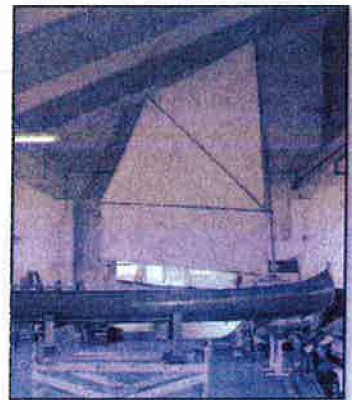


DOCUMENTING WESTERN WASHINGTON WATERCRAFT

ORGANIZED BY
THE CENTER FOR WOODEN BOATS

ON BEHALF OF
THE WASHINGTON STATE
DEPARTMENT OF ARCHEOLOGY
AND HISTORIC PRESERVATION



This Documenting Western Washington Watercraft has been financed in part with Federal funds from the National Park Service, Department of the Interior administered by the Department of Archaeology and Historic Preservation (DAHP) and the State of Washington. However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, DAHP, the State of Washington nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior or DAHP.

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DOCUMENTING WESTERN WASHINGTON WATERCRAFT

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archeology and Historic Preservation with support from the National Park Service. The Project aimed to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.

During the fall of 2010 The Center for Wooden Boats brought together museum professionals, boatwrights, and cultural resource managers to learn the basics of historic vessel documentation and the standards of the Secretary of the Interior and how to apply these techniques and standards to their home institutions collections of historic watercraft. Participants learned different techniques for collecting measurements of the shape of various boats including hand measuring, laser scanning, and laser survey. Instructors also provided training and resources in the large format film photography, as required by the Library of Congress, and the collection of historical information and the composition of historical narratives. These three components represent the necessary portions of records for inclusion in the Library of Congress' Prints and Photograph Collection of Historic American Engineering Records (HAER).

As part of the training nine participants helped document twelve historic watercraft from six communities. Most of the watercraft documented represent the most significant small recreational watercraft types built and used in Western Washington of the early and mid-twentieth century.

With the creation of these detailed records and their submittal generations to come will enjoy the form of these unique watercraft. To go one step beyond, the records possess all the necessary information for one to build a reconstruction of these significant vessels. In fact, as an off shoot of the this program two reconstructions were built of the subject vessels; one by students and instructors at The Northwest School of Wooden Boatbuilding Alderbrook and the other at CWB's Cama Beach campus, Cama Beach 20 Series.

The Documenting Western Washington Watercraft project succeed in not just creating detailed records of 12 historic vessels, but also helped build a network of maritime heritage professionals and cultural resource managers that will enhance the preservation and documentation of our region's unique maritime history.

CAMA BEACH FLEET

HAER NO. WA-211



Location: Camano Island State Park, Cama Beach State Park Camano Island Vicinity, Island County, WA. The Center for Wooden Boats, 1010 Valley Street, Seattle, King County, WA

Original Owner: Cama Beach Resort, owners L.R. Stradley, Lee and Muriel Risk

Present Owner: Washington State Parks and Recreation Commission, Cama Beach State Park

Significance

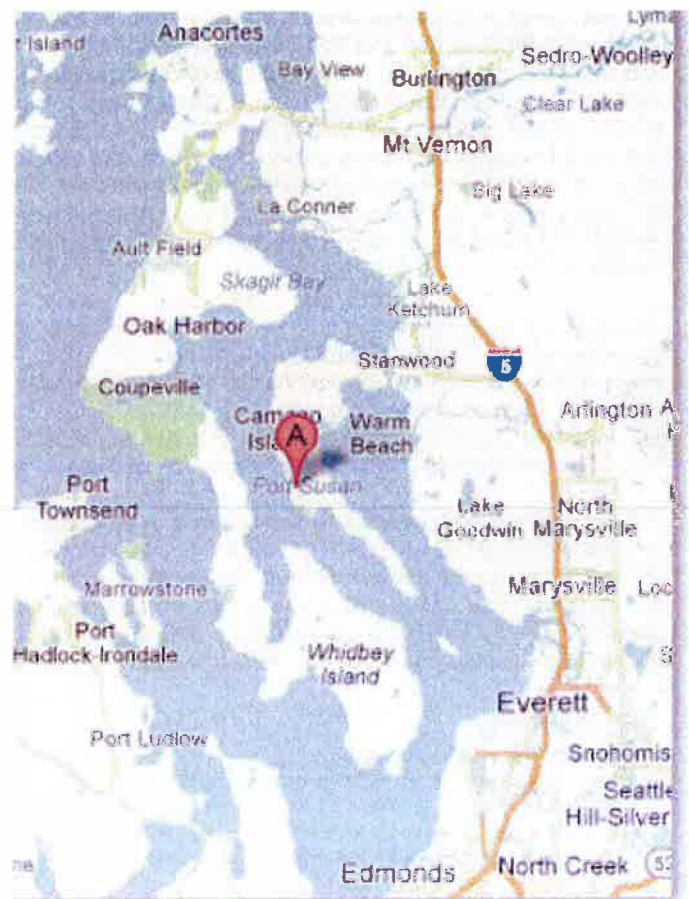
During the first half of the twentieth century, nearly two hundred boating and fishing resorts lined the shores of western Washington waterways. The Cama Beach Resort fleet is the largest and last known complete collection of boats from this period from a single resort.

Project Information

Documentation of the Cama Beach Fleet was part of a project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during November 2010 at Cama Beach State Park.

Historian

Bill Blandin, Stanwood Area Historical Society; Christina Dinzi-Pederson, Washington parks and recreation staff; Chrys Donovan, Washington Parks and Recreation volunteer; Jessica Stone; Andrew Washburn, The Center for Wooden Boats Cama Beach, manager



HISTORICAL CONTEXT

Designer

Bert and Eddie Johnson and others

Builder

Bert and Eddie Johnson, a father-and-son team who operated a boat shop on Camano Island, several miles north of the present-day Cama Beach State Park. They are believed to have built at least 35 boats, including flat-bottom rowboats and V-bottom outboard-powered skiffs, for the Cama Beach Resort rental fleet. Vessels from other builders also were included in the fleet.

The Cama Beach Resort

Leroy Stradley, a hotel owner based in Seattle, began developing the site at Cama Beach for a resort in 1933. The site had most recently been used as a logging camp operated by the English Logging Company. The site was known as Camp 2. By the early 1930s the logging industry that had dominated Camano Island had moved inland, leaving waterfront locations ideal for the development of recreational resorts. Evidence of the logging history can be seen throughout the beach and upland portions of Cama Beach State Park. Archeological excavations conducted during the late 1990s and early 2000s, revealed that human exploitation of the site stretched back at least several millennia. Four federally recognized American Indian tribes have been associated with seasonal use of the site.

During 1933-34, Stradley employed local builders to build two rows of cabins along the shore as well as several outbuildings. Over the decades numerous other cabins and buildings were constructed. The Cama Beach Resort grew to be one of almost two dozen on Camano Island and by the late 1950s was counted among approximately one hundred and seventy-five on saltwater locations throughout Washington State. The abundance of recreational fishing opportunities made Cama Beach, as well as other boathouse resorts, a popular destination for families and social group retreats. Stradley operated the resort at Cama Beach until his death in 1938. During the 1939 summer resort season, Stradley's daughter and son-in-law, Muriel and Lee Risk, took over operation. All accounts attribute the bulk of resort management to Muriel. Her administration of the resort continued until shortly before her death in 1990. Ownership of the resort passed to Muriel and Lee's daughters, Sandra and Karen, and their respective partners, Gary Worthington and Asko Hammelien. In 1994, in an effort to preserve the resort and the resort experience for future generations the Worthingtons and Hammelienens began a phased sale of the Cama Beach Resort property to the Washington State Parks and Recreation Commission. After fourteen years of restoration, archaeological investigation, and planning the resort reopened in 2008 as Cama Beach State Park.

The Cama Beach Rental Fleet

In the winter of 1934 Bert and Eddie Johnson received the contract to build boats for the Cama Beach Resort fleet. Bert Johnson was born in Denmark in the 1860s and operated a boat shop on Camano Island near the community of Camano City, near present-day Onamac Point, several miles north of Cama Beach. It is unknown whether the father and son team built the Cama fleet at their shop or on-site at Cama. A note from the 1950s related to insurance appraisals listed the origins of the fleet at that time. The note lists thirty-five boats as "built by ourselves" in 1934. It is believed that this note refers to the boats built by Bert and Eddie Johnson for the resort. Four inboard launches were purchased later: Cama Queen in 1940 from Reinell Boat Works of Marysville, Washington; Cama King in 1947 from Bryant/Morris Boat Works in Bellingham, Washington, and Princess 1 and Princess 2 in 1951 from Reinell. The Cama Beach Resort also purchased four Reinell-built kicker boats from Camp Lagoon in 1957, although only three remain.

The boats were launched using a marine railway. The boats were loaded onto a small flatbed rail car and sent down the rails into the water with the boaters aboard to pilot the craft off the car. The descent was controlled by the railway operator using a simple break on the wire rope spooling off the winch. The railway also was used to retrieve the small boats. The car was lowered into the water with posts protruding from the leeward side of the car. The boater would use the posts both to determine the position of the car and also to hold onto when the operator began retrieval. This process could be difficult in inclement weather and many patron s recall resort staff being obliged to pilot the craft onto the cars for retrieval.

It is likely that the Cama Beach Resort fleet consisted of other boats, long dispersed or destroyed, but when Washington State took ownership of the resort in 1994, the 42 remaining boats were stored in the Boathouse, a large, barnlike structure built in 1950. In order to restore the Boathouse itself, the majority of the fleet was moved to its present location at Camano Island State park. Eleven boats of the historical fleet are stored in a pole barn on supportive cradles. Four boats remain in the Boathouse at Cama Beach on exhibit. Two of the 12' rowboats are on display at Cama Beach and the Seattle headquarters of The Center for Wooden Boats. The remaining twenty-four boats are stored outside at Camano island State Park.

Sources

Dennis Conroy and Marlys Jolley, *A Boater's Guide to the Historic Westside of Camano Island* (pamphlet, Seattle, Washington: The Center for Wooden Boats with the Stanwood Area Historical Society, 2001).

Gary Worthington, *Cama Beach: A Guide and a History: How a Unique State Park Was Created from a Family Fishing Resort and a Native American Camping Site* (Olympia, Washington: TimeBridges Publishers LLC, 2008).

CAMA BEACH No. 5

HAER NO. WA-198



Location: Cama Beach State Park, 1880 SW Camano Drive, Camano Island, Island County, Washington.

Original Owner: Cama Beach Resort, owners L.R. Stradley, Lee and Muriel Risk.

Present Owner: Washington State Parks and Recreation Commission, Cama Beach State Park.

Disposition: Inactive

WA-198-1 Vessel Documentation Training Class with Cama Beach #5 (from left to right) Andrew T. Washburn, CWB, Vernon Lauridson

Significance

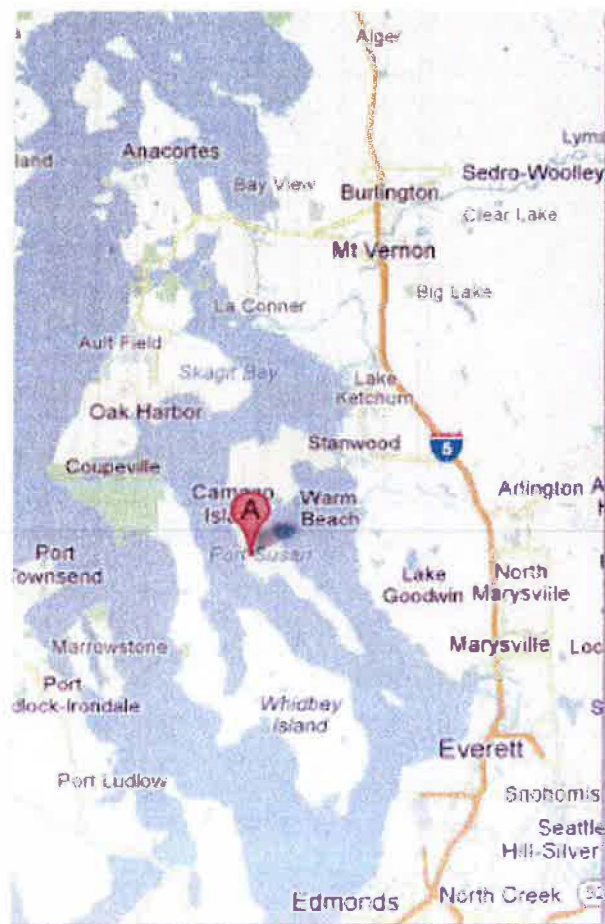
The 12' flatiron Skiff, Cama Beach No. 5, is representative of the type included in the original fleet at the Cama Beach Resort. The simple rowboat was one of thirty-five small boats forming the nucleus of the Cama Beach Resort fleet. During the first half of the twentieth century nearly two hundred boating and fishing resorts lined the shores of Western Washington waterways. The Cama Beach Resort fleet is the last known complete collection of boats from this period from a single resort, built mostly by a single builder. Cama No. 5, though simple in form, is an excellent example of a boat type ubiquitous in the late nineteenth and early twentieth centuries.

Project Information

Documentation of the Cama Beach Fleet was part of a project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during November of 2010 at Cama Beach State Park.

Historians

Bill Blandin, Stanwood Area Historical Society; Christina Dinzi-Pederson, Washington parks and recreation staff; Chrys Donovan, Washington Parks and Recreation volunteer; Jessica Stone; Andrew Washburn, The Center for Wooden Boats Cama Beach, manager



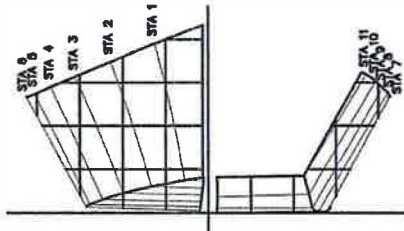
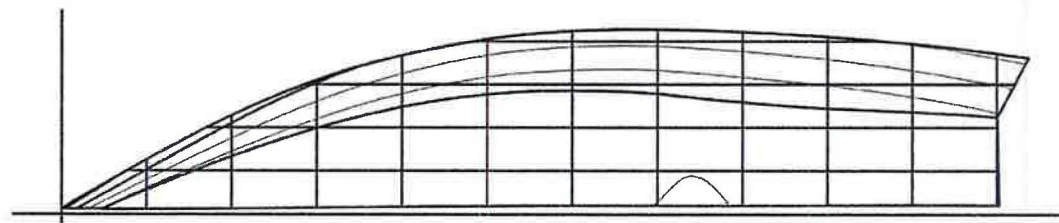
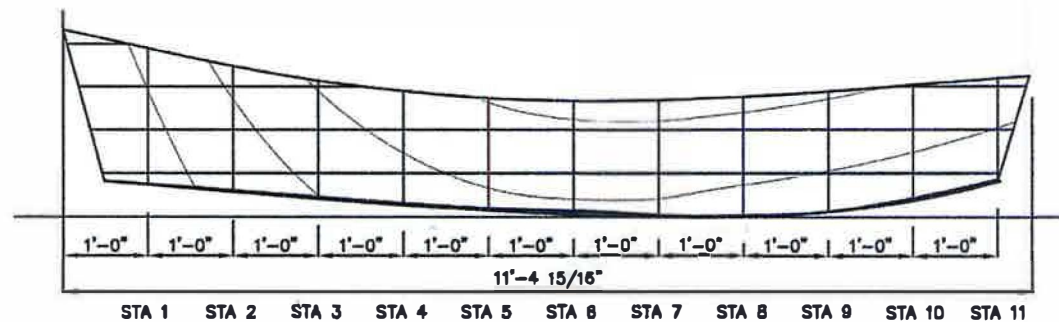
CAMA BEACH NO. 5

Lines

SCALE: 1 1/2"=1'-0"

TABLE OF OFFSETS

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HISTORICAL CONTEXT

The Cama Beach Resort

Leroy Stradley, a hotel owner based in Seattle, began developing the site at Cama Beach for a resort in 1933. The site had most recently been used as a logging camp operated by the English Logging Company. The site was known as Camp 2. By the early 1930s the logging industry that had dominated Camano Island had moved inland, leaving waterfront locations ideal for the development of recreational resorts. Evidence of the logging history can be seen throughout the beach and upland portions of Cama Beach State Park. Archeological excavations conducted during the late 1990s and early 2000s, revealed that human exploitation of the site stretched back at least several millennia. Four federally recognized American Indian tribes have been associated with seasonal use of the site.

During 1933-34, Stradley employed local builders to build two rows of cabins along the shore as well as several outbuildings. Over the decades numerous other cabins and buildings were constructed. The Cama Beach Resort grew to be one of almost two dozen on Camano Island and by the late 1950s was counted among approximately one hundred and seventy-five on saltwater locations throughout Washington State. The abundance of recreational fishing opportunities made Cama Beach, as well as other boathouse resorts, a popular destination for families and social group retreats.

Stradley operated the resort at Cama Beach until his death in 1938. During the 1939 summer resort season, Stradley's daughter and son-in-law, Muriel and Lee Risk, took over operation. All accounts attribute the bulk of resort management to Muriel. Her administration of the resort continued until shortly before her death in 1990. Ownership of the resort passed to Muriel and Lee's daughters, Sandra and Karen, and their respective partners, Gary Worthington and Asko Hammelianen. In 1994, in an effort to preserve the resort and the resort experience for future generations the Worthingtons and Hammelianens began a phased sale of the Cama Beach Resort property to the Washington State Parks and Recreation Commission. After fourteen years of restoration, archaeological investigation, and planning the resort reopened in 2008 as Cama Beach State Park.

The Cama Beach Rental Fleet

In the winter of 1934 Bert and Eddie Johnson received the contract to build boats for the Cama Beach Resort fleet. Bert Johnson was born in Denmark in the 1860s and operated a boat shop on Camano Island near the community of Camano City, near present-day Onamac Point, several miles north of Cama Beach. It is unknown whether the father and son team built the Cama fleet at their shop or on-site at Cama. A note from the 1950s related to insurance appraisals listed the origins of the fleet at that time. The note lists thirty-five boats as "built by ourselves" in 1934. It is believed that this note refers to the boats built by Bert and Eddie Johnson for the resort. There were four types of boats making up this original fleet: two sizes of flat-bottom rowboats and two sizes of V-bottom-outboard powered skiffs. During the first several decades of operation, the Cama Fleet grew from thirty-five to forty-two boats. The additions to the fleet included boats purchased from other Camano Island resorts as well as four inboard motor launches. Of the forty-two boats comprising the fleet in 1955, forty-one boats remain and belong to the Washington State Parks and Recreation Commission.



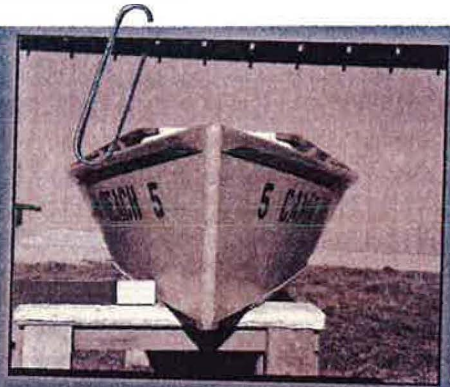
WA-198-2 Starboard view of Cama Beach No. 5



WA-198-4 Starboard stern quarter

ABOUT THE VESSEL

Cama Beach No. 5
Rig/Type of Craft: Rowing skiff
Trade: Recreation
Length (overall): 11' 6"
Beam: 4' 5"
Propulsion: Oars
Date: 1934



WA-198-6 Bow elevation of Cama Beach No. 5

Cama Beach No. 5

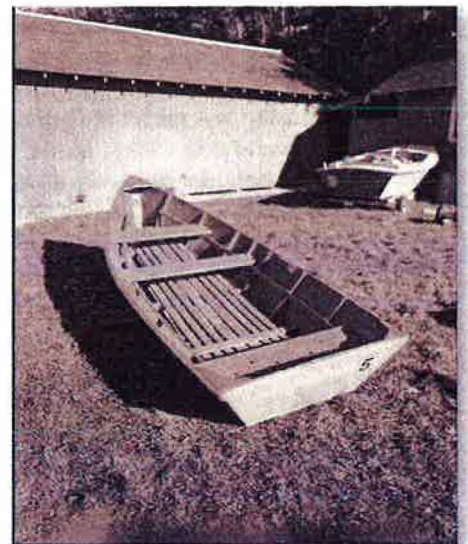
Cama Beach No. 5 is one of seven 12' flat bottom row boats built by Bert and Eddie Johnson for the Cama Beach Livery in 1934. It is not known when the current numbering system was implemented but the seven 12' flat bottom row boats were numbered between one and seven. Commonly called a "flat-iron" skiff due to their resemblance to the household appliance used for removing wrinkles from clothing, this type of boat was ubiquitous throughout the Pacific Northwest in the nineteenth and first half of the twentieth centuries. Cama Beach No. 5 and the others of the series share common features of Northwest built skiffs.

General Description

Cama Beach #5, as with the other boats of its size and type in the Cama Beach Resort fleet, is planked with 5/8" Western Red Cedar over six sets of sawn Douglas Fir frames. There are two planks on each side and three bottom planks. As opposed to other flatiron skiff types from the era and region, the planks are much closer in width. The lower topside plank is a maximum of 1'-0" wide and the sheer plank is just over 8". There is a fir outwale 3/4" thick and 2-1/2" wide fastened to the sheer.

The side frame tapers from 2-1/2" at the chine to 1" at the sheer. The side frame is lapped and fastened to the bottom frame with nails. There is one half-frame aft of the third frame. The purpose of the half-frame is to support the seat riser and the amidship seat. They are made of 1" cedar. The stern seat is two boards wide and arrayed with 12 holes to allow for water to drain to the bilge. The seat boards are held together with three battens on the underside of the seat assembly.

The raked stem is 4-1/2" at its widest and made of fir. The breast hook joins the stem and is 1" thick fir and was originally 15-1/2" wide at its aft edge - although historic wear or damage has reduced starboard corner. There is a 1-1/2" thick false stem of fir. The oarlocks are positioned between the fourth and fifth frame and are mounted to a trapezoidal-shaped fir oarlock block. The transom consists of two planks of red cedar, joined to the bottom planking and side



WA-198-5 Port stern quarter of Cama Beach No. 5

planking with edge nails, and quarter knees at the sheer. Like other flatiron skiff of this era and region, Cama Beach No. 5 does not possess a chine log. Cama Beach No. 5 and the others of its type in the Cama Beach Resort Fleet exhibit a large amount of rocker for rowboats intended for flat water use. In addition the boats do not possess skegs. One possible explanation of both of these features is for ease of beach launching. The bottom of Cama Beach No. 5 is planked in Western Red Cedar and also has a center rub strip of fir and two battens fastened to the seam between the center plank and the garboard planks.

Sources

Dennis Conroy and Marlys Jolley, *A Boater's Guide to the Historic Westside of Camano Island* (pamphlet, Seattle, Washington: The Center for Wooden Boats with the Stanwood Area Historical Society, 2001).

Gary Worthington, *Cama Beach: A Guide and a History: How a Unique State Park Was Created from a Family Fishing Resort and a Native American Camping Site* (Olympia, Washington: TimeBridges Publishers LLC, 2008).

CAMA BEACH No. 22

HAER No. WA-199



Location: Cama Beach State Park, 1880 SW Camano Drive, Camano Island, Island County, Washington.

Original Owner: Cama Beach Resort, owners L.R. Stradley, Lee and Muriel Risk.

Present Owner: Washington State Parks and Recreation Commission, Cama Beach State Park.

Disposition: Museum vessel

WA-199-2 Starboard bow quarter view of Cama No. 22

Significance

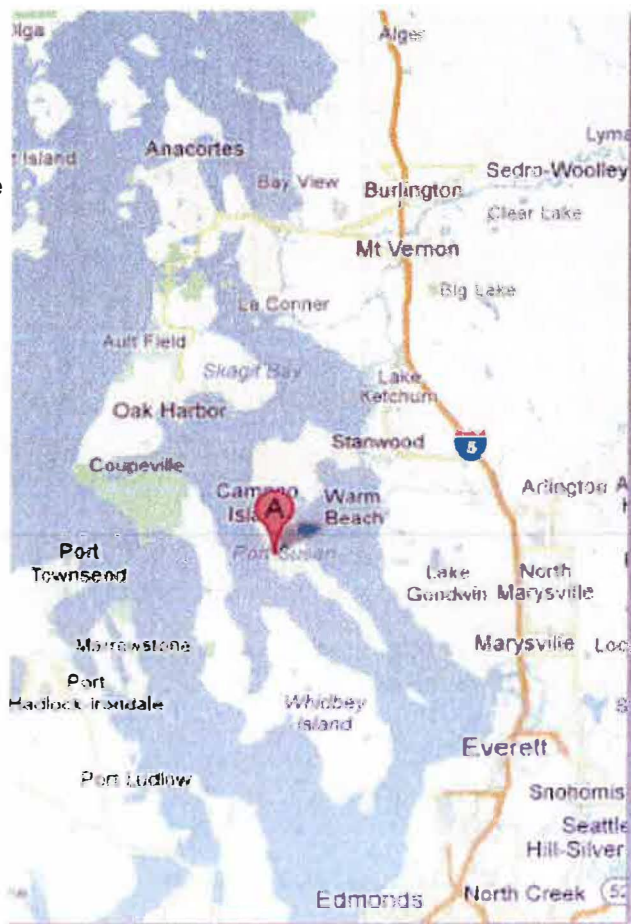
The 14' flatiron skiff, Cama Beach No. 22, is representative of the type included in the original fleet at the Cama Beach Resort. The simple rowboat was one of thirty-five small boats forming the nucleus of the Cama Beach Resort fleet. During the first half of the twentieth century nearly two hundred boating and fishing resorts lined the shores of Western Washington waterways. The Cama Beach Resort fleet is the last known complete collection of boats from this period from a single resort, built mostly by a single builder. Cama No. 22, though simple in form, is an excellent example of a boat type ubiquitous in the late nineteenth and early twentieth centuries.

Project Information

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Historians

Blandin, Bill. Dinzi-Pederson, Christina. Donovan, Crys. Stone, Jessica. Washburn, Andrew



CAMA BEACH NO. 22

Lines

SCALE: 1 1/2"=1'-0"

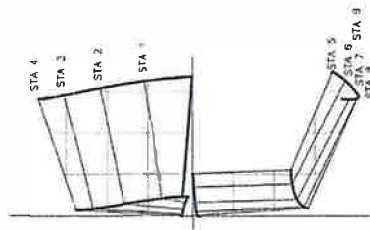
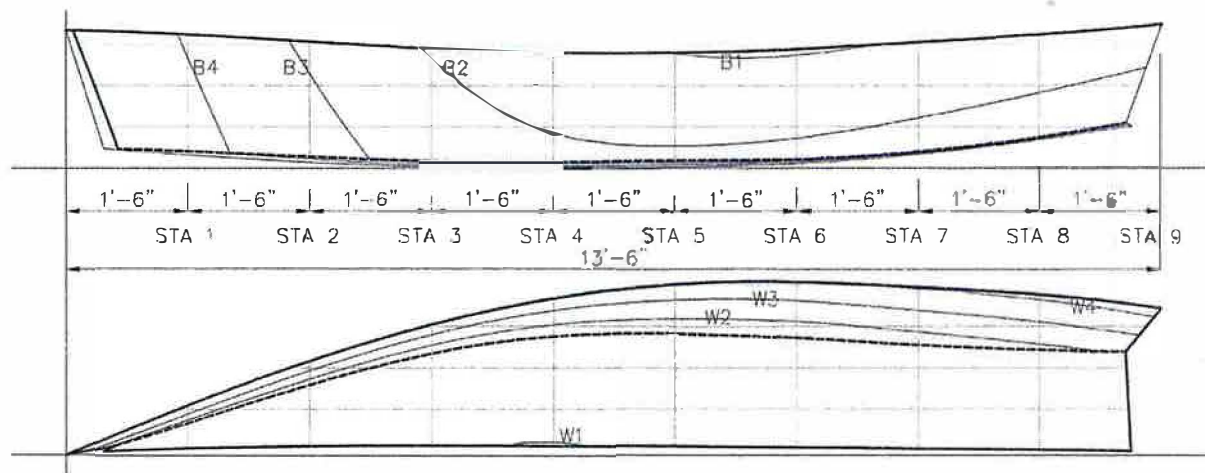


TABLE OF OFFSETS
CAMA BEACH NO. 22, MAP: CAMA 22
OFFSETS IN FEET OFFSETS ARE TO OUTSIDE OF SKIN
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STATIONS	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000
(B4) BATTERY 0-0-0	1-8-0	2-0-0	3-0-0	4-0-0	5-0-0	6-0-0	7-0-0	8-0-0	9-0-0
(B3) BATTERY 1-0-0	1-8-0	2-0-0	3-0-0	4-0-0	5-0-0	6-0-0	7-0-0	8-0-0	9-0-0
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(B1) BATTERY 3-0-0	1-8-0	2-0-0	3-0-0	4-0-0	5-0-0	6-0-0	7-0-0	8-0-0	9-0-0
CHINE	0-2-3	0-1-8	0-1-0	0-0-7	0-1-7	0-2-3	0-2-3	0-2-3	0-2-3
WATER	1-7-8	1-8-4	1-5-0	1-2-7	1-0-7	1-0-3	1-0-3	1-0-3	1-0-3
(W1) WATERLINE 0-0-0	0-4-4	0-3-3	0-2-2	0-1-2	0-0-7	0-0-3	0-0-3	0-0-3	0-0-3
(W2) WATERLINE 1-0-0	0-5-0	0-4-0	0-3-0	0-2-0	0-1-0	0-0-5	0-0-5	0-0-5	0-0-5
(W3) WATERLINE 2-0-0	0-6-0	0-5-0	0-4-0	0-3-0	0-2-0	0-1-0	0-1-0	0-1-0	0-1-0
CHINE	0-6-0	0-5-0	0-4-0	0-3-0	0-2-0	0-1-0	0-1-0	0-1-0	0-1-0
WATER	0-0-4	1-1-0	1-8-2	1-10-0	2-0-0	2-0-3	2-0-3	2-0-3	2-0-3



HISTORICAL CONTEXT

The Cama Beach Resort

Leroy Stradley, a hotel owner based in Seattle, began developing the site at Cama Beach for a resort in 1933. The site had most recently been used as a logging camp operated by the English Logging Company. The site was known as Camp 2. By the early nineteen thirties the logging industry that had dominated Camano Island had moved inland, leaving waterfront locations ideal for the development of recreational resorts. Evidence of the logging history is evident through the beach and upland portions of Cama Beach State Park. Archeological excavations conducted during the late nineteen-nineties and early two thousands, revealed that human exploitation of the site stretched back

at least several millennia. Four federally recognized American Indian tribes have been associated with seasonal use of the site. During 1933-1934, Stradley employed local builders to build two

rows of cabins along the shore as well as several outbuildings. Over the decades numerous other cabins and buildings were constructed. The Cama Beach Resort grew to be one of almost two dozen on Camano Island and by the late nineteen fifties, was counted among approximately one hundred and seventy-five on saltwater locations throughout Washington State. The abundance of recreational fishing opportunities made Cama Beach, as well as other boathouse resorts, a popular destination for families and social group retreats. Stradley operated the resort at Cama Beach until his death in 1938. During the 1939 Summer resort season, Stradley's daughter and son-in-law, Muriel and Lee Risk, took over operation. All accounts attribute the bulk of resort management to Muriel. Her administration of the resort continued until shortly before her death in 1991. Ownership of the resort passed to Muriel and Lee's daughters, Sandra and Karen and their respective partners, Gary Worthington and Asko Hammelianen. In 1994, in an effort to preserve the resort and the resort experience for future generations the Worthington and Hammelianen's began a phased sale of the Cama Beach Resort property to the Washington State Parks and Recreation Commission. After fourteen years of restoration, archeological investigation, and planning the resort reopened in 2008 as Cama Beach State Park.



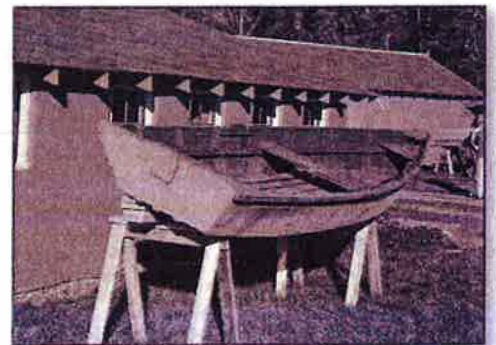
Cama Beach No. 20 (sister boat of WA-199) on display with mirror image student built replica before launch



Cama Beach No. 22 (WA-199) on display at CWB's Cama Beach Boathouse with student built replica below

The Cama Beach Rental Fleet

In the winter of 1934 Bert and Eddie Johnson received the contract to build boats for the Cama Beach Resort fleet. Bert Johnson was born in Denmark in the 1860's and operated a boatshop on Camano Island near the community of Camano City, near present day Onamac Point, several miles north of Cama Beach. It is unknown whether the father and son team built the Cama fleet at their shop or on site at Cama. A note from the 1950's, related to insurance appraisals, listed the origins of the fleet at that time. The note lists a number of boats as "built by ourselves" in 1934. It is believed that this note refers to the boats built by Bert and Eddie Johnson for the resort. There were four types of boats making up this original fleet: two sizes of flat bottom rowboats and two sizes of "V-bootmed" outboard powered skiffs. During the first several decades of operation the Cama Fleet grew from 35 to 42 boats. The additions to the fleet included boats purchased from other Camano Island resorts as well as four inboard motor powered launches. Of the 42 boats comprising the fleet in 1955, 41 boats remain and belong to the Washington State Parks.



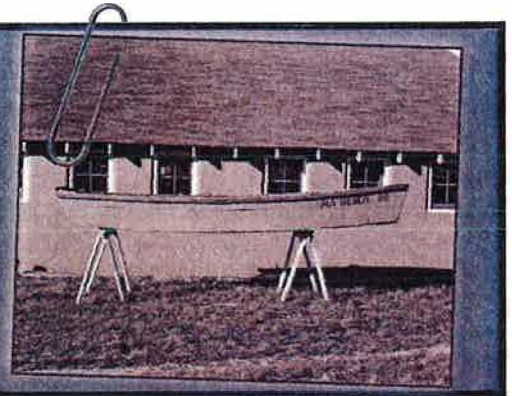
WA-199-4 Starboard stem quarter view of Cama Beach No. 22

ABOUT THE VESSEL

Cama Beach No. 22

Rig/Type of Craft: Flatiron skiff
Trade: Recreation
Length (overall): 13'-7"
Beam: 4'-4"
Propulsion: Oars, gasoline outboard motor
Date: 1934

WA-199-1 Starboard elevation of Cama Beach No. 22



Cama Beach No. 22

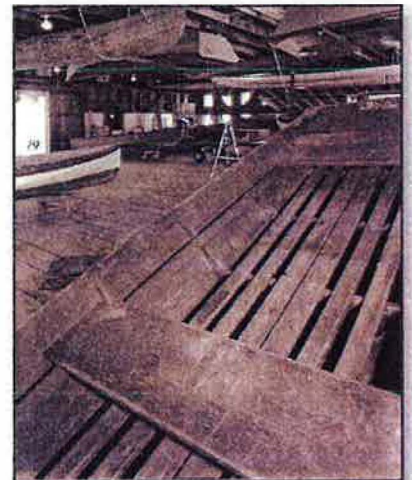
Cama Beach No. 22 is one of ten 14 foot flat bottom row boats built by Bert and Eddie Johnson for the Cama Beach Livery in 1933 and 1934. It is not known when the current numbering system was implemented but the ten 14 flat bottom row boats were numbered between 20-27 with some duplication. Hence the type has been dubbed the 20 Series. Commonly called a "flat-iron" skiff due to their resemblance to the household appliance used for removing wrinkles from clothing, this type of boat was ubiquitous throughout the Pacific Northwest in the nineteenth and first half of the twentieth centuries. Cama Beach No. 22 and the others of the series share common features of Northwest built "flat-iron" skiffs.

General Description

Cama Beach No. 22 is a carvel planked flatiron skiff constructed of Western Red Cedar planking on sawn half-lapped Douglas Fir frames. The transom, seats and floorboards are cedar and the quarter knees, breasthook, outwales, stern, false stem, bottom rub strips, oarlock blocks, and outer chine guards are fir. The boat is fastened with steel nails. The oarlock sockets consist of metal (likely steel) piping. A half-round steel guard wraps the lower half of the false stem and the first six inches of the middle bottom rub strip. The grey, red and green paint of the Cama Beach livery remains on much of the surfaces.

Like other Northwest flatiron skiffs, Cama Beach No. 22 is built using two 1-1/16" thick plank sides. The lower plank is 11-3/4" at its widest and the sheer plank is 5-1/2" at its widest. Cama Beach No. 22 has moderate rocker and a shallow sheer line rising at the bow. The transom has minimal rake to allow use of small outboard motors. The existence of a sheet metal plate on Cama No. 22 indicates that motors were sometimes fixed to these rowboats.

As with other Northwest flatiron skiffs, Cama Beach No. 22 has an apparent fish shaped bottom. The narrow beam forward gives way to the widest beam near amidships. The beam then narrows and flattens and remains nearly consistent for the aft three stations. The moderate rocker lends the appearance of the beam widening again at the stern to form a fish tail. Careful measurement of Cama Beach No. 22, Cama Beach No. 5, and two other skiffs from this time period built in Washington, all of which appear to possess the fish shape, reveal the optical illusion created by the rocker.



WA-199-6 Starboard interior of starboard stern quarter of Cama Beach No. 22

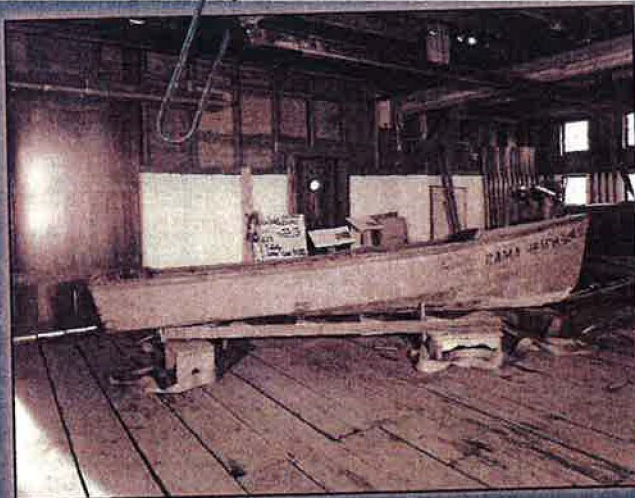
Sources

Dennis Conroy and Marlys Jolley, *A Boater's Guide to the Historic Westside of Camano Island* (pamphlet, Seattle, Washington: The Center for Wooden Boats with the Stanwood Area Historical Society, 2001).

Gary Worthington, *Cama Beach: A Guide and a History: How a Unique State Park Was Created from a Family Fishing Resort and a Native American Camping Site* (Olympia, Washington: TimeBridges Publishers LLC, 2008).

CAMA BEACH FLEET NO. 55

HAER NO. WA-200



Location:	Cama Beach State Park, 1880 SW Camano Drive, Camano Island, Island County, Washington.
Original Owner:	Cama Beach Resort, owners L.R. Stradley, Lee and Muriel Risk.
Present Owner:	Washington State Parks and Recreation Commission, Cama Beach State Park.
Disposition:	Museum vessel

WA-200-1 Starboard elevation of Cama Beach No. 55

Significance

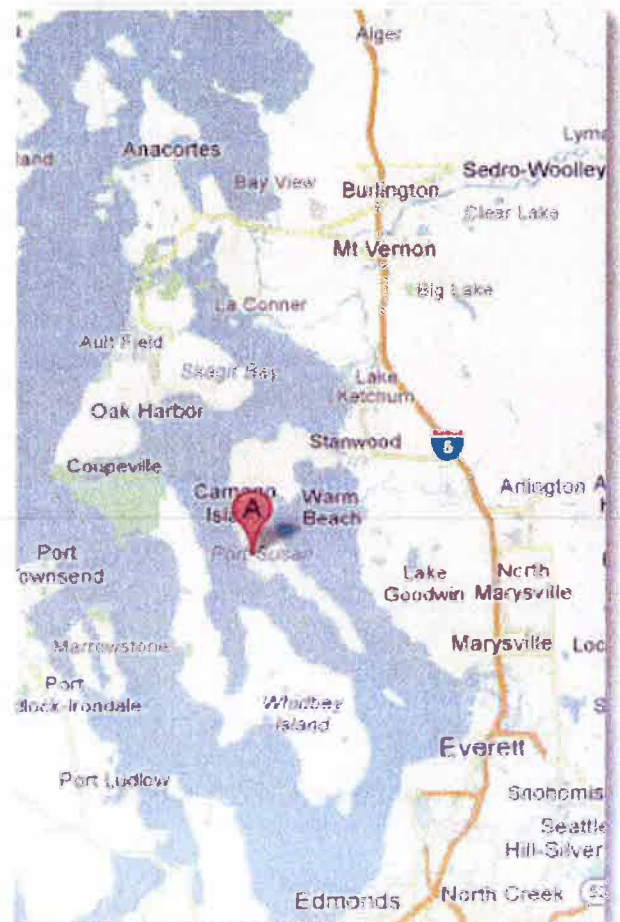
Cama Beach No. 55 is one of the remaining boats of the Cama Beach Resort Fleet, the largest intact original historic collection of Puget Sound recreational fishing boats of the boathouse era. During the first half of the twentieth century nearly two hundred boating and fishing resorts lined the shores of Western Washington waterways. The Cama Beach Resort fleet is the last known complete collection of boats from this period from a single resort, built mostly by a single builder. Cama Beach No. 55 is indicative of the design and construction methods of small boat builders during the period of increased popularity and use of outboard engines.

Project Information

Documentation of the Cama Beach Fleet was part of a project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during November of 2010 at Cama Beach State Park.

Historians

Bill Blandin, Stanwood Area Historical Society. Christina Dinzl-Pederson, Washing State Parks and Recreation staff. Crys Donovan, Washington State Parks and Recreation volunteer. Jessica Stone. Andrew Washburn, The Center for Wooden Boats, Cama Beach, Manager



Lines



HISTORICAL CONTEXT

The Cama Beach Rental Fleet

In the winter of 1934 Bert and Eddie Johnson received the contract to build boats for the Cama Beach Resort fleet. Bert Johnson was born in Denmark in the 1860s and operated a boat shop on Camano Island near the community of Camano City, near present -day Onamac Point, several miles north of Cama Beach. It is unknown whether the father and son team built the Cama fleet at their shop or on-site at Cama. A note from March, 1955, related to insurance appraisals, listed the origins of the fleet

at that time. The note lists thirty-five boats as "built by ourselves" in 1934. It is believed that this note refers to the boats built by Bert and Eddie Johnson for the resort. There were four types of boats making up this original fleet: two sizes of flat-bottom rowboats and two sizes of V-bottom outboard-powered skiffs. During the first several decades of operation, the Cama Fleet grew from thirty-five to forty-two boats. The additions to the fleet included boats purchased from other Camano Island resorts as well as four inboard motor launches. Of the forty-two boats comprising the fleet in 1955, forty-one boats remain and belong to the Washington State Parks and Recreation Commission.



Launching a Cama Beach 40/50 Series with marine railway ca. 1950. Cama Beach 20 Series type boats visible in the background. Courtesy of the Stanwood Area Historical Society



Cama Beach Resort goer displays large king salmon. Cama Beach 40/50 Series boats in the background. Courtesy of the Stanwood Area Historical Society

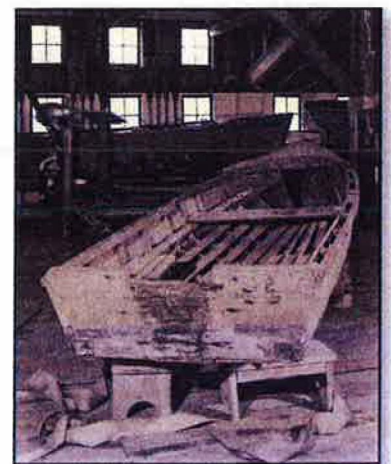
The Cama Beach "Kicker" Boats

At the Cama Beach Resort guests could rent either a motor boat or a rowboat. There were three options when renting a moto boat: an inboard launch, 14'-16' outboard- powered boats with a motor, or a boat without a motor included. The latter was a popular option not just at Cama Beach but at many Puget Sound boathouses. Visitors would bring their own motor and mount it onto the rented boats. These outboard -powered boats were commonly called "kicker" boats after the informal term for small portable outboards. On resort -era rental information signage, these small outboard powered craft are referred to as "V-type" after their hull shape at the bow. These boats rented for approximately \$5.00 a day in the early 1950s.



WA-200-7 Interior detail of Cama Beach No. 55

In 1955 there were twenty-four boats designated as "kicker" boats in the fleet at Cama Beach. Of these there were seventeen 14' outboard -powered boats and seven 16'. Three boats of the "kicker" boat fleet were purchased from another Camano Island resort, Camp Lagoon. These three were 16' long and built originally by the Reinell Boat Works of Marysville, Washington. The other twenty-one kicker boats were built by Bert and Eddie Johnson on Camano Island. Of the boats built by the Johnsons, there were two sizes: 14' and 16'. The construction of the two sizes is very different. In correspondence with the historical numbering system used by the resort, the 14' size is referred to as the No. 40/50 Series and the 16' size boats are referred to as the No. 60 Series.



WA-200-5 Stern quarter view of Cama Beach No. 55

ABOUT THE VESSEL

Cama Beach No. 55

Rig/Type of Craft:	Rowing skiff
Trade:	Recreation
Length (overall):	13'-9"
Beam:	4'-6"
Propulsion:	Gasoline outboard motor
Date:	1934

WA-200-8 Port bow quarter of Cama Beach No. 55



General Description

Cama Beach No. 55 design and hull shape is a familiar form from this era and application. Boat manufacturers and small builders in Washington State and elsewhere built similar V-type boats for use with low horsepower (under 15) outboard motors. The deep V angle of the sides at the bow transitioned to a nearly flat stern. The hard chine rested just above the waterline. This design provided a balance of comfort, stability, speed, and seaworthiness. The Cama No. 40/50 Series was such a common hull shape they were thought to have been manufactured at the Reinell Boat Works - one of the largest, small boat companies in Washington. Closer examination of the construction method and research at the local historical society combined to determine that the series of seventeen boats were constructed, not by Reinell, but by the father-and-son team of Bert and Eddie Johnson.

Cama Beach No. 55 is 13'-10" long with a maximum beam of 4'-6". The boat has a small deck at the bow, a seat amidship, and seats at either side at the transom. Cama No. 55 has six 5/8" carvel-joined western red cedar planks on each side over nine sets of Douglas Fir frames with a 1"-thick tapered keel plank of cedar. The stem is constructed of two pieces of Douglas fir 1-1/2" wide. Two strips of possibly oak comprise the false stem extending over the stem and joining the keel plank. The keel plank is a long tapering trapezoid, 1-3/4" wide where it meets the stem and 11-1/4" at the transom. Presumably the extra thickness provided protection from wear during beaching and loading on the resorts marine railway. The width at the transom also provides stability when beached or on a hard surface. There are four planks below the chine and two above. The fourth plank, at the chine, terminates at the eighth frame, 2'-6" forward of the stern. The plank below it widens to meet the chine. Naturally this presents a weak point and years of hard use and repairs are evident on Cama No. 55 and others of its type remaining in the historic fleet.

There are several different types of frame construction techniques used. The first frame (closest to the bow) consists of two roughly triangular-shaped 3/4" fir pieces overlapping where the frame meets the keel. These are joined at the top of the frames, just below the deck, by a 3/4" fir deck frame. The frame assembly is fastened with copper nails. The second frame shares similar construction with next five frames. Side frames half-lap at the chine; bottom frames butt at the keel. A trapezoidal fir gusset joins the two frame sides. At frame eight a still-different method of framing is used. The bottom frames overlap rather than butt. The bottom of the ninth frame is one piece, running straight along the planking 15" from the transom.

The transom is constructed of 1-1/16" western red cedar. There is a 2-1/2" cutaway 1'-3" long to accommodate an outboard motor. Deterioration and rust coloration suggest that a metal plate once protected this area from motor mounts. On either side of the cutaway, two separate slabs of Douglas fir are bolted to further reinforce the transom. Inboard of these slabs the transom is secured to the bottom planking by two knees 11" tall x 9-1/4" x 1-7/8" made of Douglas fir. Two small quarter knees join the transom to the sheer strake, inwale, and outwale.

The stern seats are mounted on either side and consist of four planks. There are eight floorboards. The coaming is steam bent oak 1/2" thick and 4-1/2" wide. The coaming joins the outwales and deck just aft of the second frame assembly. In the two curved, roughly triangular spaces created by the coaming and deck frame, there are two irregular pieces of Douglas fir of unknown purpose. The deck is comprised of six planks of cedar running diagonally from the center line. There is the sawed off square, a towing bit (identified from historic photographs) visible forward of the coaming.

Sources

Dennis Conroy and Marlys Jolley, *A Boater's Guide to the Historic Westside of Camano Island* (pamphlet, Seattle, Washington: The Center for Wooden Boats with the Stanwood Area Historical Society, 2001).

Gary Worthington, *Cama Beach: A Guide and a History: How a Unique State Park Was Created from a Family Fishing Resort and a Native American Camping Site* (Olympia, Washington: Time Bridges Publishers LLC, 2008).

EDDON GIG

HAER No. WA-197



Location: Gig Harbor Boatshop, 3805 Harborview Drive, Gig Harbor, Pierce County, Washington

Designer: Ed Hoppen

Original Owner: Unknown

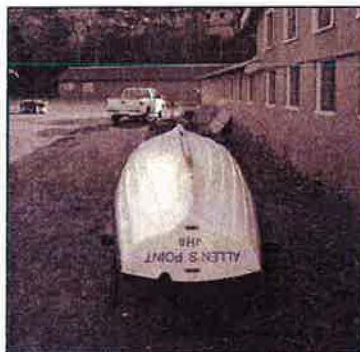
Present Owner: Gig Harbor Boatshop

Disposition: Museum vessel

WA-197-1 Port elevation of Eddon Gig



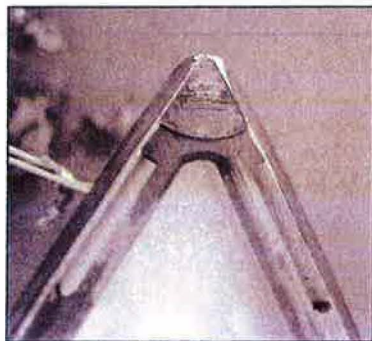
WA-197-2 Port interior view of Eddon



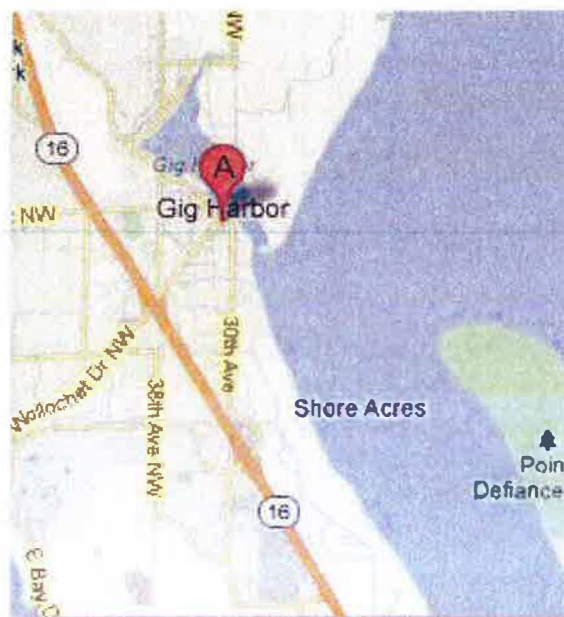
WA-197-4 Starboard inverted

Significance

The Eddon Gig is part of a family of successful and ubiquitous small craft designed and built at the Eddon Boatyard, designed to traditional lines with modern materials and construction techniques. This combination illustrates a unique period in Northwest small boat manufacturing history.



WA-197-7 Detail of builder's plaque at bow of Eddon Gig



Eddon Gig No. 76

Lines

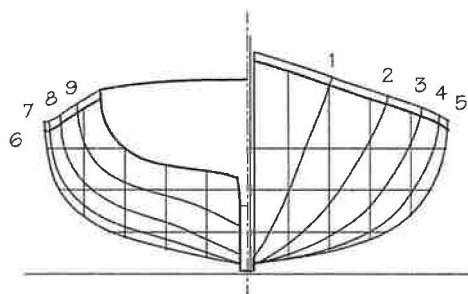
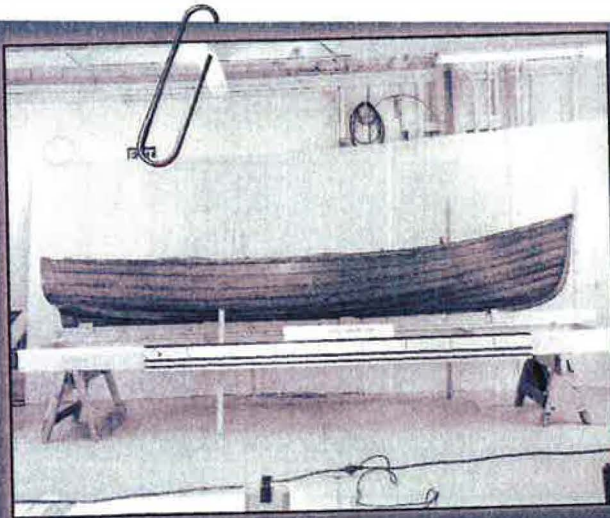


TABLE OF OFFSETS
OFFSETS IN FEET-INCHES-EIGHTHS OFFSETS ARE TO OUTSIDE OF SKIN

STATIONS	0 000	1 000	2 000	3 000	4 000	5 000	6 000	7 000	8 000	9 000	10 000
BUTTOCK 0-0-0	0-0-0	1-0-0	2-0-0	3-0-0	4-0-0	5-0-0	6-0-0	7-0-0	8-0-0	9-0-0	10-0-0
BUTTOCK 1-0-0		0-4-0	0-8-0	0-12-0	0-16-0	0-20-0	0-24-0	0-28-0	0-32-0	0-36-0	0-40-0
BUTTOCK 2-0-0		0-8-0	0-16-0	0-24-0	0-32-0	0-40-0	0-48-0	0-56-0	0-64-0	0-72-0	0-80-0
BUTTOCK 3-0-0		0-12-0	0-24-0	0-36-0	0-48-0	0-60-0	0-72-0	0-84-0	0-96-0	1-08-0	1-20-0
BUTTOCK 4-0-0		0-16-0	0-32-0	0-48-0	0-64-0	0-80-0	0-96-0	1-12-0	1-28-0	1-44-0	1-60-0
BUTTOCK 5-0-0		0-20-0	0-40-0	0-60-0	0-80-0	1-00-0	1-20-0	1-40-0	1-60-0	1-80-0	2-00-0
BUTTOCK 6-0-0		0-24-0	0-48-0	0-72-0	0-96-0	1-20-0	1-44-0	1-68-0	1-92-0	2-16-0	2-40-0
BUTTOCK 7-0-0		0-28-0	0-56-0	0-84-0	1-12-0	1-40-0	1-68-0	1-96-0	2-24-0	2-52-0	2-80-0
BUTTOCK 8-0-0		0-32-0	0-64-0	0-96-0	1-28-0	1-60-0	1-92-0	2-24-0	2-56-0	2-88-0	3-20-0
BUTTOCK 9-0-0		0-36-0	0-72-0	1-08-0	1-44-0	1-80-0	2-16-0	2-52-0	2-88-0	3-24-0	3-60-0
BUTTOCK 10-0-0		0-40-0	0-80-0	1-20-0	1-60-0	2-00-0	2-40-0	2-80-0	3-20-0	3-60-0	4-00-0
BUTTOCK 11-0-0		0-44-0	0-88-0	1-32-0	1-76-0	2-20-0	2-64-0	3-08-0	3-52-0	3-96-0	4-40-0
BUTTOCK 12-0-0		0-48-0	0-96-0	1-44-0	1-92-0	2-40-0	2-88-0	3-36-0	3-84-0	4-32-0	4-80-0
BUTTOCK 13-0-0		0-52-0	1-04-0	1-56-0	2-08-0	2-56-0	3-04-0	3-52-0	4-00-0	4-48-0	4-96-0
BUTTOCK 14-0-0		0-56-0	1-12-0	1-68-0	2-24-0	2-72-0	3-20-0	3-68-0	4-16-0	4-64-0	5-12-0
BUTTOCK 15-0-0		0-60-0	1-20-0	1-80-0	2-40-0	2-88-0	3-36-0	3-84-0	4-32-0	4-80-0	5-28-0
BUTTOCK 16-0-0		0-64-0	1-28-0	1-92-0	2-56-0	3-04-0	3-52-0	4-00-0	4-48-0	4-96-0	5-44-0
BUTTOCK 17-0-0		0-68-0	1-36-0	2-00-0	2-64-0	3-12-0	3-60-0	4-08-0	4-56-0	5-04-0	5-52-0
BUTTOCK 18-0-0		0-72-0	1-44-0	2-08-0	2-72-0	3-20-0	3-68-0	4-16-0	4-64-0	5-12-0	5-60-0
BUTTOCK 19-0-0		0-76-0	1-52-0	2-16-0	2-80-0	3-28-0	3-76-0	4-24-0	4-72-0	5-20-0	5-68-0
BUTTOCK 20-0-0		0-80-0	1-60-0	2-24-0	2-88-0	3-36-0	3-84-0	4-32-0	4-80-0	5-28-0	5-76-0
BUTTOCK 21-0-0		0-84-0	1-68-0	2-32-0	2-96-0	3-44-0	3-92-0	4-40-0	4-88-0	5-36-0	5-84-0
BUTTOCK 22-0-0		0-88-0	1-76-0	2-40-0	3-04-0	3-52-0	4-00-0	4-48-0	4-96-0	5-44-0	5-92-0
BUTTOCK 23-0-0		0-92-0	1-84-0	2-48-0	3-12-0	3-60-0	4-08-0	4-56-0	5-04-0	5-52-0	6-00-0
BUTTOCK 24-0-0		0-96-0	1-92-0	2-56-0	3-20-0	3-68-0	4-16-0	4-64-0	5-12-0	5-60-0	6-08-0
BUTTOCK 25-0-0		1-00-0	2-00-0	2-64-0	3-28-0	3-76-0	4-24-0	4-72-0	5-20-0	5-68-0	6-16-0
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BUTTOCK 27-0-0		1-08-0	2-16-0	2-80-0	3-44-0	3-92-0	4-40-0	4-88-0	5-36-0	5-84-0	6-32-0
BUTTOCK 28-0-0		1-12-0	2-24-0	2-88-0	3-52-0	4-00-0	4-48-0	4-96-0	5-44-0	5-92-0	6-40-0
BUTTOCK 29-0-0		1-16-0	2-32-0	2-96-0	3-60-0	4-08-0	4-56-0	5-04-0	5-52-0	6-00-0	6-48-0
BUTTOCK 30-0-0		1-20-0	2-40-0	3-04-0	3-68-0	4-16-0	4-64-0	5-12-0	5-60-0	6-08-0	6-56-0
BUTTOCK 31-0-0		1-24-0	2-48-0	3-12-0	3-76-0	4-24-0	4-72-0	5-20-0	5-68-0	6-16-0	6-64-0
BUTTOCK 32-0-0		1-28-0	2-56-0	3-20-0	3-84-0	4-32-0	4-80-0	5-28-0	5-76-0	6-24-0	6-72-0
BUTTOCK 33-0-0		1-32-0	2-64-0	3-28-0	3-92-0	4-40-0	4-88-0	5-36-0	5-84-0	6-32-0	6-80-0
BUTTOCK 34-0-0		1-36-0	2-72-0	3-36-0	4-00-0	4-48-0	4-96-0	5-44-0	5-92-0	6-40-0	6-88-0
BUTTOCK 35-0-0		1-40-0	2-80-0	3-44-0	4-08-0	4-56-0	5-04-0	5-52-0	6-00-0	6-48-0	6-96-0
BUTTOCK 36-0-0		1-44-0	2-88-0	3-52-0	4-16-0	4-64-0	5-12-0	5-60-0	6-08-0	6-56-0	7-04-0
BUTTOCK 37-0-0		1-48-0	2-96-0	3-60-0	4-24-0	4-72-0	5-20-0	5-68-0	6-16-0	6-64-0	7-12-0
BUTTOCK 38-0-0		1-52-0	3-04-0	3-68-0	4-32-0	4-80-0	5-28-0	5-76-0	6-24-0	6-72-0	7-20-0
BUTTOCK 39-0-0		1-56-0	3-12-0	3-76-0	4-40-0	4-88-0	5-36-0	5-84-0	6-32-0	6-80-0	7-28-0
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BUTTOCK 45-0-0		1-80-0	3-60-0	4-24-0	4-88-0	5-36-0	5-84-0	6-32-0	6-80-0	7-28-0	7-76-0
BUTTOCK 46-0-0		1-84-0	3-68-0	4-32-0	4-96-0	5-44-0	5-92-0	6-40-0	6-88-0	7-36-0	7-84-0
BUTTOCK 47-0-0		1-88-0	3-76-0	4-40-0	5-04-0	5-52-0	6-00-0	6-48-0	6-96-0	7-44-0	7-92-0
BUTTOCK 48-0-0		1-92-0	3-84-0	4-48-0	5-12-0	5-60-0	6-08-0	6-56-0	7-04-0	7-52-0	8-00-0
BUTTOCK 49-0-0		1-96-0	3-92-0	4-56-0	5-20-0	5-68-0	6-16-0	6-64-0	7-12-0	7-60-0	8-08-0
BUTTOCK 50-0-0		2-00-0	4-00-0	4-64-0	5-28-0	5-76-0	6-24-0	6-72-0	7-20-0	7-68-0	8-16-0
BUTTOCK 51-0-0		2-04-0	4-08-0	4-72-0	5-36-0	5-84-0	6-32-0	6-80-0	7-28-0	7-76-0	8-24-0
BUTTOCK 52-0-0		2-08-0	4-16-0	4-80-0	5-44-0	5-92-0	6-40-0	6-88-0	7-36-0	7-84-0	8-32-0
BUTTOCK 53-0-0		2-12-0	4-24-0	4-88-0	5-52-0	6-00-0	6-48-0	6-96-0	7-44-0	7-92-0	8-40-0
BUTTOCK 54-0-0		2-16-0	4-32-0	4-96-0	5-60-0	6-08-0	6-56-0	7-04-0	7-52-0	8-00-0	8-48-0
BUTTOCK 55-0-0		2-20-0	4-40-0	5-04-0	5-68-0	6-16-0	6-64-0	7-12-0	7-60-0	8-08-0	8-56-0
BUTTOCK 56-0-0		2-24-0	4-48-0	5-12-0	5-76-0	6-24-0	6-72-0	7-20-0	7-68-0	8-16-0	8-64-0
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BUTTOCK 58-0-0		2-32-0	4-64-0	5-28-0	5-92-0	6-40-0	6-88-0	7-36-0	7-84-0	8-32-0	8-80-0
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BUTTOCK 60-0-0		2-40-0	4-80-0	5-44-0	6-08-0	6-56-0	7-04-0	7-52-0	8-00-0	8-48-0	8-96-0
BUTTOCK 61-0-0		2-44-0	4-88-0	5-52-0	6-16-0	6-64-0	7-12-0	7-60-0	8-08-0	8-56-0	9-04-0
BUTTOCK 62-0-0		2-48-0	4-96-0	5-60-0	6-24-0	6-72-0	7-20-0	7-68-0	8-16-0	8-64-0	9-12-0
BUTTOCK 63-0-0		2-52-0	5-04-0	5-68-0	6-32-0	6-80-0	7-28-0	7-76-0	8-24-0	8-72-0	9-20-0
BUTTOCK 64-0-0		2-56-0	5-12-0	5-76-0	6-40-0	6-88-0	7-36-0	7-84-0	8-32-0	8-80-0	9-28-0
BUTTOCK 65-0-0		2-60-0	5-20-0	5-84-0	6-48-0	6-96-0	7-44-0	7-92-0	8-40-0	8-88-0	9-36-0
BUTTOCK 66-0-0		2-64-0	5-28-0	5-92-0	6-56-0	7-04-0	7-52-0	8-00-0	8-48-0	8-96-0	9-44-0
BUTTOCK 67-0-0		2-68-0	5-36-0	6-00-0	6-64-0	7-12-0	7-60-0	8-08-0	8-56-0	9-04-0	9-52-0
BUTTOCK 68-0-0		2-72-0	5-44-0	6-08-0	6-72-0	7-20-0	7-68-0	8-16-0	8-64-0	9-12-0	9-60-0
BUTTOCK 69-0-0		2-76-0	5-52-0	6-16-0	6-80-0	7-28-0	7-76-0	8-24-0	8-72-0	9-20-0	9-68-0
BUTTOCK 70-0-0		2-80-0	5-60-0	6-24-0	6-88-0	7-36-0	7-84-0	8-32-0	8-80-0	9-28-0	9-76-0
BUTTOCK 71-0-0		2-84-0	5-68-0	6-32-0	6-96-0	7-44-0	7-92-0	8-40-0	8-88-0	9-36-0	9-84-0
BUTTOCK 72-0-0		2-88-0	5-76-0	6-40-0	7-04-0	7-52-0	8-00-0	8-48-0	8-96-0	9-44-0	9-92-0
BUTTOCK 73-0-0		2-92-0	5-84-0	6-48-0	7-12-0	7-60-0	8-08-0	8-56-0	9-04-0	9-52-0	10-00-0
BUTTOCK 74-0-0		2-96-0	5-92-0	6-56-0	7-20-0	7-68-0	8-16-0	8-64-0	9-12-0	9-60-0	10-08-0
BUTTOCK 75-0-0		3-00-0	6-00-0	6-64-0	7-28-0	7-76-0	8-24-0	8-72-0	9-20-0	9-68-0	10-16-0
BUTTOCK 76-0-0		3-04-0	6-08-0	6-72-0	7-36-0	7-84-0	8-32-0	8-80-0	9-28-0	9-76-0	10-24-0
BUTTOCK 77-0-0		3-08-0	6-16-0	6-80-0	7-44-0	7-92-0	8-40-0	8-88-0	9-36-0	9-84-0	10-32-0
BUTTOCK 78-0-0		3-12-0	6-24-0	6-88-0	7-52-0	8-00-0	8-48-0	8-96-0	9-44-0	9-92-0	10-40-0
BUTTOCK 79-0-0		3-16-0	6-32-0	6-96-0	7-60-0	8-08-0	8-56-0	9-04-0	9-52-0	10-00-0	10-48-0
BUTTOCK 80-0-0		3-20-0	6-40-0	7-04-0	7-68-0	8-16-0	8-64-0	9-12-0	9-60-0	10-08-0	10-56-0
BUTTOCK 81-0-0		3-24-0	6-48-0	7-12-0	7-76-0	8-24-0	8-72-0	9-20-0	9-68-0	10-16-0	10-64-0
BUTTOCK 82-0-0		3-28-0	6-56-0	7-20-0	7-84-0	8-32-0	8-80-0	9-28-0	9-76-0	10-24-0	10-72-0
BUTTOCK 83-0-0		3-32-0	6-64-0	7-28-0	7-92-0	8-40-0	8-88-0	9-36-0	9-84-0	10-32-0	10-80-0
BUTTOCK 84-0-0		3-36-0	6-72-0	7-36-0	8-00-0	8-48-0	8-96-0	9-44-0	9-92-0	10-40-0	10-88-0
BUTTOCK 85-0-0		3-40-0	6-80-0	7-44-0	8-08-0	8-56-0	9-04-0	9-52-0	10-00-0	10-48-0	10-96-0
BUTTOCK 86-0-0		3-44-0	6-88-0	7-52-0	8-16-0	8-64-0	9-12-0	9-60-0	10-08-0	10-56-0	11-04-0
BUTTOCK 87-0-0		3-48-0	6-96-0	7-60-0	8-24-0	8-72-0	9-20-0	9-68-0	10-16-0	10-64-0	11-12-0
BUTTOCK 88-0-0		3-52-0	7-04-0	7-68-0	8-32-0	8-80-0	9-28-0	9-76-0			

GRANDY SKIFF

HAER NO. WA-205



Location: Northwest School of Wooden Boatbuilding,
42 N. Water Street, Port Hadlock, Jefferson
County, Washington.

**Earliest
Known
Owner:** Robert Prothero Sr.

Disposition: Inactive

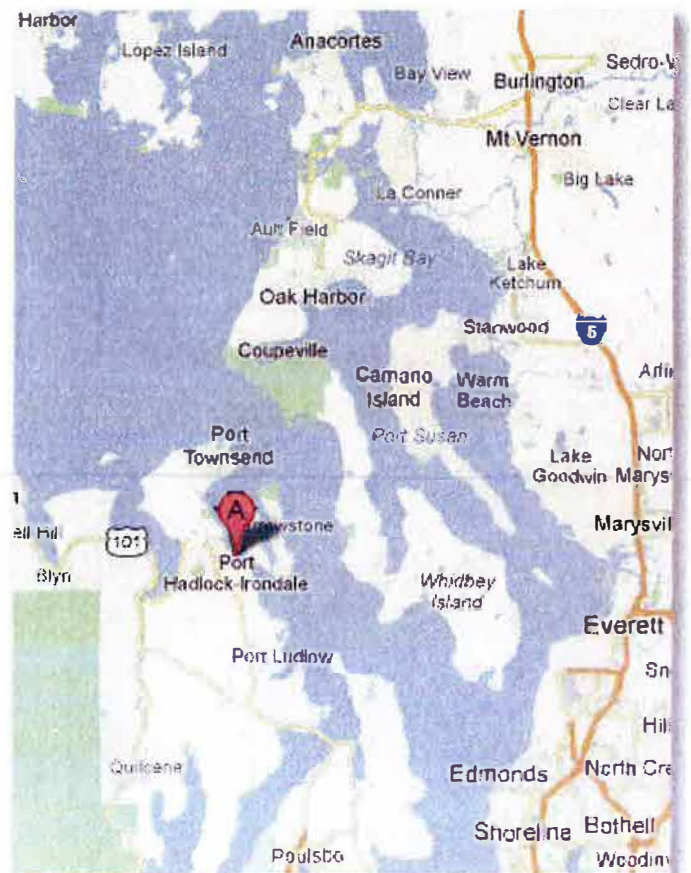
WA-205-1 Starboard elevation of Grandy skiff

Significance

Finest known example of traditional lapstrake skiffs built by the Grandy Boat Company of Seattle, Washington.

Project Information

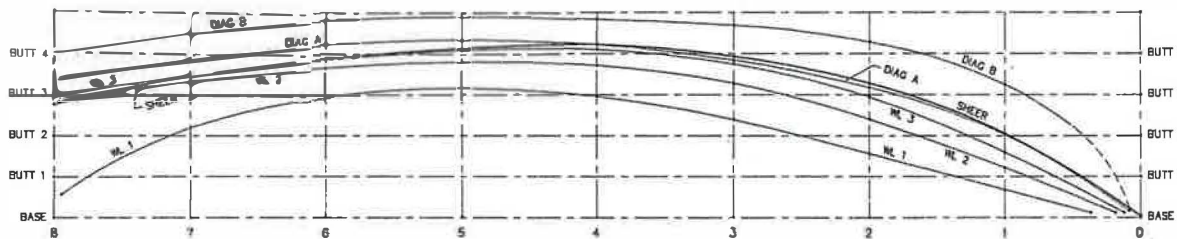
Funding for this project and instruction in documentation methods was provided by the Center for Wooden Boats in Seattle, Washington. Manual measurements were taken by the author with assistance from students at the school. Electronic measurements were taken by NTI Engineering and Surveying of Port Angeles, Washington. Photographs were taken by Jason Bledsoe, an alumnus of the Northwest School of Wooden Boatbuilding.



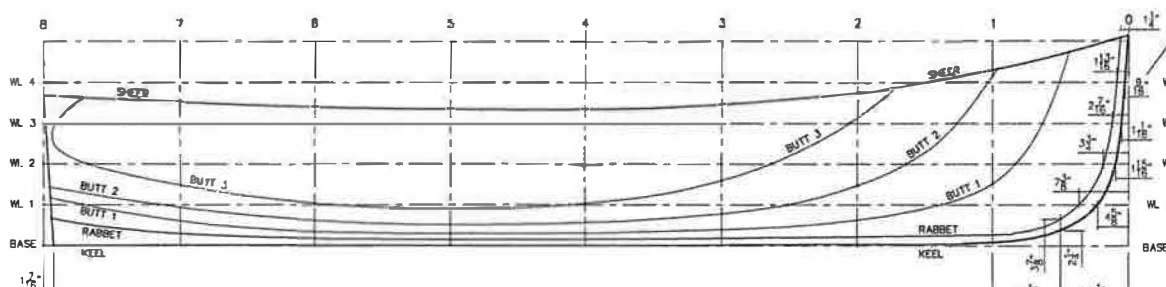
13'-6" GRANDY SKIFF TABLE OF OFFSETS

1. LINES ARE TO OUTSIDE OF PLANKING (SEE DETAIL A)
2. OFFSETS GIVEN IN FEET-INCHES-EIGHTHS
3. STATION SPACING = 20 1/4"

	TRANSOM	STATION 7	STATION 6	STATION 5	STATION 4	STATION 3	STATION 2	STATION 1	STEM
HT ABOVE BASE	SHEER	1-10-7+	1-9-1+	1-8-4	1-8-1	1-8-0	1-10-4	2-1-7	2-6-7
	BUTTOCK 1	0-7-0	0-3-4+	0-2-1	0-1-8+	0-1-7	0-2-3+	0-3-8	0-9-1+
	BUTTOCK 2	0-8-4+	0-5-5	0-3-5	0-2-7+	0-3-2+	0-4-5+	0-8-5+	2-1-0
	BUTTOCK 3	-	0-8-7	0-6-2	0-5-2	0-6-0	0-9-5	1-6-6+	-
	BUTTOCK 4	-	-	-	1-4-2	1-4-5	-	-	-
HALF BREADTHS	RABBIT	0-4-0	0-1-8	0-1-0+	0-1-0	0-0-7+	0-1-1	0-1-2+	0-1-5
	KEEL	0	0	0	0	0	0-0-1	0-0-2	0-0-4
	SHEER	1-4-5	1-8-6+	1-11-1+	2-0-6+	2-1-2	1-11-4	1-7-5	1-0-2+
	WATERLINE 4	-	-	-	-	-	-	0-11-5+	0-0-2
	WATERLINE 3	1-5-5+	1-8-7	1-11-0	2-0-3	2-0-5	1-10-3+	1-5-5	0-9-4+
HALF BREADTHS	WATERLINE 2	1-5-0	1-8-0	1-8-7+	1-10-5	1-10-2	1-7-5	1-2-3+	0-7-2
	WATERLINE 1	0-3-3	1-1-0	1-5-5	1-7-0	1-6-0	1-2-2	0-9-2+	0-6-1
	RABBIT	0-0-6	0-0-6	0-0-6	0-0-6	0-0-6	0-0-6	0-0-6	0-0-6
	KEEL	-	-	-	-	-	-	-	-
	DIAGONAL A	1-8-2+	1-11-1+	2-1-2	2-2-0+	2-1-3+	1-11-0	1-7-0	1-0-1
HALF BREADTHS	DIAGONAL B	2-0-0	2-3-0	2-4-6	2-5-3	2-5-0+	2-4-0+	2-1-3	1-7-4



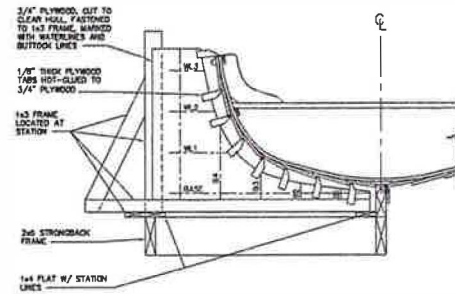
PLAN VIEW
1 1/2" = 0'



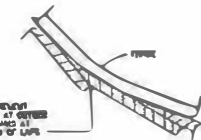
PROFILE VIEW
1 1/2" = 0'

13'-6" GRANDY SKIFF

Lines



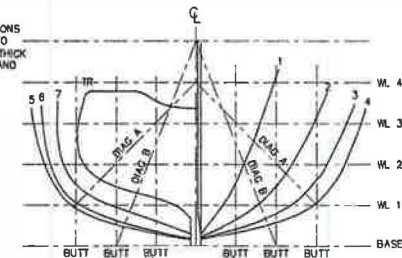
DETAIL B: MEASUREMENT JIG
1 1/2" = 0'



DETAIL A
FULL SCALE

GENERAL NOTES ON DEVELOPMENT OF LINES

1. MEASUREMENTS OF THE HULL WERE TAKEN MANUALLY AT EACH STATION USING A WOOD JIG SET UP AS SHOWN IN DETAIL B. THESE WERE TRANSFERRED DIRECTLY TO A SHEET OF PLYWOOD AND DRAWN AS A SET OF BODY PLAN LINES. THE TABLE OF OFFSETS WAS THEN DEVELOPED BY MEASURING EACH POINT DIRECTLY FROM THIS FULL SIZE DRAWING.
2. MEASUREMENTS WERE THEN PLOTTED AND FAIRED MANUALLY, WITH A SMALL WOOD BATTEN, IN THE PROFILE AND PLAN VIEWS AT A SCALE OF 3"=1'-0". ONLY THREE POINTS WERE ADJUSTED IN THE TABLE OF OFFSETS AFTER THE LINES WERE FAIRED.
3. THE DRAWING WAS THEN SCANNED TO CREATE AN ELECTRONIC RASTER FILE (PDF). A SMALL AMOUNT OF DISTORTION WAS FOUND IN THIS ELECTRONIC FILE, SUCH AS STRAIGHT LINES ON THE DRAWING BEING SLIGHTLY CURVED IN THE PDF FILE.
4. THE PDF FILE WAS ATTACHED TO AN AUTOCAD FILE AND THE LINES WERE TRACED TO CREATE A VECTOR VERSION OF THE PDF LINES (SPLINES). IT WAS OBSERVED THAT THE SPLINE LINES DID NOT EXACTLY MATCH THE PDF LINES WHEN DRAWN THROUGH THE OFFSETS, I.E., THE SPLINE PROPERTIES DO NOT EXACTLY MATCH THE BENDING PROPERTIES OF A WOOD BATTEN. ADDITIONAL POINTS WERE ADDED FOR THE SPLINES TO MORE CLOSELY MATCH THE PDF LINES.



BODY PLAN
1 1/2" = 0'

HISTORICAL CONTEXT

Grandy Boat Company

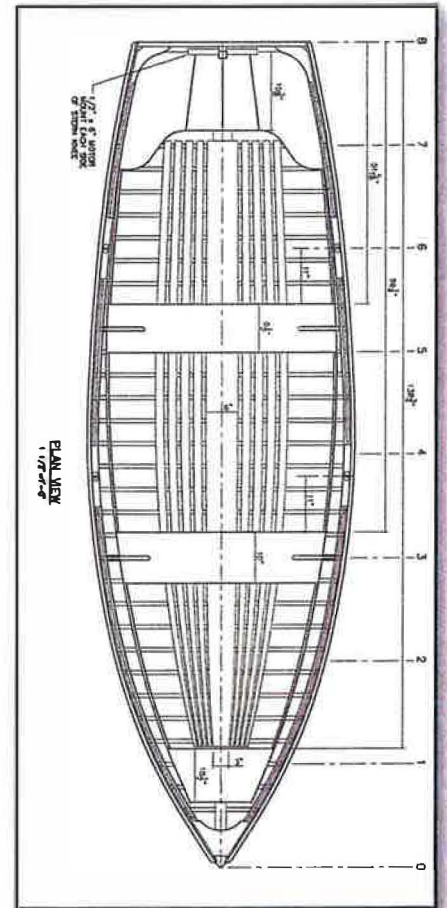
The Grandy Boat Company was one of several boat shops on the shores of Lake Union in the heart of Seattle, Washington, during the first half of the 1900s. Bill and Earl Grandy, sons of boatbuilder Lou Grandy, grew up in the Puget Sound area. After graduating from high school they joined the Navy during World War I. After the war they worked for a variety of Seattle boat yards before finally opening Grandy Boat Company around 1920, settling into their permanent location at 2538 Westlake Avenue North in 1922. Over the years the company prospered, building thousands of boats, from skiffs for the local Parks Department to cruisers and commercial fishing vessels. During World War II the crew expanded to seventy-five men, building offshore patrol boats, launches, and tugs. The recreational market boomed after the war and into the 1960s, although by that time modern composite materials were beginning to compete with traditional wooden construction. In 1967 the business closed when a fire burned the shop to the ground. The marine railway is all that remains, but it has been restored and is still in commercial use.

Physical History

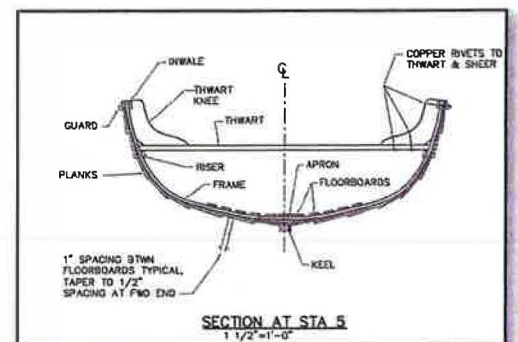
The 13'-6" skiff was built by the Grandy Boat Company, and the earliest known owner is Robert (Bob) Prothero Sr. Bob was a boatbuilder and owner of Prothero Boat Company in Seattle in the first half of the 1900s. In the early 1940s, Bob Sr. gave this skiff to his son, Bob Jr., who was 11 years old at the time. Bob Jr. told of how he used the skiff to go spearfishing in Shilshole Bay, skipping school to do so. His cousin, William Prothero, told of fishing from the skiff in Alaska, on one occasion fighting for a full hour to bring up a red snapper. On another occasion the skiff was loaded down to the sheer strake with gear and supplies for three adults and a 5-horsepower Johnson outboard motor for a week-long camping trip through the San Juan Islands north of Puget Sound. While the prudence of loading the boat so heavily and traversing those waters may be questionable, the success of that voyage is a testament to both the maritime skills of the participants and the robustness of the skiff's construction.

Bob Jr. had the skiff until his uncle, Frank Prothero, also a boatbuilder, "borrowed" it in the mid-1950s to be the dinghy for his 65' schooner Alcione, which he built and which was launched in 1956. While the skiff was in his possession Frank took patterns off it and built several more on his own. Those patterns are currently in the possession of his son, William Prothero. The skiff was returned to Bob Jr. after Frank sold Alcione in 1966. Thereafter, the skiff resided primarily in storage in Bob Jr.'s basement in Seattle but was well maintained and appears to be completely original and very well preserved.

Bob Jr., who had followed his family's tradition of boatbuilding, donated the skiff to the Northwest School of Wooden Boatbuilding in 2005. While talking about the skiff and his adventures to Tim Lee, Chief Instructor at the school, he noticed the Grandy nameplate was missing from the breasthook. He immediately retrieved it and tacked it into place. While watching this, his wife turned to Tim, took hold of his arm and said, "That's his last act as a boatbuilder." Bob Jr. died in November, 2005, at age 75.



Plan view not to scale.

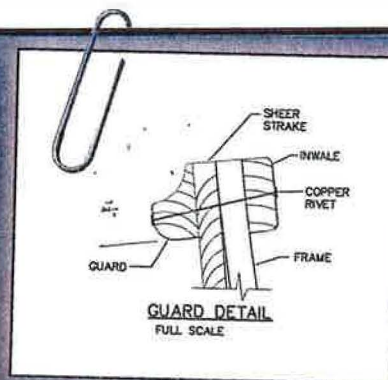


Section not to scale.

ABOUT THE VESSEL

Grandy Skiff

Rig/Type of Craft: General purpose skiff
Trade: Fishing & recreation
Length (overall): 13'-6"
Beam: 4'-2 1/2"
Propulsion: Oars or small outboard
Date: ca. 1940



Detail not to scale.

General Description

The Grandy skiffs were general purpose vessels for fishing, transportation, and recreation, among other things, and were manufactured in various lengths. Patterns for a 7-1/2' Grandy skiff are in possession of the Northwest School of Wooden Boatbuilding, and 8-1/2' and 11-1/2' versions currently reside at the Center for Wooden Boats in Seattle, Washington. A 13'-6" Grandy skiff in Port Townsend that belongs to the former owners of Alcione is essentially identical to the subject vessel except for having a flat run aft and a deeper transom, presumably to carry a larger outboard, instead of the upswept aft lines of the subject vessel.

The subject skiff is 13'-6" long with a beam of 4'-2 1/2". It has 3/8"-thick lapstrake planking of western red cedar, eight planks per side, fastened with copper clench nails at 2 1/4" on center. Frames are bent white oak 3/8" x 3/4" at 4 1/2" on center, resulting in one fastener through the laps centered between fasteners through the frames. Except for the extreme forward ones, the frames are continuous over the keel apron, which eliminates the need for additional floor timbers. There are two thwarts for rowing stations, with an additional seat in the bow and shallow U-shaped stern sheets at the transom. The entire boat is varnished except for green paint on the inside below the seat riser. The transom is mahogany and measures 13/16" thick, with a curved cutout at the top to allow an outboard to be mounted. The backbone, including the stem, stem knee, keel, deadwood, stern knee, and presumably the keel apron, are all mahogany. The oarlock pads are oak. The plank gains visible at the transom (and presumably also at the bow) are dory laps that, combined with a slight cupping of the planks, yield a continuous curved edge around the transom instead of the often-seen rabbetted joint with the protruding plank edge, or the faceted transom edge created by flat planks following a curve. In addition to the clench nails at laps and frames, flathead wood screws, which appear to be a #6 bronze slotted type, are used to fasten planks to stem, keel apron, and transom.



WA-205-2 Bow elevation of Grandy skiff

Sources

Gordon, Henry. "Grandy Boat Company." *Waterlines*, November 1985, pp. 36-37.

Lee, Tim. Chief Instructor at the Northwest School of Wooden Boatbuilding, Port Hadlock, WA. Tim was at the school when the vessel was delivered by Robert Prothero, Jr.

Prothero, Shirley. Spouse of Robert Prothero Jr.

Prothero, William. Son of Frank Prothero and current owner of Prothero Boat Company.

H. A. LONG LAUNCH

HAER No. WA-196



Location: The Center for Wooden Boats, 1010 Valley St. Seattle, King County, Washington.

Original Owner: Unknown.

Present Owner: The Center for Wooden Boats.
Disposition: Inactive

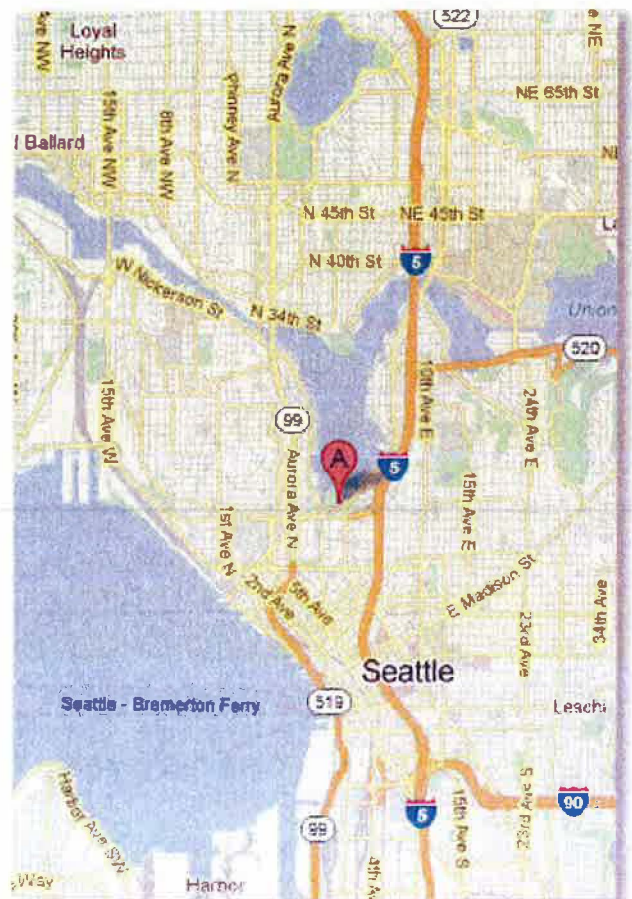
WA-196-2 Starboard bow quarter of H.A. Long launch

Significance

Small inboard boats like this one were very popular in liveries around the Puget Sound in the 1930s, '40s and '50s, competing with outboard boats and faster runabouts. Companies such as Long Boat Works, Ronald Young (Poulsbo boat) and Reinell all built low-power displacement inboards for liveries and recreational fishing. Henry Long was a prolific builder of all types of vessels. His small, wooden workboats were indicative of the many independent builders and shops around the Puget Sound

Project Information

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.



H. A. LONG LAUNCH

Lines

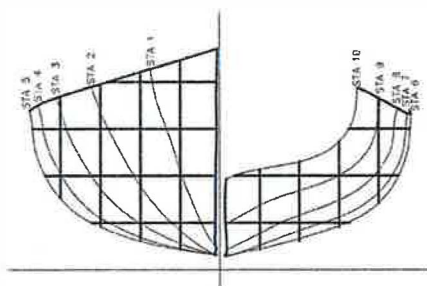
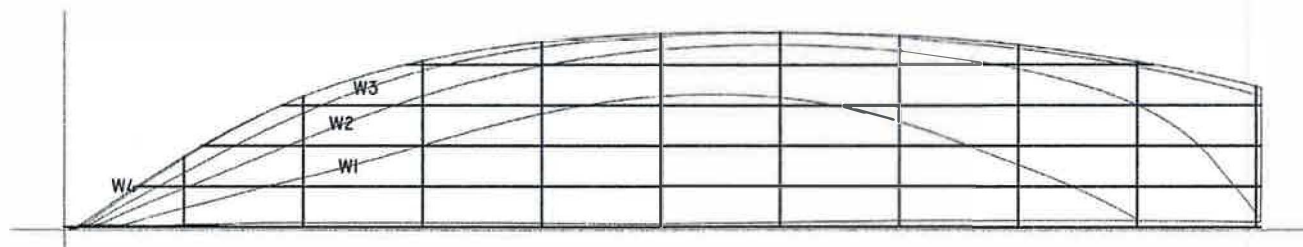
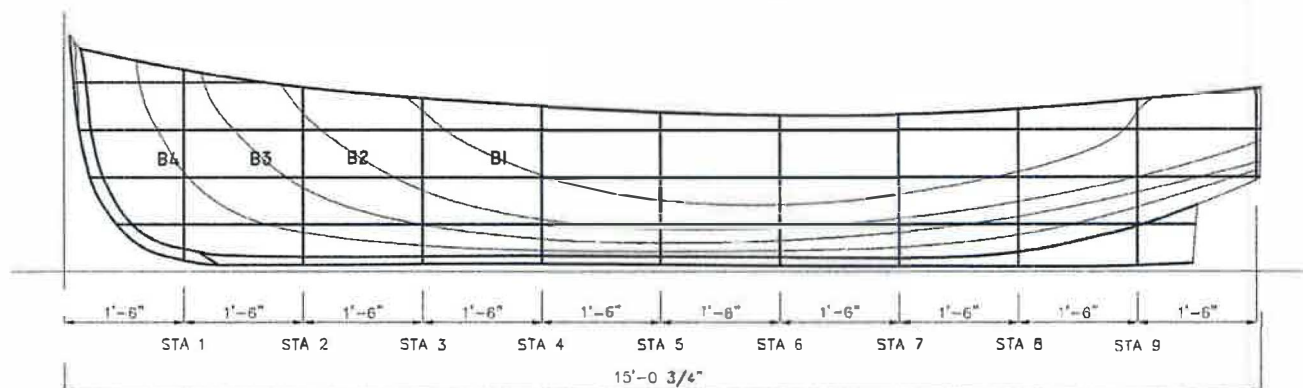


TABLE OF OFFSETS
 H.A. LONG'S 10' 0" M.O. IN A LONG
 OFFSETS IN FEET OFFSETS ARE TO OUTSIDE OF BOW
 7/20/2011 11:57:20 AM

STATION	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000
1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



HISTORICAL CONTEXT

Designer and Builder

H. A. Long Sr.

Original construction

This vessel meets the simple, utilitarian description characteristic of Long's boats.

Modifications

The boat shows likely modification to the thwart knees where a seat was repositioned and the stern deck, which is made of plywood.

There is a penetration in the top plank on the starboard side, which likely was added for an exhaust pipe. An aluminum shoe has been added on the keel to prevent chafe.



WA-196-1 Starboard elevation view of H.A. Long launch

H.A. Long Boat Works

H.A. Long Boat Works opened in 1922 in Olympia, Washington. Henry Long was from Centralia, Washington, and worked as a shipwright in the Bremerton, Washington, shipyards during World War I. While in Bremerton, Long also learned to design boats. Following the war, he opened his own shop, located in downtown Olympia. It was built out of materials from a recently torn down plywood plant nearby. Long Boat Works employed Long and his three sons, Don, Roy and Henry Jr., who worked after school.

Long built and repaired many types of vessels. They ranged from 10' skiffs to cruising yachts to tugboats and military patrol boats. Their projects included the tugboat Rufus, which was built for the tug fleet of Delta Smyth, a Hartstine Island ferry, Olympic-class Jr. racing sailboats, and a coaching launch for the University of Washington crew team. Long built twenty-four clinker skiffs for Andrew and Thea Foss for the Foss-owned rental fleet on the south Tacoma Narrows. Long designed his own motorboats and rowboats. For larger vessels he used existing designs, including many of those by Ed Monk. Long's boats were shipped as far south as Monterey, California, but were sold primarily around the Puget Sound. Long Boat Works was taken over and operated by Henry Long Jr., until it burned down in 1978. At the time, Henry Jr. was teaching boat building to students from Evergreen State College.

ABOUT THE VESSEL

H.A. Long Launch
Rig/Type of Craft: Motor launch
Trade: Fishing or working launch
Length (overall): 15'- $\frac{1}{2}$ "
Beam: 5'-2"
Propulsion: Single-cylinder, air-cooled gas engine
Date: Late 1920s-40s

WA-196-3 Stern elevation without rudder of H.A. Long launch



General Description

This boat is a small lapstrake or clinker motor launch. It was powered by an inboard single-cylinder, air-cooled gas engine. It currently does not have an engine, but when built it likely would have had a Wisconsin, a Briggs & Stratton or a Lawson engine. It is a slow-speed launch, doubled-ended on the waterline with a little hollow deadrise at the transom. Functionally, it is a small fishing or working launch. A boat like this one from Long Boat Works would have cost \$250 in 1930 with a 2- $\frac{1}{4}$ horsepower motor or \$265 with a reverse gear. Its displacement hull and small engine propeller would have been unique for vessels on the West Coast. H.A. Long also developed stock planning, V-bottom boats and outboards that his son, Henry Jr., raced.

This boat has forward and aft decks. In the stern, on either side of the engine mount, there are unique overlapping floorboards. The rope steering system is identifiable by eye bolts around the inwales on the boat's interior and small blocks under the forward deck used to lead a steering rope around the interior and back to the boat's rudder.

The deck, floorboards, thwarts and $\frac{1}{2}$ "-thick planks are made of cedar. The deadwood, frames, stern, inwales and outwales are oak. The keel also appears to be oak. Planks are held together with copper clinch nails and fastened to frames with rivets.

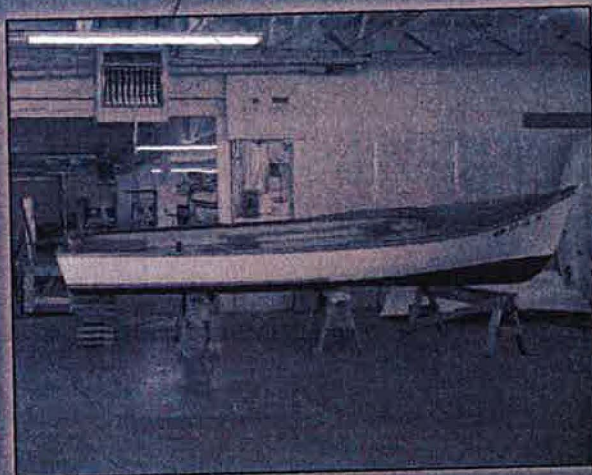
Sources

Eric Bert. Interview with Don Long. Evergreen State University. 18 November 1996.

Bob Long. Personal interview. 11 March 2012.

MUKILTEO (MUK) BOAT

HAER No. WA-207



Location: 108th Place SE, Everett, Snohomish County, Washington.

Designer: Paul Losvar

Original Owner: Mr. English

Present Owner: Jim Losvar

Disposition: Recreation

WA-207-2 Starboard tilted view

Significance

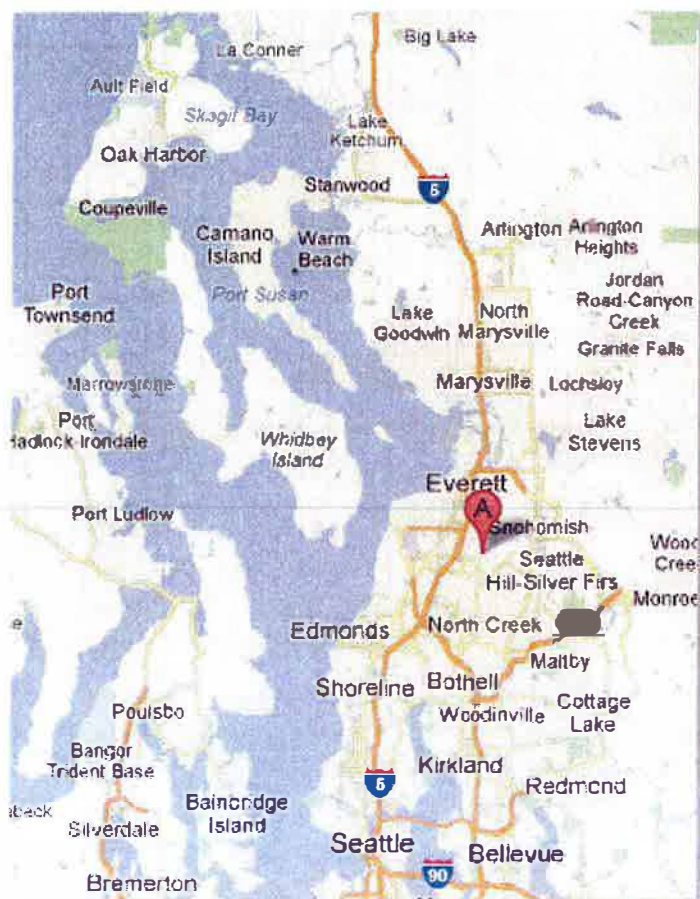
Mukilteo or "Muk" boats were designed and built in Mukilteo, Washington by Paul Losvar, his son and grandsons. These popular rowing and outboard motor boats came to define recreational fishing in the Puget Sound. They were rented at liveries and used primarily for salmon fishing. Because only about 100 were made and they were rarely sold outside of rental fleets, very few Muk boats are in existence today.

Project Information

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.

Historians

Erik Neumann, The Center for Wooden Boats Seattle, staff; Andrew Washburn, The Center for Wooden Boats Cama Beach, Manager

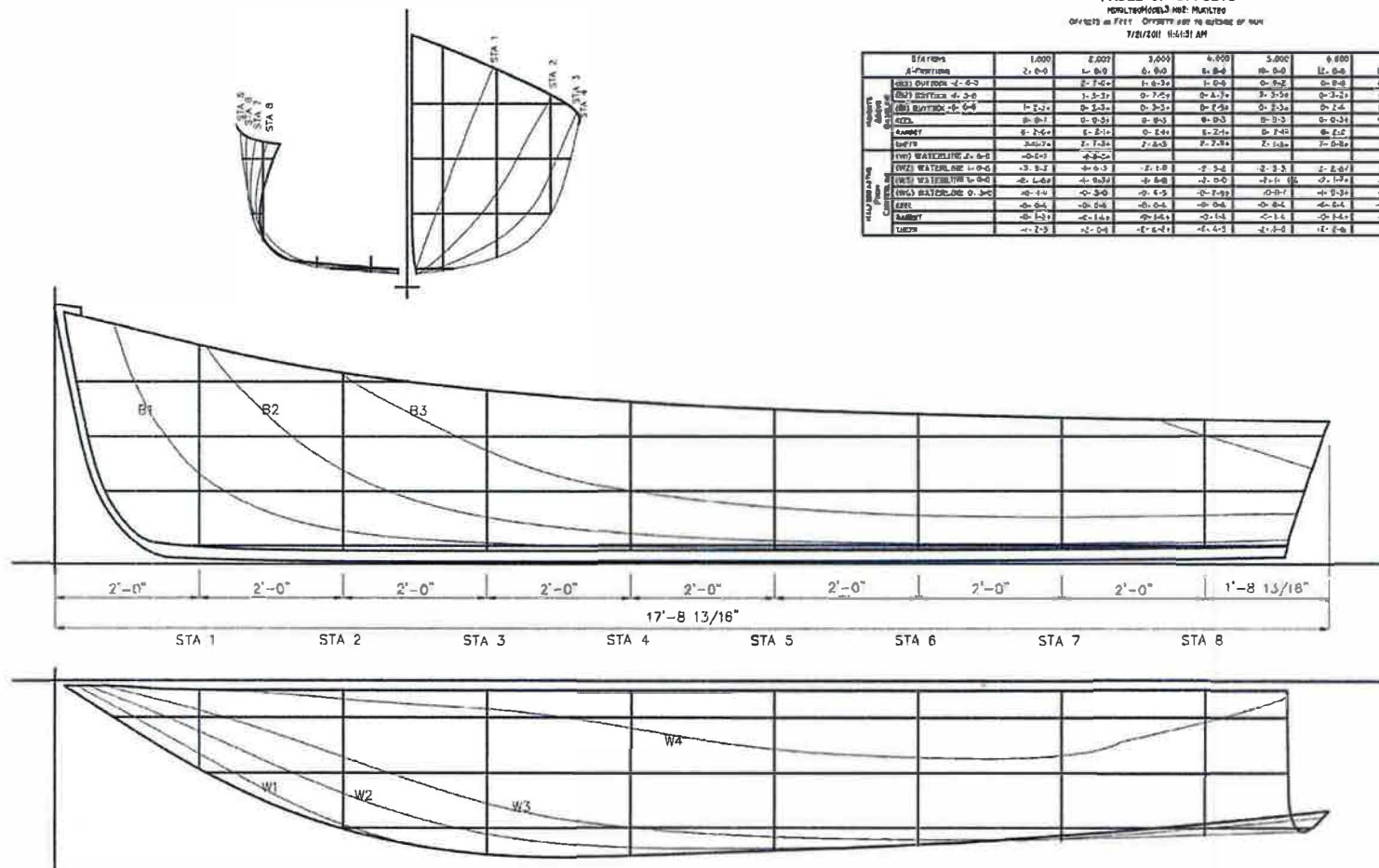


MUKILTEO BOAT

Lines

SCALE: 1/2"=1'-0"

TABLE OF OFFSETS
 MODL:TECHMODL3 MOD: MURKIN
 OFFSETS = FREE OFFSETS SET TO END OF ROW
 7/21/2011 11:41:31 AM

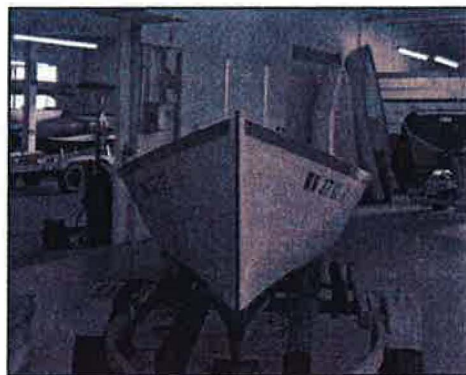
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HISTORICAL CONTEXT

Mukilteo or “Muk” boats

were built from 1905-70 at the Mukilteo Boat House in Mukilteo, Washington. They were designed by Paul Losvar and built by Losvar, his son, George, and eventually, his grandsons Art and Albert. The Mukilteo Boat developed and thrived in the cultural climate of the early 1900s. The growing American middle class, commercially available outboard motors and plentiful salmon stocks created a recreational sport fishing industry, which fueled demand for the Muk boat.

Muk boats were built primarily in two lengths, 16' and 18'. They were first built with lapstrake planking and later transitioned to carvel. Over time, the hulls of Muk boats evolved from rowing to motor craft. The hull shape was flattened to accommodate the weight of outboard motors and to allow the boat to plane on the surface of the water, rather than drive through it.



WA-207-6 Bow view

These boats were primarily rented to fisherman at the Mukilteo Boat House. To protect Losvar's designs, they rarely were sold to the general public. Muk boats were rented by fisherman who owned outboard motors, but not boats. When a boat at the Mukilteo Boat House was deemed worn out by the Losvars, it was burned nearby on the beach. As a result, of the approximately 100 Muk boats built, there are few in existence today.

Over time, greater access for individuals to own small boats brought the decline of the Muk boats, which mainly were rented from Puget Sound liveries. By 1970, more and more recreational fisherman owned their own boats that could be hauled on trailers and launched from boat ramps. Northwest salmon stocks had also become scarcer, shrinking the sport fishing industry. These two forces marked the end of demand for the Muk boat.

Operational History

This 18' Mukilteo Boat is typical of the Losvar's most popular model of outboard powered skiffs. However the history is unique. While most of the Losvar's boats were destined for service in their boat house rental fleet, HAER No. WA-207 was built in 1936 by Paul Losvar for a Mukilteo ice cream parlor proprietor by the name of English. Art Losvar's recollections, related through his son, Jim, indicate that it was the only boat produced by the Losvars to be painted red. For 48 years the disposition of the boat was unknown. In 1984, Jim Losvar, while working as a repairman in Everett, Washington, was driving his repair truck down an alley when the unmistakable shape of his family's boat design caught his eye. The boat was in the midst of repairs, upside down on sawhorse, the gunnels removed and the paint stripped off. Losvar also noticed several modifications to the original fabric of the craft. The boat had been turned from a tiller-steered skiff into a runabout configuration with a steering wheel, throttle controls and a windshield. Importantly Losvar also noticed that the structure of the hull - the frames and planking - remained strong with the exception of several frames and a section of planking near the transom.



WA-207-3 Stern view

Jim Losvar purchased the unrestored hull for \$100.00 from the owner, whose name he cannot recall, who had acquired the boat from a Port of Everett auction. His assumption was that the boat had been abandoned or confiscated due to unpaid moorage. Jim Losvar spent eight years restoring the boat to running condition with guidance from his father, Art. During the restoration, the father and son team repaired the transom, replaced the gunnels, four frames, the floorboards, caulking, seats and a small section of planking at the stern.

Today, Jim Losvar continues to use the boat periodically and praises his grandfather's design as seaworthy and fast for its size and power configuration.

ABOUT THE VESSEL

Mukilteo (Muk) Boat

Rig/Type of Craft: Recreational fishing boat
Trade: Fishing and recreation
Length (overall): 17'-8-1/2"
Beam: 4'-11"
Propulsion: Oars or small outboard
Date: 1936

WA-207-4 Stern view showing interior elevated view



Designer

Paul Losvar's design is an adaptation from similar designs in Norway. The Muk Boat's upward flare bow was made to keep boat users dry and to always get them home, no matter how nasty the waters of Puget Sound got. Over the years, the hull design evolved a bit. The Muk boats began as rowing fishing boats and then were adapted to low outboard power. Then the hulls changed again as outboard horsepower increased along with motor weight as outboard propulsion technology developed.

Builder

Paul Losvar at the Mukilteo Boat House in Mukilteo, Washington. Paul Losvar built and rented 16'-18' of his own design, building only a few boats a year, burning worn-out boats at the end of the fishing season and building a few more in the off season.

Modifications

When the current owner found the boat, it was undergoing repair and had been turned from a tiller-steered skiff into a runabout configuration with a steering wheel, throttle controls and a windshield. The current owner fully restored the boat to the original that his grandfather had designed and built.

Structural/Design Information

This Muk boat is carvel planked with 5/8" red cedar. There are a total of nine planks. The frames are made of 1/4" x 1/2" oak. Ribs were constructed of steamed oak. The transoms and knees originally were built of fir and later oak. Muk boat decks were made of 3/8" cedar planks. Steam bent oak was used for coamings.

The Muk boat bow is one of its most recognizable design elements. The bow is high off the water and followed aft by a steep sloping sheer line. This design is thought to be based on Norwegian designs that influenced Paul Losvar. This bow shape was nicknamed "the destroyer" after similar design elements used in naval warships of the time. Muk boats were identifiable by fine, chiseled relief work at the top of their stems. The oak stem would be tapered from 2 1/2" to 3/4" where it extended above the deck. It was then fitted with protective brass half-oval rub molding.



WA-207-5 Detail of forward deck viewed from port

Sources

Art Losvar and Steve Greaves, The Mukilteo Boat, the Mukilteo Boat House and the Losvar Boatbuilding Legacy 1905-1970 (Seattle, Washington: The Center for Wooden Boats, 2010).

NORDIC SPIRIT

HAER NO. WA-214



Location: Nordic Heritage Museum, 3014 NW 67th Street, Seattle, King County, Washington.

Earliest Known Owner:

Volvo-Penta of America.

Disposition: Museum vessel

WA-214-7 Port bow quarter view

Significance

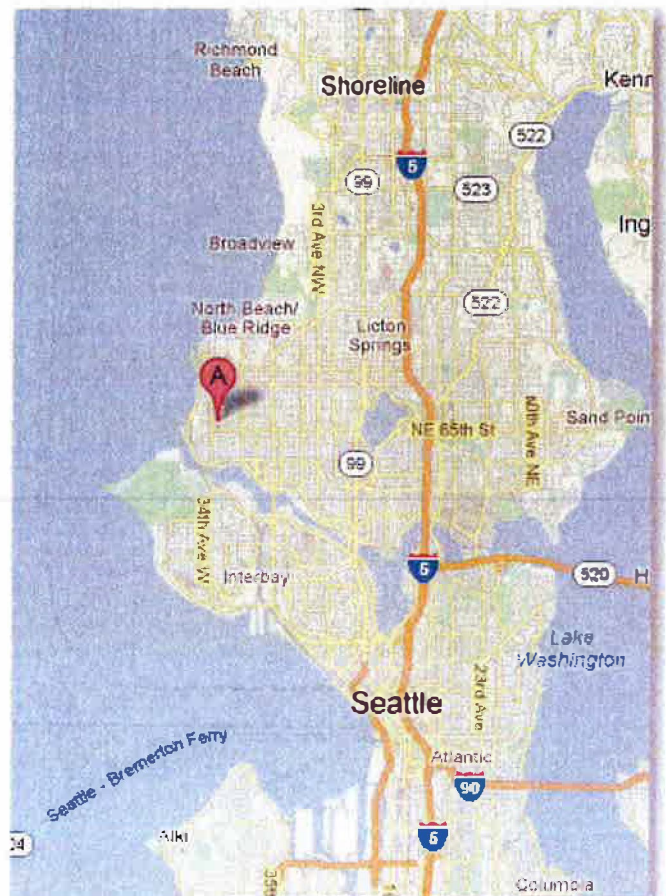
Only known example of Norwegian built lapstrake fishing boat, or Nordlandsbåt, in North America.

Project Information

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.

Historian

Jason Herrington, Registrar, Nordic Heritage Museum.
Documented in 2011-12.

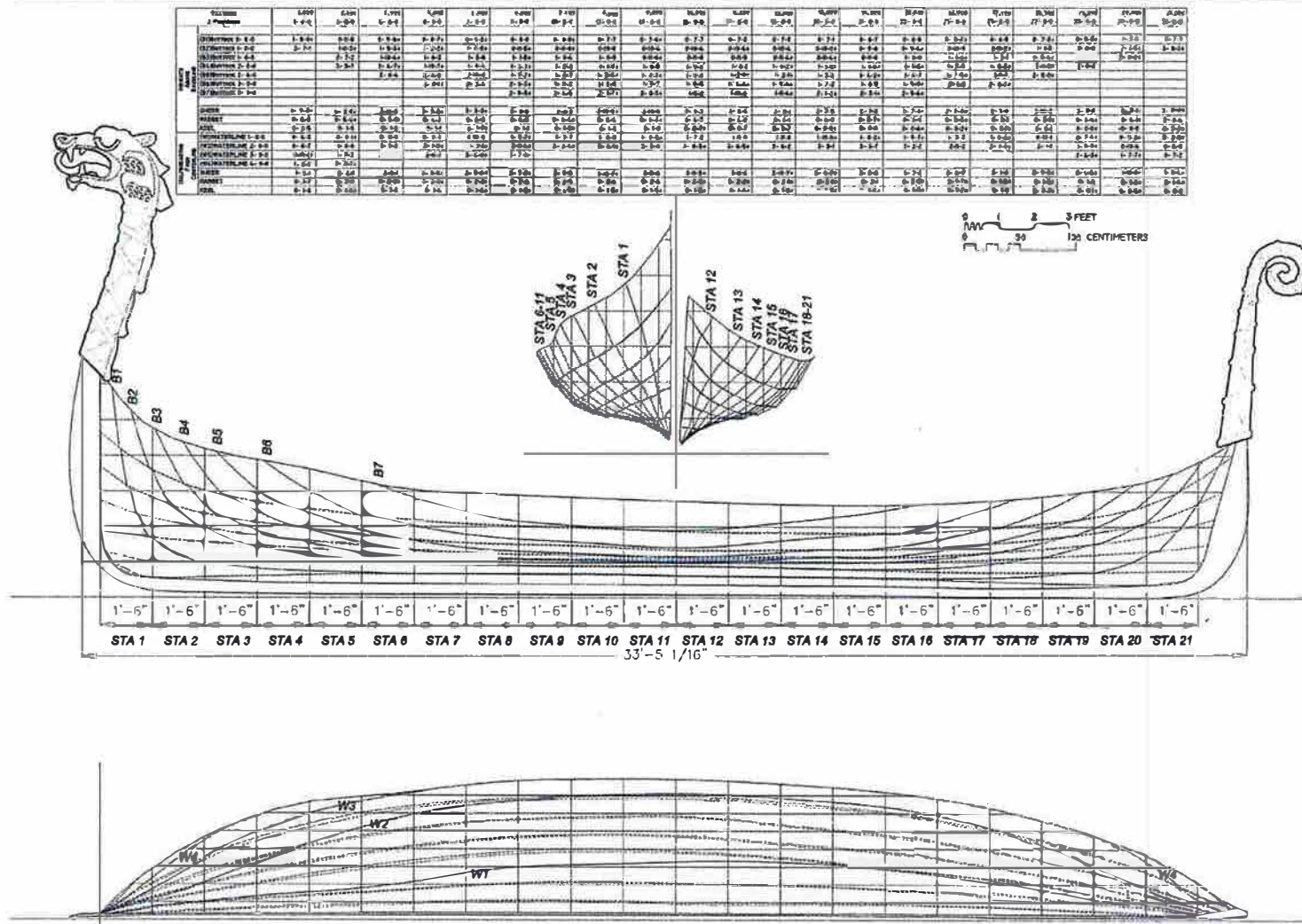


Nordic Spirit

TABLE OF OFFSETS
FROM CENTERLINE TO OUTLINE OF HULL
IN FEET - DECIMALS AND IN INCHES - WHOLE

Lines

SCALE 3/4"=1'-0"



HISTORICAL CONTEXT

Nordlandsbåt

Vessels of this type are open, double ended, wooden, lapstrake construction, oar and sail propelled – were used for centuries in the Nordic countries for fishing and transportation. Similar vessels have been found in bogs and other archeological sites in the Nordic countries; the earliest ship find was discovered in the Nydam bog in Denmark, and has been dated using dendrochronology to 300-350 CE.

ca. 1970: The vessel was purchased by Volvo-Penta of America, Inc., for use in advertising. Prior to its use in advertising, the vessel was transported to Göteborg, Sweden, where it was outfitted with a figurehead resembling a dragon's head and tail, created by an artist in Uppsala, Sweden.

1976: Volvo-Penta of America transported the vessel to the United States, where it participated in boat shows and races on waterways around the Chesapeake Bay, Virginia.

1977: In 1977 the vessel was transported to Seattle, Washington where it was kept at the Sagstad Marina in the traditionally Nordic neighborhood of Ballard.

1980: In 1980 the vessel was donated to the Nordic Heritage Museum of Seattle.

2008: The Nordic Heritage Museum commissioned Pacific Fishermen Shipyard to stabilize the vessel and replace the deteriorated keel and planks.

2009: The vessel was christened the Nordic Spirit and was launched on August 30 in celebration of the centennial of the Alaska-Yukon-Pacific Exposition.

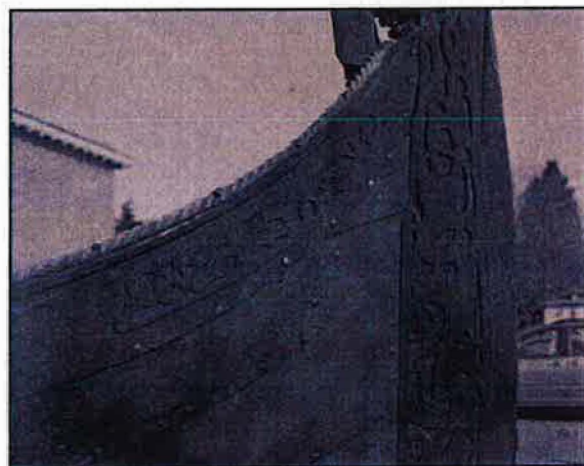
Alterations & Additions

Circa 1970: The vessel was purchased by Volvo-Penta and was taken from Norway to Göteborg, Sweden where an artist named Gunnar Erikson produced carved wooden figurehead ornaments in the shape of a dragon's head and tail and carved overlay on the stem and stern posts.

2008-2009: The vessel was repaired at Pacific Fishermen Shipyard, Seattle, Washington. Deteriorated portions of the keel were removed and replaced with Douglas fir. The garboard, number 2, number 3, and number 4 planks on both port and starboard were removed and replaced with Douglas fir. The starboard forward sheer strake was replaced. Many original fasteners were removed and replaced with new copper rivets.



WA-214-4 Starboard stem quarter view



Bow detail



Bow detail

ABOUT THE VESSEL

Nordic Spirit

Rig/Type of Craft:	Advertisement prop converted from fishing vessel
Trade:	Fishing and advertisement
Length (overall):	34'-10" exclusive of ornaments
Beam:	7'-10"
Propulsion:	Oars
Date:	ca. 1850

Starboard view



General Description

Planking: Planking is in the lapstrake style, scarfed and faired into the stem and stern. The garboard plank and first strake above are approximately 1" in thickness. Side planking is generally 1/2" thick, with the first strake below the sheer being slightly thicker, and the sheer plank 3/4" thick. A gunwale guard or rub rail about 2-1/2" thick is fitted the full length and tapered down at the stem and stern. The lapstrake fasteners are generally hand-forged iron or copper rivets. Fasteners of the planking to the frames are generally hand-forged iron or copper rivets. Planking is made from a conifer native to Norway, likely furu (Norwegian pine), or Douglas fir.

Framing: There are eleven transverse frames made from natural knees and sawed into shape. These are spaced approximately 2'-10" apart, except around the mast step where they are spaced 17" apart. The forward transverse frame is solid.

Keel: The original keel was made from a conifer native to Norway. In 2008 it was replaced with new Douglas fir. The stem and stern is protected with a 1" x 1/4" iron strap.

Rig: The mast and boom are solid wood. The mast is approximately 5-1/2" in diameter and 19' in height. The boom is 5" in diameter and 16' in length.

Steering board: The steering board is attached to the starboard side of the vessel with a bent iron rod through a set of two rings.

Sources

Unpublished material, accessible at the Nordic Heritage Museum, accession number 80.065.

"Vikings Invade Broad Bay," The Beacon, Virginia Beach, Virginia, September 24, 1976.

Francis X. Geary, "Ericson Boat Wins Silver Cup," The Bulletin, Martinsville, Virginia, September 12, 1976.

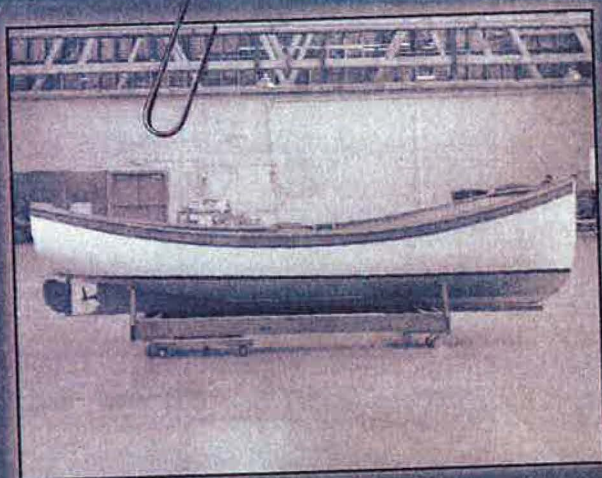
A. Evans, The Clinker Built Boats of the North Sea, 300-1000 AD, 1985.



WA-214-3 Detail of interior viewed from starboard stern quarter

POULSBO BOAT

HAER No. WA-208



Location: Foss Waterway Seaport, 705 Dock Street, Tacoma, Pierce County, Washington State.

Designer: Ronald Young

Builder: Ronald and Gordon Young

Present Owner: Foss Waterway Seaport

Disposition: Inactive

WA-208-6 Starboard view

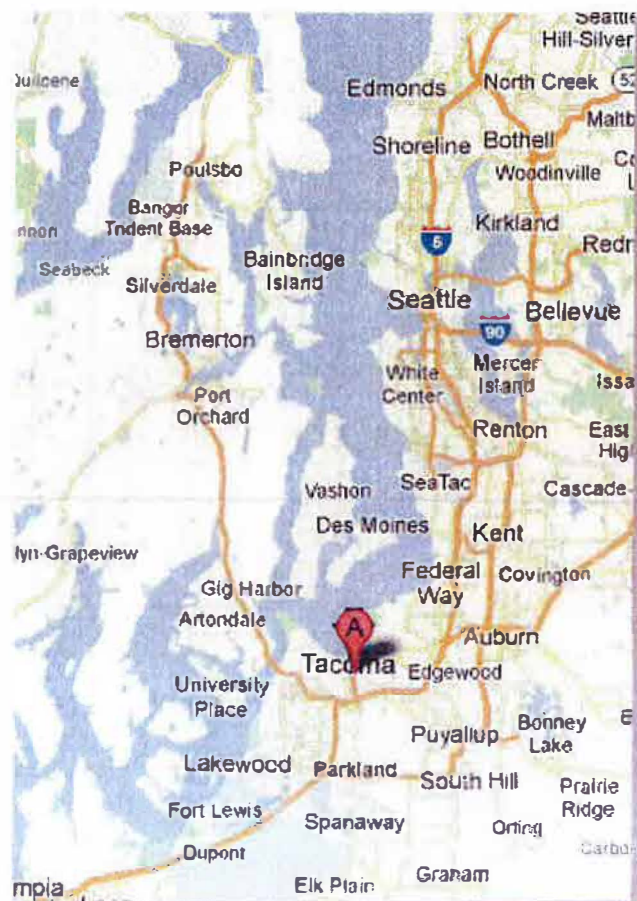
Significance

Designed and built in Poulsbo, Washington, the Poulsbo Boat was a popular recreational fishing boat. Between 1935 and 1965, as many as 900 Poulsbo Boats plied the waters of the Puget Sound. Poulsbo Boats were designed by Ronald Young and built by he and his son, Gordon. They were simple motorboats, recognizable by their generous freeboard, clean lines and sweeping tumblehome stern, made them instantly recognizable.

Poulsbo boats were used as fleet rental boats at fishing camps along the Strait of Juan de Fuca and the Puget Sound, and were commissioned for buyers as far away as Southeast Alaska. Their production continued into the 1960's, even after more modern materials like plywood and fiberglass became available.

Project Information

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archeology and Historic Preservation with support from the National Park Service. The Project aimed to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.



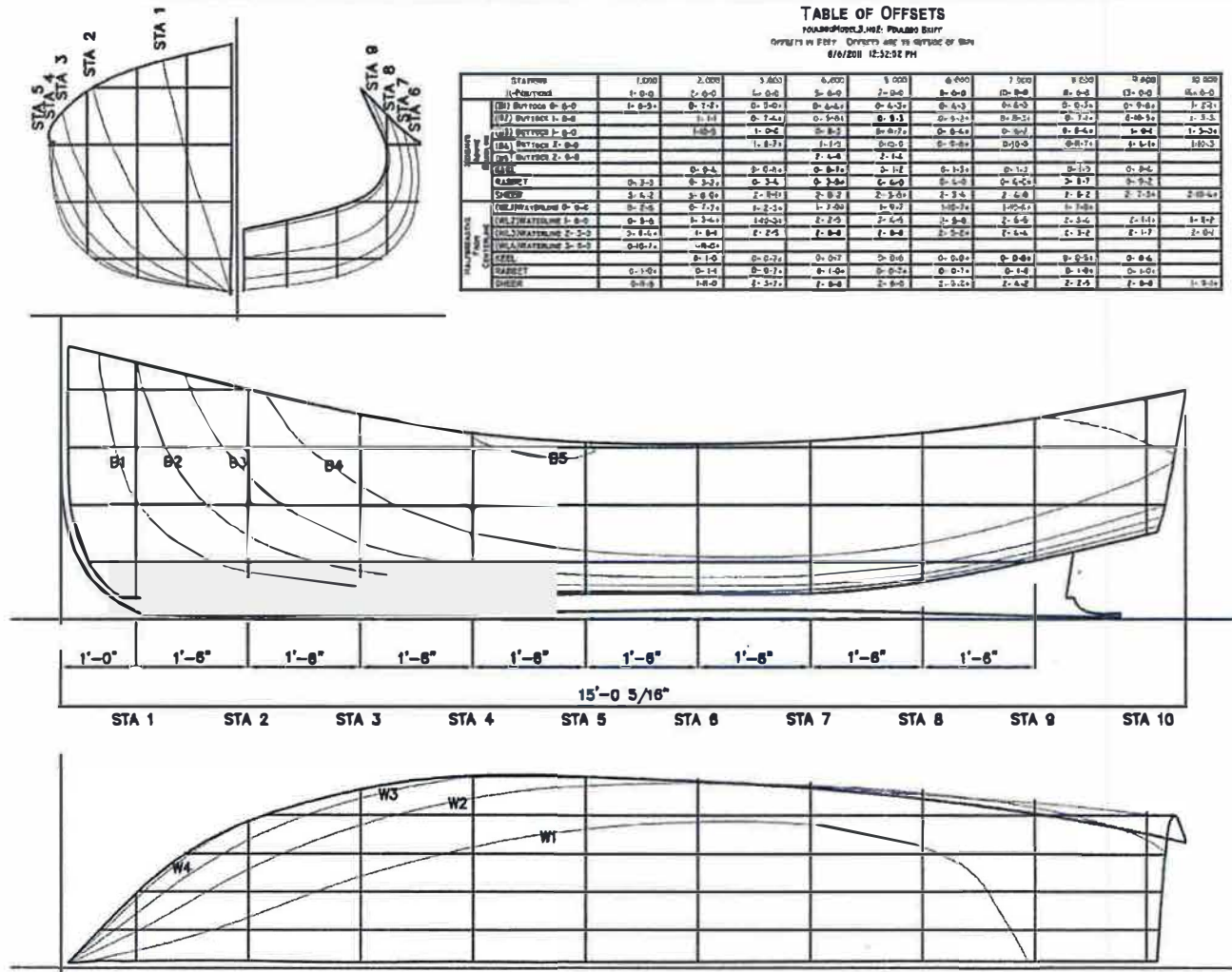
POULSBO BOAT

Lines

SCALE: 1 1/2"=1'-0"

TABLE OF OFFSETS

TABLE OF OFFSETS
FOUNDED Model 3.002: FOUNDED SKIFF
OFFSETS IN FEET OFFSETS ARE TO OUTLINE OF SHIP
6/6/2011 12:32:32 PM

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HISTORICAL CONTEXT

Young-Built Boats

What are now known by collectors as "Poulsbo boats," were originally known simply as "Young-built boats," after their builder, Ronald Young. They became known as Poulsbo boats only after Young's death in 1968. Young's waterfront automotive garage, turned boatshop, was located in the Scandinavian town of Poulsbo, Washington and was operational from 1935-1965. Young's boats were sold to individuals as well as at Puget Sound fishing resorts in places like Hansville, Point No Point, Port Gamble and Neah Bay. Young's boats were used for recreational salmon fishing because their curved, displacement hulls provided a stable fishing platform in the waters of the Puget Sound.



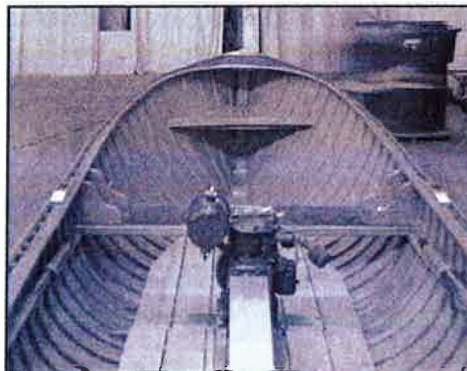
WA-208-5 Bow view

There were three design generations of the Poulsbo boat. It was first designed as a rowboat, later outfitted as an outboard motor boat, and finally evolved to house an inboard, air-cooled gas engine. Poulsbo boats were built in ten to twelve days and sold unpainted to buyers who would finish them themselves.



WA-208-7 Stern view. Note elevated starboard side illustrating the common twist developed by Poulsbo Boat type.

Poulsbo boats ranged in length from fourteen to twenty-two feet long. The most popular size was the sixteen-footer. Throughout the years, Young made slight alterations to his boats, including custom sailing rigs and cabin tops, but the recognizable Poulsbo hull shape was continuous throughout.



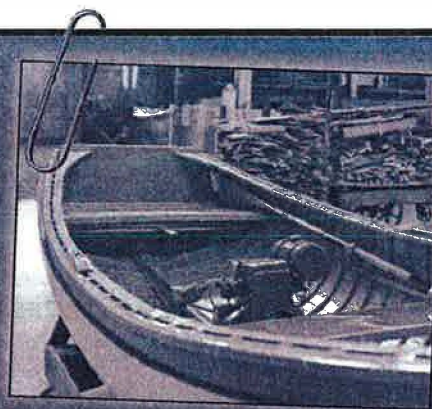
WA-208-1 Detail of interior viewed from stern

ABOUT THE VESSEL

WA27885 E

Rig/Type of Craft: Inboard motor launch
Trade: Recreation and fishing
Length (overall): 15' ¼"
Beam: 61 ½"
Draft: 15"
Propulsion: One-cylinder air-cooled Wisconsin gas engine

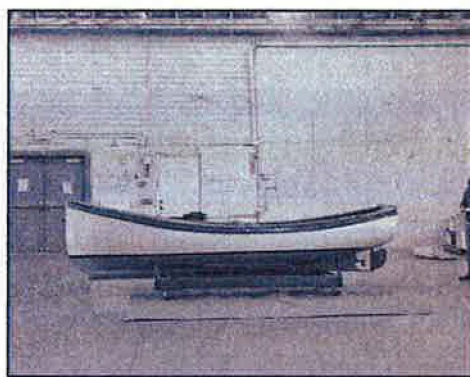
WA-208-4 Detail of stern interior viewed from starboard



General Description

The Poulsbo boat is 15 feet long. The keel assembly was made of douglas fir and included the keel, deadwood, stern-post, and horn timber. The stem was made from 3 ½-inch square oak timber and was fitted with a stem cap of 1 x 2 ½-inch steam-bent oak batten. The transom was made of one piece of mahogany about one inch in thickness. It was capped with a ¾ x 1-inch oak batten across the top, tapered flush with the sheer at each end. Frames were made of ½ x 1-inch steam-bent oak.

During the planking construction, six station molds would be used between the stem and transom knees. The tumble-home shape was exaggerated by about three inches on the stern mold from the lofted dimensions to allow for frames to spring out during the planking sequence.



WA-208-3 Port side level view

It was built with carvel plank construction and had white cotton caulking between planks. The planking is 9/16-inch Western red cedar, beveled at the edges for caulking. Planks were steam-bent to fit, clamped and fastened in place with copper nails. They were caulked with a sharp caulking wheel and cotton thread, painted and seems secured with glazer's putty.

Originally, Poulsbo Boats came equipped with single cylinder air-cooled Briggs and Stratton or Wisconsin gasoline engines. Power ranged from about one to ten horsepower. The most popular power range was five to seven horsepower. Small 2-to-1 gearbox/clutch units were manufactured in the Seattle area and fitted to some engines. Propellers were a 10-x-10 inch three-blade propeller on a ¾-inch shaft. The engines were designed to run in ranges from 2200 to 3200 RPM.

Sources

Beard, Tom. "The Poulsbo Boat." Traditional Small Craft of the Northwest. Seattle, WA: The Center for Wooden Boats.
Smith, Emmett. Personal documentation drawings and notes. Mar. 2011.

Summers, Charles. "The Poulsbo Boat, A Shapely and Practical Northwest Favorite." Wooden Boat. Oct. 2003. pp.52-57.

Wagner, Dick. Personal interview. 21 Feb. 2012.

RICKABY SKIFF

HAER No. WA-204



Location: Anacortes History Museum, 1305 8th Street, Anacortes, Skagit County, Washington

Designer & Builder: Harry Rickaby

Original Owner: Unknown

Present Owner: City of Anacortes Museum

Disposition: Museum vessel

WA-204-6 Starboard view with accessories displayed in foreground

Significance

An excellent example of a Northwest flatiron skiff exhibiting many qualities similar to other boats, but possessing unique construction techniques.

Rickaby Skiff

Rig/Type of Craft:	Rowboat
Trade:	Recreation
Length (overall):	9'-9"
Beam:	
Propulsion:	Oars
Date:	ca. 1950



WA-204-7 Bow elevation



Rickaby Skiff

Lines

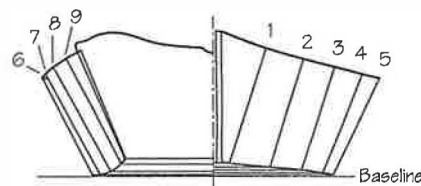
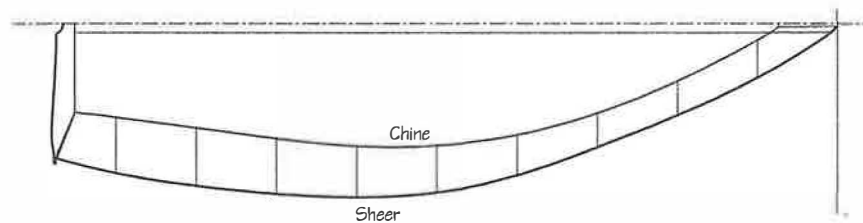
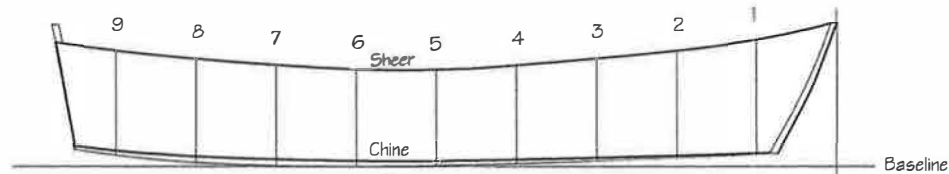


TABLE OF OFFSETS
OFFSETS IN FEET-INCHES-FRAMES OFFSETS AND TO OUTSIDE OF SKIN

STATIONS	0 000	1 000	2 000	3 000	4 000	5 000	6 000	7 000	8 000	9 000
X-POSITIONS	0-0-0	1-0-0	2-0-0	3-0-0	4-0-0	5-0-0	6-0-0	7-0-0	8-0-0	9-0-0
SHEER		1-0-4	1-0-1	1-3-7	1-2-7	1-2-3	1-2-6	1-3-0	1-4-0	1-0-1
CHINE		0-1-7	0-1-4	0-0-6	0-0-3	0-0-1	0-0-0	0-0-1	0-0-3	0-1-0
TRANSOM										
BASE										
HEIGHT										
CHINE		-0-7-2	-0-1-2	-0-0-0	-0-0-3	-0-1-0	-0-0-3	-0-0-2	-0-1-4	-0-0-2
CHINE		-0-2-2	-0-0-2	-0-0-3	-0-0-3	-0-0-0	-0-0-1	-0-0-2	-0-0-2	-0-0-1
TRANSOM										
BASE										

NOTES
THE LINES WERE TAKEN USING A LEICA TCR103 TOTAL STATION AND PROCESSED IN ARROWHYDRO MULTISURF SOFTWARE
THE LINES WERE DRAWN "AS IS" WITH NO FAIRING
THE ORIENTATION OF THE SKIFF'S WATERLINE IS SHOWN ON SOME HULL MARKINGS



SCALE: 1 1/2"=1'-0"
0 1 2 FEET
0 50 CENTIMETERS

WHITEHALL SKIFF ALDERBROOK

HAER NO. WA-195



Location: San Francisco Vicinity, San Francisco County, California

Original Owner: William Sutton Chandler

Present Owner: San Francisco National Maritime Historical Park, San Francisco, California

Disposition: Museum vessel

WA-195-1 Starboard stern quarter view of Alderbrook

Significance

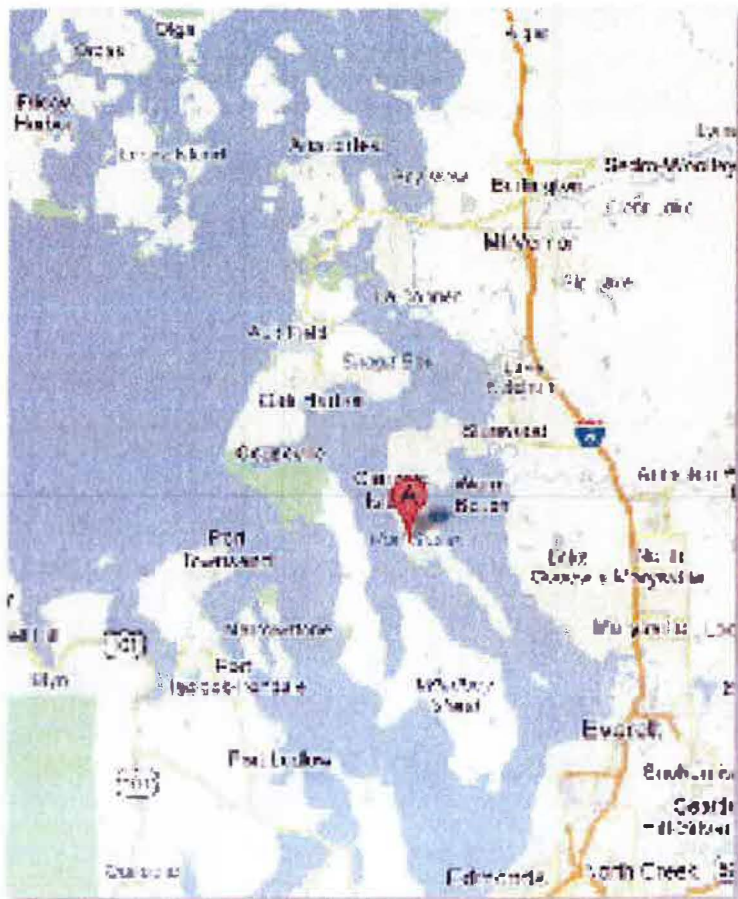
Alderbrook is an authentic and rare example of a West Coast-built Whitehall type skiff.

Project Information

Funding for this project and instruction in documentation methods were provided by the Center for Wooden Boats at Cama Beach, Camano Island, Washington. Manual measurements were taken by the author and Pete Leenhouts of Port Ludlow, Washington. Photographs and electronic measurements were taken by Todd Croteau, Maritime Program Coordinator, Historic American Engineering Record, National Park Service, U.S. Department of the Interior.

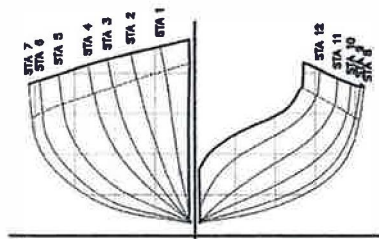
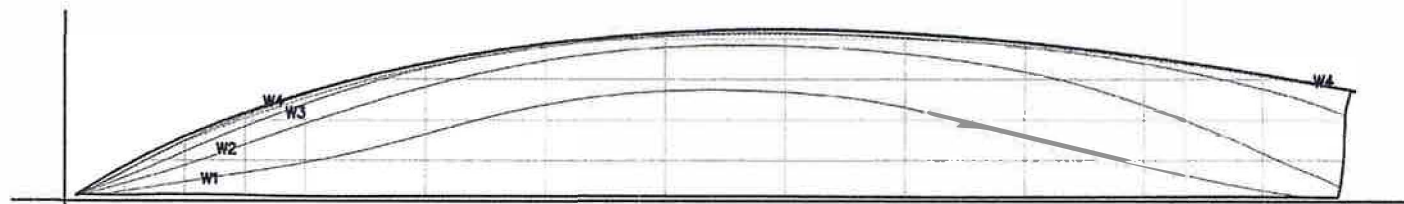
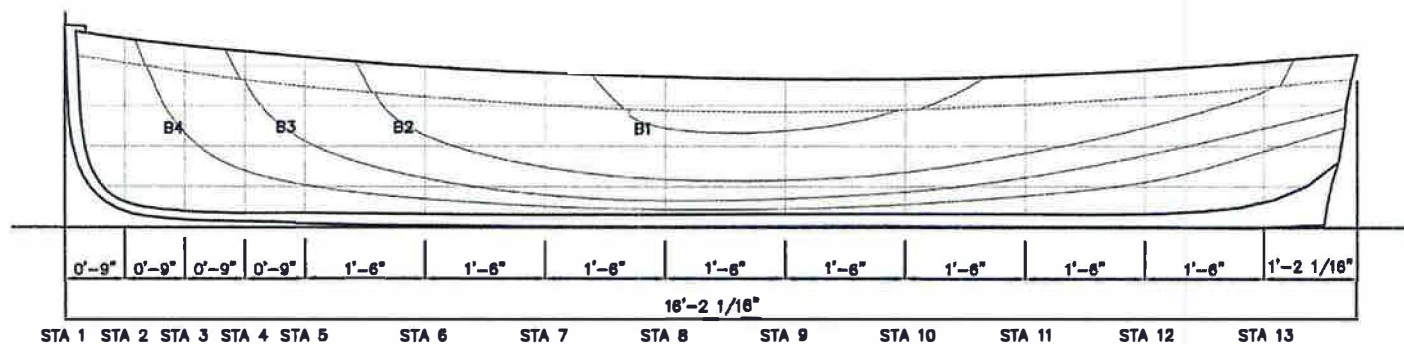
Historian

Jack T. Becker, PO Box 1386, Port Townsend, WA 98368



Lines

TABLE OF OFFSETS
 INITIAL 4-REVISIONS OF MATHEMATICAL
 OFFSETS IN FEET OFFSET 1 AND 2 OFFSET OF 2000
 8/7/2011 12:49:38 PM

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HISTORICAL CONTEXT

Designer

Not known. According to John Gardner in his book, *Building Classic Small Craft*, the origin of the Whitehall type of boat probably developed in New York Harbor in the early 1800s and quickly migrated to Boston and other major harbors.

Original plans & construction

There are no known original plans for Whitehall skiffs, as these boats were built by many builders in various ports at a time when builders typically did not use plans, but rather built "by eye". A comparison of Alderbrook's shape and construction details with those of other known Whitehall boats described in Gardner's *Building Classic Small Craft* shows a very close match.



Students and Instructor Jack Becker row replica of Alderbrook (WA-195)

Modifications

Other than sistered frames and other minor repairs, there appear to be only two modifications from the original configuration. The knees on the two rowing thwarts do not appear to be original, based on the full shape of the knees as compared to the long, slender shape of the breasthook, and the fact that they were not fitted to the hull planking as would normally be expected. The second modification is the additional wood on the inside of the transom, heavier stern knees, and an extra reinforcing member under aft end of the sheer cap, all of which is presumed to allow for an outboard motor to be mounted on the transom.

Name

W.S. Chandler had built his fortune as a young man during the California gold rush by salvaging ships abandoned in San Francisco Bay. In 1906-07 he built a summer home on the south fork of the Coos River in southern Oregon in order to start a lumber business there. A creek named Alderbrook flowed through the property and supplied the house with fresh water via a concrete dam 100 yards up the hill. The property, a larger motor launch kept there, and the Whitehall skiff all took on that name.

About Whitehall skiffs

Whitehall skiffs are believed to have been developed in the New York or Boston area, or possibly even from England, although there is no solid factual evidence to support any of this. Used to ferry pilots and commerce agents to incoming ships and for waterfront transportation, their long slender hulls were efficient pulling boats, and were sometimes fitted with sails for when conditions allowed their use.

Their efficiency under oars naturally led to their additional use for recreational and competitive rowing. These recreational boats were built somewhat lighter and leaner than the working craft, as documented by two examples of Boston Whitehalls at the Mystic Seaport Museum in Mystic, Connecticut.

While ship building was quite well established on the East coast in the mid-1800s, the situation on the sparsely populated West Coast was quite different. The discovery of gold in California and the subsequent mass influx of people to that area drove a period of furious development. It would not be far fetched to believe that as boat shops developed in these new ports, the traditional East Coast boat designs might be altered slightly to better handle the conditions of these West Coast harbors. With the scarcity of surviving Boston Whitehalls, and no known New York Whitehalls, the appearance of an original San Francisco Whitehall presents a unique opportunity to document another example of the type.

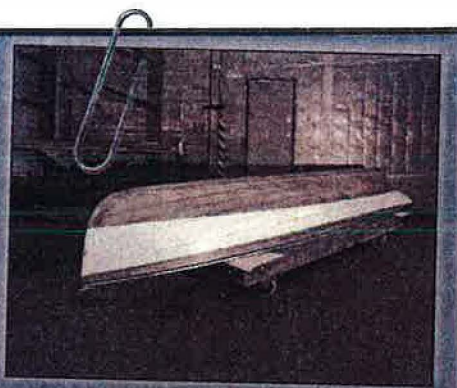


Instructors and students with replica of Alderbrook (WA-195) before launch at Northwest School of Wooden Boatbuilding

ABOUT THE VESSEL

Alderbrook

Rig/Type of Craft:	Open pulling boat	
Trade:	Commercial transportation of passengers and goods in harbors and recreational rowing.	
Length (overall):	16'-2"	
Beam:	4'-2 3/4"	WA-195-7 Inverted starboard bow quarter view of Alderbrook in storage at San Francisco Maritime National Historical Park
Propulsion:	Oars	
Date:	1906	



Operational History

The skiff Alderbrook was always used simply for recreational rowing at the Alderbrook property. The property was sold by the Chandlers in 1998, but the skiff was retained by them until 2010 when it was donated to the Center for Wooden Boats in 2010. It was documented that fall and then transferred to the San Francisco Maritime Museum in 2011.

General Description

Alderbrook was constructed using conventional plank on frame techniques, with copper rivets used to fasten planks to steam bent frames. All other fasteners besides the exposed bolts at the stern knees are presumed to be bronze screws, but paint and putty over these fasteners prevented direct observation.

The backbone assembly, consisting of inner and outer stems, stem knee, keel, deadwood, and stern post, appear to be oak, as are the frames, floor timbers, and the sheer strake. Planking other than the sheer strake is believed to be Port Orford cedar.

Various repairs have been made, including sistered frames and battens over some seams. The transom was modified and the thwart knees appear to be replacements, as noted in the "Physical History, Modifications" above, but the overall shape of the hull appears to be very fair and true to its original form.



WA-195-3 Bow view of Alderbrook



WA-195-4 Interior bow detail of Alderbrook

Sources

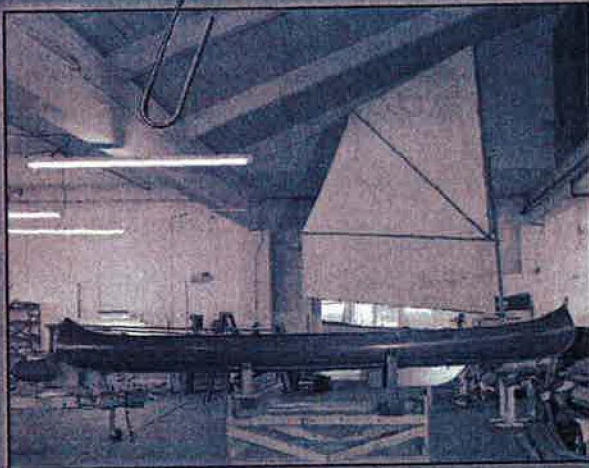
Chandler, Anne, wife of Ben R. Chandler III, grandson of W. S. Chandler.

Chandler, David W., brother of Ben R. Chandler III.

Gardner, John, 1977, Building Classic Small Craft, International Marine Publishing Company, Camden, Maine, pages 194-233.

WILLITS CANOE

HAER No. WA-209



Location: The Center for Wooden Boats, 1010 Valley St.
Seattle, King County, Washington State.

**Designer &
Builder:** Earl and Floyd Willits

**Original
Owner:** Unknown

**Present
Owner:** Dick Wagner

Disposition: Recreation

*WA-209-5 Starboard view with batwing sailing rig
and rudder assembly*

Significance

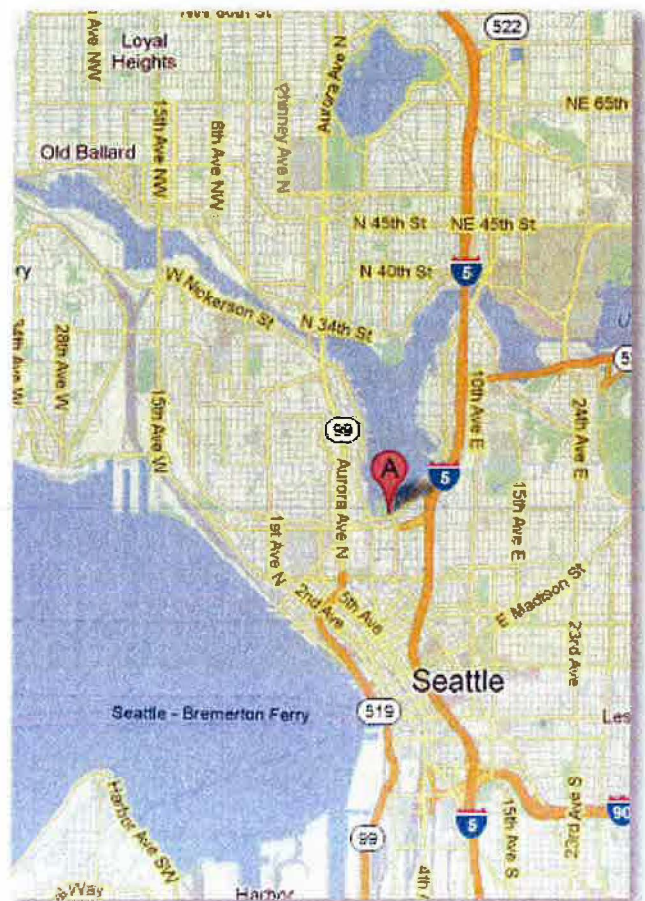
For 50 years, the Willits brothers produced masterfully-built canoes at their shop on Day Island in Tacoma, Washington. The Willits had one of the only canoe building companies in the Northwest and their boats were highly regarded throughout the United States. About 1,000 Willits canoes were made, being sold mainly around the Puget Sound and in the Northwest states. The single canoe model they produced was imitated, but none could duplicate the Willits' level of craftsmanship.

Project Information

The project administered by The Center for Wooden Boats, funded by the Washington State Department of Archaeology and Historic Preservation with support from the National Park Service. The Project mission was to train Western Washington cultural resource managers in the basics of historic watercraft documentation to the standards set forth by the Secretary of Interior. Data collection was undertaken during 2010 and 2011.

Historian

Eric Neumann, The Center for Wooden Boats staff



WILLITS BROTHERS CANOE

Lines

SCALE: 1 1/2"=1'-0"

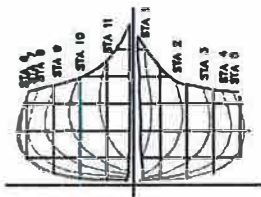
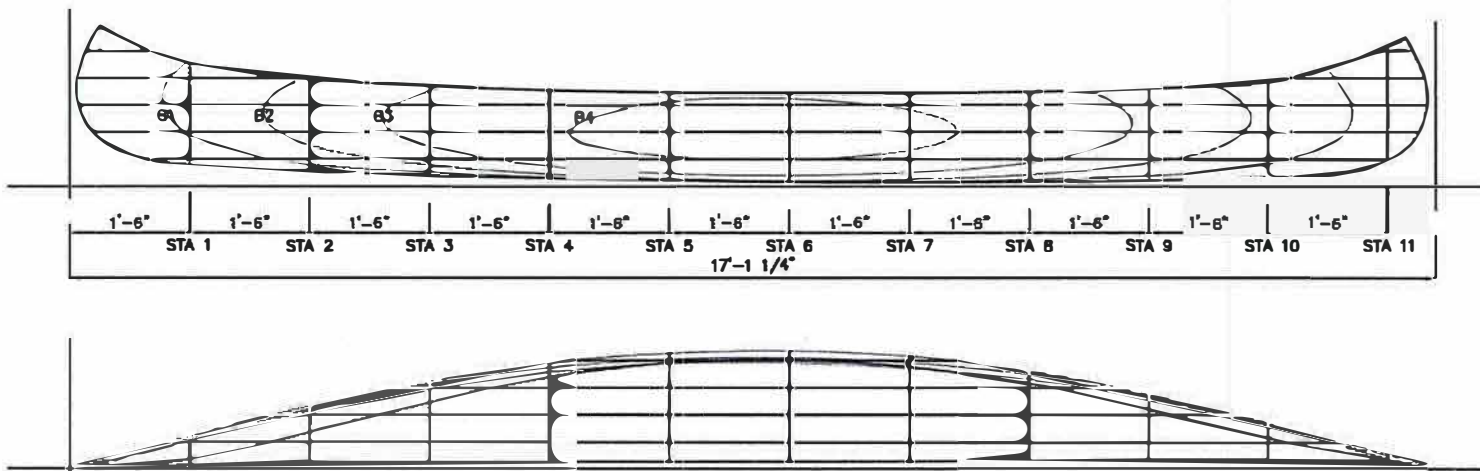


TABLE OF OFFSETS

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HISTORICAL CONTEXT

Designer

Earl and Floyd Willits.

Builder

Willits Canoe Company, Day Island, Tacoma, Washington.

Original Plans & Construction

The Willits Company built a single model, a 17' double-plank red cedar hull held together with copper clench nails. The canoes, which were thought to be based on the designs of Herald Patent canoes built in Petersborough, Ontario, Canada, had small mahogany decks at the bow and at the stern. It came with a sail rig and sails, spars, padded seats, covers and hardware bags.



WA-209-2 Starboard tilted view

Willits Brothers Canoe Company

The Willits Canoe Company operated for almost 50 years, from 1914 to 1963. The designers and builders were Earl and Floyd Willits, the sole employees of the Willits Brothers Canoe Company. Their workshop was first located in Wollochet Bay near Artondale, Washington. It later moved to Day Island in the Tacoma area. Their canoes flourished in part because of socio-economic factors of the time and endured because of the Willits' superb craftsmanship and innovative construction methods.

Willits canoes initially were sold to resorts, liverys and summer camps in the Puget Sound and further into Washington, Idaho and Oregon. In the 1920s and '30s the proliferation of individually owned automobiles created a demand for small boats that could be transported via car, proving to be a boon for the Willits' company.



WA-209-4 Detail of bow starboard side. Note stem/keel lap joint

The design specifications of the Willits canoes are thought to have been based on Herald Patent canoes which were manufactured in Petersborough, Ontario. Herald Patent canoes were built in the late nineteenth and early twentieth centuries and incorporated the same double-plank hull construction as the Willits' boats. These popular canoes were present on the Canadian west coast prior to the arrival of the brothers. Canoeing wasn't as popular in the Northwest as in the Midwest and Northeast. Outside of early Native Americans carving dugout canoes, the Willits were one of the few canoe builders in this region in the early twentieth century. Because of this, the Willits brothers were forced to invent and fabricate more parts than their East Coast contemporaries. This led to the development of custom hardware, steering mechanisms and sailing rigs.

The Willits were perfectionists both as boat builders and as businessmen. In all their years in business, they built a single type and size of canoe, allowing them to perfect their manufacturing process and streamline its efficiency. The small operation of the

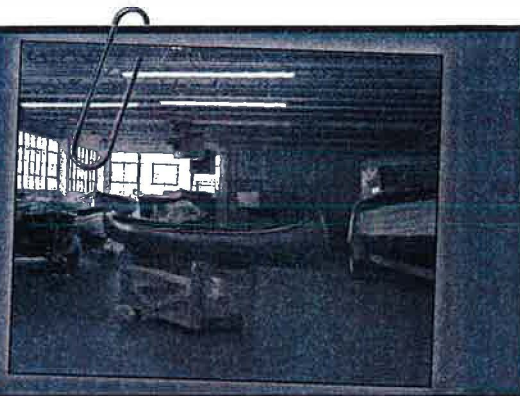
brothers and specialty product meant that at times, commissioned canoes had a seven-year waiting list. With the exception of the cast hardware, fasteners and nameplates, the Willits produced all of the accessories that went with their boats, including sail rig and sails, spars, padded seats, covers and hardware bags. The Willits were able to compete with larger manufacturers such as Old Town Canoes on the East Coast, and Ranger Fiberglass Boats in Kent, Washington, because larger producers didn't produce boats on a par with the Willits level of craftsmanship.

ABOUT THE VESSEL

Willits Canoe

Rig/Type of Craft: Canoe, with batwing sail rig
Trade: Recreation
Length (overall): 17'-2"
Beam: 2'-10"
Propulsion: Paddles or sail when sailing rig is in use.
Date: ca. 1958

*WA-209-3 Starboard level view
from bow quarter*



Operational History

Dick Wagner purchased this Willits canoe for personal use and as a rental for his houseboat livery, the predecessor of The Center for Wooden Boats. Like all Willits boats, it was built by the brothers at their shop on Day Island in Tacoma, Washington. Mr. Wagner originally was introduced to Willits canoes as a Boy Scout. In the late 1960s Mr. Wagner inquired about purchasing a canoe from the Willits brothers. He abandoned the idea after learning that there was a two-year waiting list before any boats would be available to buy.

In 1969 Mr. Wagner found an ad in the newspaper listing a Willits canoe for sale. It was being sold by a man who had a summer home on the Hood Canal. Mr. Wagner contacted him and, upon seeing the canoe's excellent condition, bought it, paying about \$500.00.

When The Center for Wooden Boats was completed on the south end of Lake Union, Mr. Wagner included his canoe as an exhibit and rental boat. It rented for \$3.00 per hour with a checkout before use.

General Description

In nearly 50 years in operation, the Willits brothers made a single model of canoe, 17' long, using double-plank construction. Their boats were known for their beauty and durability. Mr. Wagner's canoe is no exception.

The hull's inner and outer planking is 5/32" red cedar. The double-planked hull construction was made of two layers of cedar, laid perpendicular to each other and held together with thousands of copper clinch nails. The inside layer ran athwartships and the outer layer ran fore and aft. During construction, a sheet of canvas or muslin was laid on top of the inner planking, covered with marine glue and then sheathed with the outer planking. The canvas was sandwiched between wood layers, creating a waterproof, strengthening membrane in the boat.

The canoes had a small, mahogany deck on both bow and stern, a mahogany rudder and keel. Brass hardware was used on the mast gooseneck, to attach the canoe's keel and throughout the sailing rig. A strip of brass runs along the bow and stern to prevent chafe when beaching the boat.

Mr. Wagner's canoe and sailing rig is original and has been kept in excellent condition. The only alterations that have taken place were additional coats of varnish, applied by Mr. Wagner and his son, Mike.

Sources

Patrick F. Chapman, *The Willits Brothers and Their Canoes: Wooden Boat Craftsmen in Washington State 1908-1967* (North Carolina: McFarland & Company, 2006).

Holly Hughes, "The Willits Brothers Canoes," *WoodenBoat*, Nov./Dec. 1983, 82-86.



WA-209-1 Bow viewed from starboard amidship. Note mast partner at bow deck