimate of Stores &c for an Army of Twenty five thousand Men ..." (circa 1782), Nod. Record Books, NA, vol. 103, reel 29, 17. Bellico, *Sails and Steam in the Mountains*, 91-92. Washington to Nathanael Greene, 2 March 1779, Fitzpatrick, *WGW*, vol. 14 (1936), 176-177.

71. "Captain Buckley's [Bulkly's] Trial of the number of men batteaux will carry," 25 August 1782, Misc. Nod. Records, NA, reel 97, no. 28351. Edward Bulkly to Timothy Pickering, 25 August 1782, *ibid.*, reel 86, no. 24994.

72. Bellico, *Sails and Steam in the Mountains*, 79-84. "Return of all Public Craft and Boats on Hudson's and the Mohawk River," 2 April 1781, GW Papers, series 4, reel 76. William Hunn's "Estimate of the Cost of Batteaux inclosed in Coll. Hughes's letter of Feb.y 14 1782," Misc. Nod. Records, NA, reel 92, no. 26637.

73. "An Estimate of the expences of repairing & building the boats necessary for the public service on the Hudson, during the ensuing campaign," 4 March 1782, and, Timothy Pickering to Benjamin Lincoln, "An Estimate of Articles to be provided for the main army for the campaign 1782," 23 April 1782, Nod. Record Books, NA, vol. 103, reel 29, 67, 90, 92. Bellico, *Sails and Steam in the Mountains*, 101, 131-132.

74. Washington to Timothy Pickering, 21 February 1782, Fitzpatrick, *WGW*, vol. 24 (1938), 12-13. General orders, 31 August 1782, *ibid.*, vol. 25 (1938), 97.
75. General orders, 27 August 1782, *ibid.*, vol. 23 (1937), 69. Burgoyne, *Georg Pausch's Journal*, 63.
76. General orders, 30 August 1782, Fitzpatrick, *WGW*, vol. 23 (1937), 93-96. David Cobb to Timothy Pickering, 25 August 1782, Misc. Nod. Records, NA, reel 88, no. 25593.
77. General orders, 30 August 1782, Fitzpatrick, *WGW*, vol. 25 (1938), 93-96.
78. David Cobb to Timothy Pickering, 25 August 1782, Misc. Nod. Records, NA, reel 88, no. 25593. General orders, 30 August 1782, Fitzpatrick, *WGW*, vol. 23 (1937), 93-96.
79. General orders, 31 August 1782, *ibid.*, 97.
80. Washington to Timothy Pickering, 27 January 1783, Misc. Nod. Records, Natl. Archives, reel 83, no. 25596.
81. Washington to Thomas Mifflin, 10 April 1777, Fitzpatrick, *WGW*, vol. 7 (1932), 385-386. W. Masters to Washington, 30 May 1777, and Thomas Mifflin to Washington, 8 June 1777, GW Papers, series 4, reel 42.
82. Washington to Israel Putnam, and Washington to George Clinton, 15 October 1777, Fitzpatrick, *WGW*, vol. 9 (1933), 371-372, 373. "Return of the Schooners, Boats &c in the Boat Department," August 1779, PCC, NA, reel 192, vol. 3, 179.
83. Washington to William Heath, 16 November 1780, Washington to Timothy Pickering, 20 November 1780, Fitzpatrick, *WGW*, vol. 20 (1937), 350-352, 379. William Heath to Israel Shreve, 16 November 1780, Israel Shreve Papers, New Jersey Room Special Collections, Rutgers University, New Brunswick, N.J.
84. Washington to Samuel Darby, 17 November 1780, *ibid.*, vol. 20 (1937), 362-363. Francis B. Heitman, *Historical Register of Officers of the Continental Army During the War of the Revolution - April 1775 to December 1783* (Baltimore, Md., 1982), 185. "Return of the Schooners, Boats &c in the Boat Department," August 1779, PCC, NA, reel 192, vol. 3, 179.
85. Washington to Samuel Darby, 17 November 1780, Fitzpatrick, *WGW*, vol. 20 (1937), 362-363.
86. Samuel Darby to Timothy Pickering, 22 November 1780, Misc. Nod. Records, NA, reel 82, no. 23745.
87. Washington to Timothy Pickering, 22 November 1780, Fitzpatrick, *WGW*, vol. 20 (1937), 386-387.
88. Washington to Samuel Darby, 22 November 1780, *ibid.*, 388-389.
89. Samuel Darby to Timothy Pickering, 23 November 1780, Misc. Nod. Records, NA, reel 82, no. 23744.
90. Kingsbridge/Manhattan Island attack plan, document found at the end of November 1780, GW Papers, series 4, reel 73.
- Washington to Anthony Wayne, 21 November 1780, Fitzpatrick, *WGW*, vol. 20 (1937), 380-381.
91. Washington to Stephen Moylan, and Washington to Jean Baptiste Gouvion, 21 November 1780, *ibid.*, 381-384.

92. Washington to William Crane, and Washington to Judah Alden, 23 November 1780, *ibid.*, 392-393, 394. The full text of Washington's letter to Crane is appended:
"Head Quarters, Passaic-falls, Thursday, November 23, 1780.

Sir: Captn. Ogden will communicate to you in confidence (and more fully than I can do by letter) the business on which he is sent in the execution of which I must require your aid and best exertion. The Boats with the Army are inadequate to the purposes I have in view; more therefore must be provided at, and in the vicinity of Elizabeth town. they will be wanted to morrow night by one o'clock at farthest. The mode of collecting them in a way least liable to suspicion at the point of Embarkation or contiguous thereto will be left to your discretion.

It is much my wish to know also if it be practicable without creating suspicion to have a few Boats drawn together at the old blazing star or some other unsuspected place in that part of the Sound by means of which a party could be thrown undiscovered upon the Island.

Several good Guides well acquainted with the roads leading to the enemys Works at the Watering place flag staff and Richmond will be wanted by the hour the boats are required to be in readiness; the necessity of using art and address to provide these without giving suspicion you will readily see the propriety of and act accordingly.

As I presume the detachment at New Ark under Captn. [Aaron] Ogden is subject to your command I have to request that you will order him and his party to join you at Elizabeth Town after dark on friday Night and be in perfect readiness yourself to follow such further Orders as you may receive from me or other Superior Officer, by whom you may be joined. If you could with any kind of certainty know what Troops are upon Staten Island; whether any re-inforcement has been sent there lately, or is expected and whether they have any suspicion of our making an attempt upon the Island it would be very acceptable to me and the earlier I could receive the intelligence on Friday the better."

93. Adrian C. Leiby, *The Revolutionary War in the Hackensack Valley* (New Brunswick, N.J., 1962), 294. Washington to William Heath, and general orders, 26 November 1780, Fitzpatrick, *GW*, vol. 20 (1937), 400-402. Israel Shreve to Anthony Wayne, 27 December 1780, Israel Shreve Papers, Buxton Collection, Prescott Memorial Library, Louisiana Tech University, Ruston, Louisiana.

94. Washington to Nathanael Greene, 8 November 1780, and Washington to Thomas Jefferson, 8 November 1780 and 9 December 1780, *ibid.*, 321, 326-327, 447.

95. Washington to William Heath, 19 December 1780, *ibid.*, 497-498. William Heath to Washington, 20 December 1780, *GW* Papers, series 4, reel 72.

96. "Dimensions of a (flat Bottomed Boat or) Batteaux," December 1780, Nod. Record Books, NA, vol. 103, reel 29, 29.

97. Washington to Thomas Jefferson, 27 December 1780, and Washington to Timothy Pickering, 10 February 1781, Fitzpatrick, *GW*, vol. 21 (1937), 21, 206.

98. Showman, *The Papers of General Nathanael Greene*, vol. VI (1991), 471. "Memorandum of Articles to be furnished by the Deputy Quarter Master for the State of Virginia," 1781 [probably April or May], Misc. Nod. Records, NA, reel 92, no. 26635. Joseph A. Goldenberg and Marion West Stoer, "The Virginia State Navy," Eller, *Chesapeake Bay in the American Revolution*, 195-196.

99. Timothy Pickering to Washington, 14 January 1781, *GW* Papers, series 4, reel 74. Washington to Timothy Pickering, 10 February 1781, Fitzpatrick, *GW*, vol. 21 (1937), 206.

100. Dan Carthy to Timothy Pickering, 29 April 1781, Misc. Nod. Records, NA, reel 82, no. 23868.

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105. Henry Dearborn to Samuel Darby, 20 July 1781, Nod. Record Books, NA, vol. 82, target 2, reel 26, 160.
106. Timothy Pickering to W.E.W. Kiers, 20 July 1781, *ibid.*, vol. 82, target 2, reel 26, 161. Pickering to Washington, 19 July 1781, *ibid.*, vol. 82, target 3, reel 26, 38.
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111. Timothy Pickering to Samuel Darby, 16 August 1781, Nod. Record Books, NA, vol. 82, target 2, reel 26, 221-222. Samuel Darby to Timothy Pickering, 17 August 1781, Misc. Nod. Records, NA, reel 86, no. 25109. Hugh Hughes to Timothy Pickering, 18 August 1781, *ibid.*, reel 89, no. 25718. Timothy Pickering to Hugh Hughes, 18 August 1781, Nod. Record Books, NA, vol. 82, target 2, reel 26, 225.
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114. Washington to Robert Morris, 24 August 1781, Fitzpatrick, *WGW*, 23 (1937), 40.
115. Washington to Benjamin Lincoln, 24 August 1781, *ibid.*, 41-43.
116. Instructions to Major General Benjamin Lincoln, 28 August 1781, *ibid.*, 59. 31 August 1781, "The Q M G will see the Boats comg on with Colo Cortlands [New York] Regt. be put in Repair, as soon as they Arrive [at Head of Elk in Maryland]; these will take down [the Chesapeake Bay] the Regt. which accompanies them and perhaps some other Matters," Washington to Benjamin Lincoln, 31 August 1781, *ibid.*, 71-72.

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118. "List of Water Craft engaged by Saml Miles DQM," enclosure, Samuel Miles to George Washington, 29-30 August 1781, *ibid.*, series 4, reel 80.
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130. "Invoice of Ordnance & Stores Shipped on Board Sundry Vessels, at Elk Landing," September 1781, *ibid.*, series 4, reel 80. "List of Vessels employed in the Cheasapeak Septr. & Octr. 1781," "An estimate of vessels taken into transport service at Baltimore Sept & Oct. 1781," "Estimate of Freight ... for the Transportation of Provisions to the American Army during the siege of the Earl of Cornwallis - from Alexandria ...," November 1781, and "Estimate of Money due on Contract made for the passage of the Army stores, Baggage &c. ... from Christiana Brigade to Virginia, and from thence to the Northward Commencing 28 August 1781," Misc. Nod. Records, NA, reel 92, nos. 26800, 26675, 26673.
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138. Washington to Timothy Pickering, 4 November 1781, *ibid.*, 331.
139. Timothy Pickering to Jeremiah Wadsworth, 14 November 1781, Nod. Record Books, NA, vol. 82, target 2, reel 26, 261-262.
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