

Historical Evaluation of the
Tugboat *Enchantress* (45SK369)
Anacortes, Washington

Submitted to



Port of Anacortes, Washington

Submitted by



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Seattle, Washington

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Executive Summary

The Port of Anacortes contracted with Historical Research Associates, Inc. (HRA), to conduct an evaluation of the tugboat *Enchantress* (45SK369) for listing in the National Register of Historic Places (NRHP). The *Enchantress* is a derelict Miki-class tugboat that has been abandoned on state-owned aquatic land since 2000. The Washington State Department of Ecology considers the *Enchantress* a risk to public and environmental safety. The tugboat is constructed of and/or contains hazardous materials such as lead, hydraulic oil, tin, and mercury, among other substances. These materials may be leaching into the waters of Fidalgo Bay currently or may be released if the tug continues to deteriorate and/or if it breaks apart during a storm. The vessel is over 50 years old and the Washington State Department of Archaeology and Historic Preservation (DAHP) requested that the tugboat be evaluated before removal.

HRA's evaluation consisted of archival and literature review, oral interviews, and a field visit that included the involvement of maritime architect Jim Cole, to assess the physical integrity of the *Enchantress*. The history of the vessel was obtained through archival research and oral interviews with people who had either worked on or skippered the ship as well as others who had knowledge about Miki tugboat construction and usage. NRHP nomination forms as well as Washington Heritage Register (WHR) nomination forms for other vessels from similar construction periods were also examined to determine what types of appliances or historical records were necessary for integrity and subsequent eligibility. Three periods of significance, chronological periods under which the vessel might be considered eligible for listing in the NRHP were identified. The periods included World War II (1941–1945), the DEW-Line (1955–1957), and Foss Towing (1950–1969).

HRA recommends that the *Enchantress* is not eligible for the NHRP because the vessel does not retain integrity of location, design, feeling, and association. The integrity of the vessel has been compromised by removal of key physical elements that would convey her significance as a Miki-class tugboat. Better and more complete examples of Miki-class tugs exist elsewhere in Puget Sound.

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1.0 Introduction

The *Enchantress* (45SK369) is located in the NE 1/4 of the NE 1/4 of Section 30, Township 35 North, Range 2 East, Willamette Meridian (Figure 1, United States Geological Survey 1978). The derelict Miki-class tugboat is caught on a piling from an old plywood mill in Fidalgo Bay, Anacortes, Washington. The Department of Ecology and Department of Natural Resources (DNR) wish to remove the vessel under the DNR Derelict Vessel Program as part of compliance with the Puget Sound Initiative, a directive from Washington State Governor Christine Gregoire that focuses on the cleanup and restoration of Puget Sound by 2020. As part of the directive, cleanup activities in the Anacortes area have focused on eight "priority sites," one of which is the Custom Plywood Mill. Like most mills, Custom Plywood was built over the water, supported on creosoted pilings, before it burned down in 1990. Part of Ecology's cleanup plan for the mill site is to remove the creosoted pilings on which the *Enchantress* is snagged. As part of the larger cleanup plan, the *Enchantress* would be removed as well.

Because the *Enchantress* is over 50 years old, the Washington Department of Archaeology and Historic Preservation (DAHP) required an assessment of the vessel to determine if it was eligible to be listed in the National Register of Historic Places (NRHP). The assessment consisted of archival research, oral interviews and fieldwork, and the results and the production of the report and a Washington State Site Inventory Form (Appendix A). Maritime architect James Cole also participated in the field visit and prepared a report of his findings (Appendix B).

2.0 Methods

HRA conducted background research at the Seattle Public Library, the Tacoma Public Library, and the DAHP in order to collect background information about Miki-class tugboats in general and specifically the *Enchantress* (45SK369). Oral interviews were conducted with people who had knowledge of the *Enchantress* and her history. HRA also examined schematics, blueprints, and historical photographs to enable us to evaluate the vessel's integrity. HRA followed the guidelines found in *National Register Bulletin 20: Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places* (Delgado 1985). The bulletin specifies six steps in the evaluation of a historic vessel:

1. Identification of the specific type of vessel and documentation of her individual characteristics based on a physical inspection of the vessel and a documentation of her history.
2. Identification of the historic context(s) associated with the vessel based on documentation of her history.
3. Determination that the characteristics of the vessel make her either the best, or a good representative of her type.

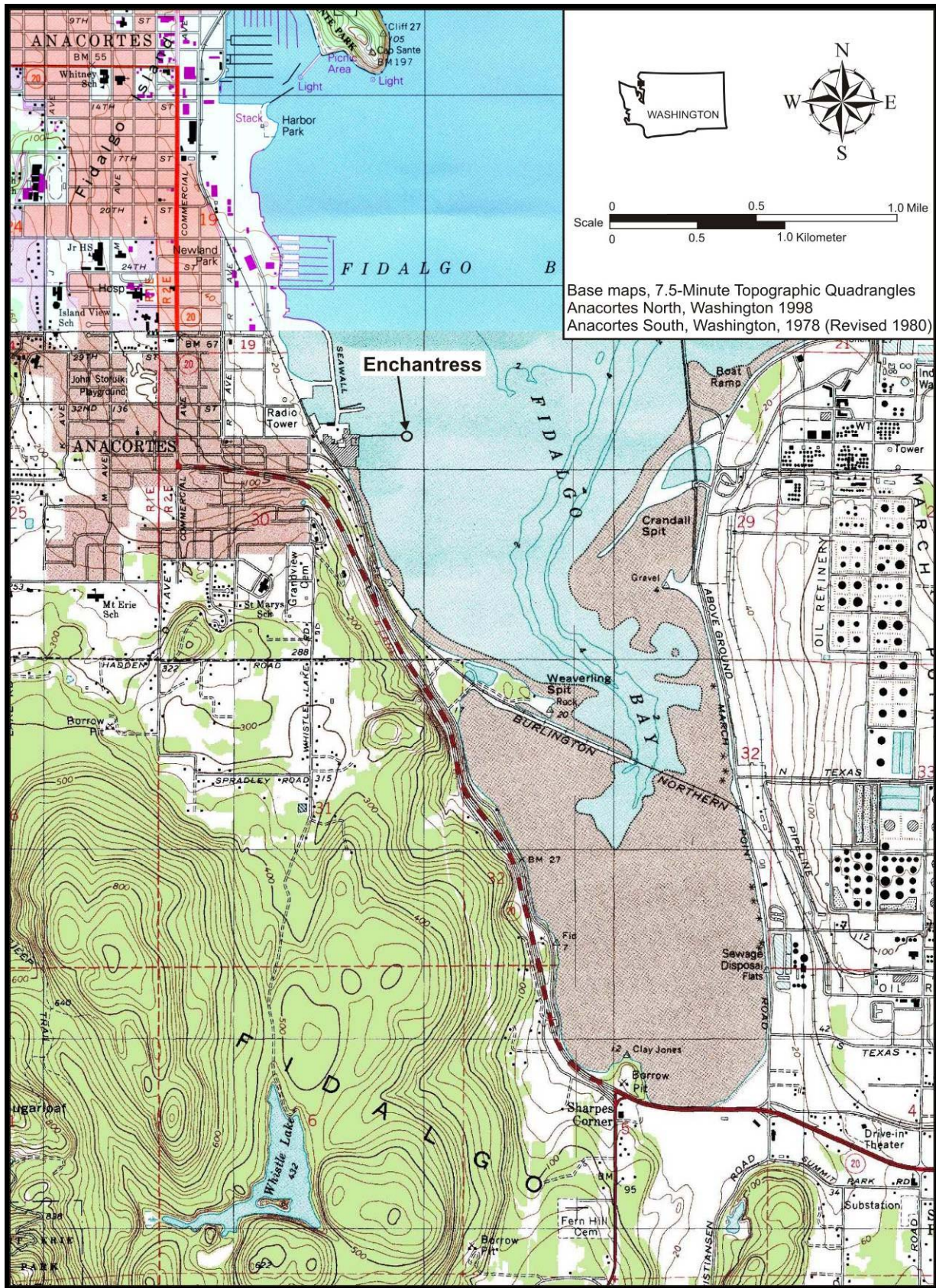


Figure 1. Location of the *Enchantress* in Fidalgo Bay, Anacortes, Washington.

4. Evaluation of the significance of the vessel based on the National Register criteria.
5. Evaluation of the vessel's integrity and a listing of the features that the vessel should retain to continue to possess integrity.
6. Evaluation of a vessel's special characteristics that might qualify her for the National Register listing even though she might be less than 50 years old or some aspect of her present condition generally would not qualify her for listing (Delgado 1985:3-4).

HRA developed methods to evaluate the vessel based on the above steps, with the exception of step 6. The *Enchantress* is over 50 years old.

To evaluate physical integrity and characteristics of the *Enchantress*, HRA historic archaeologist Gretchen Kaehler and maritime architect James Cole visited Anacortes to examine the vessel on March 20, 2008. The Port of Anacortes provided a small boat and HRA was able to examine the tugboat from all sides from the water, but did not board the ship as she was in a deteriorated condition. Photographs were taken of all sides of the ship from the water and notes were taken about her general condition. Mr. Cole prepared a report of his findings and opinions of eligibility, which can be found in Appendix B.

The HRA archaeologist also examined documentation of other vessels that were nominated or deemed eligible for listing in local or national registers. These vessels largely retained their integrity and were eligible or recommended eligible because they were good examples of their vessel type and represented the historic context and/or themes with which they were associated (Davis n.d.; Delgado 1988 West 1969)

Prior to the field visit, Mr. Cole and Ms. Kaehler developed a list of characteristics that would have to be present on the *Enchantress* for her to retain integrity. This list included:

- the tow winch;
- the booby hatch;
- original brass fittings, port lights, windows, wooden doors, and equipment such as the compass, and steering wheel.

3.0 Historic Context

To determine whether a historic archaeological site is eligible for listing in the NRHP, the site must be evaluated within its historic context. A historic context is defined as:

a body of thematically, geographically, and temporally linked information that provides for an understanding of a property's place or role in prehistory, or history. The historic context is the analytical framework within which the property's importance can be understood and to which a historic archaeological study is likely to contribute important information (Townsend et al. 1993:22).

The historic context and periods of significance within which the *Enchantress* was evaluated are presented below.

The design of the Mikimiki tugboat, although devised for commercial use, had a major influence on World War II tugboats and the post-war towing industry, particularly in the Pacific Northwest. Jack Young of Young Brothers arrived in Seattle in 1927 with a mission. Young Brothers was a Hawaiian company that was involved in the towing of pineapple barges from plantations on outlying islands to the "Big Island," Hawaii. The Young Brothers vessel, the *Mahoe*, had been in use since May of 1925. Jack Young called the *Mahoe* a "truly great vessel" and wanted to award a new shipbuilding contract to either a Seattle or San Francisco-based company. The Mikimiki tugs were designed by L. H. Coolidge, a naval architect, and were built both in West Coast and East Coast shipyards. At the beginning of 1942, more ships were needed for the war effort. Coolidge believed that the 1928 Mikimiki design "could be used as it was a proven, reliable tug that has already been drawn and lofted, and was available with only slight design changes" (Benthien 1998:9). Altogether, 61 Mikimiki design tugboats were built for the U.S. Army. Most of the tugs were built on the West Coast; however, 10 tugs were built on the East Coast, including LT-495 (*Enchantress*). LT-495 was one of five Miki class tugs built at the Minneford Yacht Yard, City Island, New York.

As built, the *Enchantress* was 117 feet long with a 28-foot beam and was approximately 282 gross tons (Benthien 1998; Skalley 1986). The *Enchantress* was constructed as a "single-screw" or single engine tugboat as opposed to a "double- or twin-screw" two engine model. Although the original World War II design specified twin 600/690 horse power (hp) Fairbanks Morse diesel engines, a shortage of engines and material during WWII necessitated the use of a single engine (Benthien 1998:13). This description of a Miki-class tugboat is taken from Benthien (1998:9):

These tugs were classed by the A.T.S. as LTs (large tug) with an overall design length of 126 feet and a beam of 28 feet. They were heavily constructed with 15-inch square fir keels, engine bed timbers 17-1/2 by 23-1/2 inches, keelsons 12-1/2 by 15 inches, sister keelsons 12-3/4 by 12-1/2 inches, double 7- inch flitches 23 inches center-to-center, top timbers of yellow cedar, 10 by 12-inch yellow cedar deck beams, and planked overall with 3-1/2 inch planking. Bulwarks were solid with iron bark rail; super-structure had outer sheathing of tongues and grove fir, inside sheathing was 3/4- inch waterproof plywood.

The Army contract for construction of the vessels was written so that the shipyards could use local wood for building the tugs. Those Miki-class tugs built on the West Coast were constructed from fir, oak and cedar, while those on the East Coast, like LT-495, were composed of oak for the structure with white pine used for the sheathing. Another difference between East Coast and West Coast construction is that the East Coast vessels were powered by a single 1200 hp Superior engine while West Coast-constructed Mikis were powered by a 1200 hp Enterprise engine. This difference presented some difficulties with the procurement of replacement engine parts when the East Coast vessels were operating on the West Coast.

Figure 2 shows the Outboard profile of the Mikimiki tugboat, while Figure 3 shows the *Enchantress* as she appears currently at high tide in Fidalgo Bay.

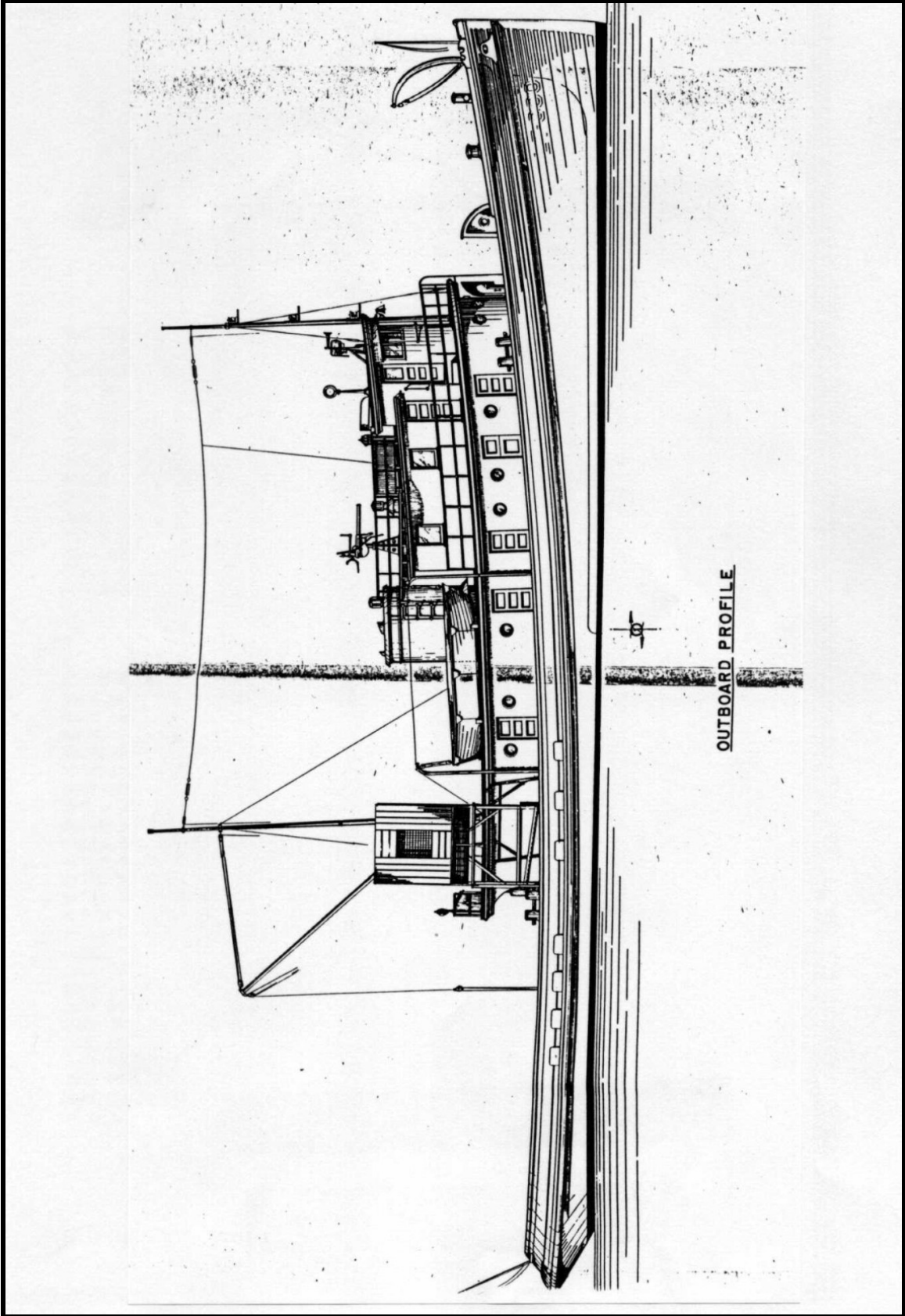


Figure 2. Outboard profile of the Miki-class tug. (used by permission of John Benthien).



Figure 3. The *Enchantress* in Fidalgo Bay (view east).

LT-495 was surplused after the war and was purchased by a number of companies who used her for general towing. As the *John Michael*, she was run on the East Coast by Baltimore Towing until 1950. In 1950, she was purchased by Kotzebue Oil Company and used for general barge towing between Puget Sound and Alaska. The *John Michael* was caught up in a legal battle between Kotzebue Oil Company and Ocean Fisheries over loss of cargo precipitated by bad weather on a trip between Alaska and Seattle. The *John Michael* was ordered for sale by federal courts and was purchased by Foss Launch and Tug Company in 1951 for \$76,000, where she joined a fleet of five other Miki-class tugs already owned by Foss (Skalley 1996:175). Foss renamed the vessel *Leslie Foss* and used her to tow rail barges between Seattle and Bellingham, and on the various Alaska routes. By 1958, she was part of the Coast Lumber Run, barging lumber from Washington, Oregon, and northern California to southern California.

In 1969, the *Leslie Foss* was sold to a private individual, Robert Martin of Gig Harbor, who upgraded the interior, including the galley and the crew quarters to accommodate 15 persons comfortably (Skalley 1996). Martin renamed the vessel *Enchanter* and used her as a yacht until 1971 when she was sold to another individual for use as a towboat again. Renamed the *Polar Navigator*, she plied the waters of Puget Sound and Alaska as a charter of Northland Marine Lines. In 1976, the *Polar Navigator* was seized by a local shipyard for non-payment of repair bills and subsequently sold to the Sinkey family for use as a pleasure craft and houseboat. They sold the tug in 1979 to a northern California construction company who berthed her at the Foss-Seattle shipyards. The vessel was renamed *Western Sea I* and apparently made at least one trip from Puget Sound to Alaska. Beyond this point, LT-495's history becomes less certain. According to Benthien (1998) she was registered as the *Enchantress* by unknown owners.

By 2000, she was owned by a Richard Carnes of Sedro-Woolley, who had her towed to Anacortes where his girlfriend lived. He illegally moored her on the piling from the old sawmill. According to Bill Mitchell, Anacortes resident and artist (personal communication 2008), the tidal fluctuation was misjudged and during low tide, she bottomed out on the floor of Fidalgo Bay. Richard Carnes was killed in a dispute over a debt, with the killer committing suicide shortly after. According to Lowell Jones, shipwright (personal communication 2008), the subject of the disputed debt was the *Enchantress*.

4.0 Periods of Significance

The *Enchantress* may be eligible as a historic vessel under the following periods of significance.

4.1 World War II (1941-1945)

Miki-class tugs were built for the U.S. Army during World War II to haul supplies and rescue stalled ships. They were designed to move barges with supplies and equipment as efficiently as possible. According to John Benthien, tugboat researcher (personal communication 2008), the tugs did more than they were ever designed to do, including rescuing stranded ships and landing troops on the beach at Normandy. LT (large tug)-495 was launched in 1944 six months before V-E day. LT-495 operated on the East Coast for the Army Transportation Corps from its launch until just after the war ended (Skalley 1986:174).

4.2 DEW-Line—Distant Early Warning Line Construction (1955-1957)

The Distant Early Warning Line, or DEW-Line, was an integrated chain of radar and communication systems stretching over 3,000 miles within the Arctic Circle from the northwest coast of Alaska to Baffin Island (Harris n.d.). According to Bill Nystrom, who worked on the construction of the DEW-Line, it was a massive undertaking, dangerous, and fraught with uncertainty. The DEW-Line was constructed because of the concerns for the vulnerability of the United States and Canada to air attacks. "There was no precedent for this kind of project, no protocols. Everything had to be done from shipside because the Alaskan coastline was so shallow that you couldn't get the ships too close. Hundreds of construction workers and supplies to feed and house them, as well as materials for construction had to be transported to Alaska" (Bill Nystrom, personal communication 2008). This involved many private contracting companies, including Foss Towing, who delivered supplies and petroleum during and after the completion of the DEW-Line. According to Mr. Nystrom, it was the "worst ice in 40 years," which made any activity from the unloading to the construction of the stations more dangerous and unwieldy. D-boats were used as huge floating drydocks and soldiers were used for labor. Although the *Leslie Foss* was not used in the construction of the DEW-Line, according to Skalley (1996:176) she did take part in the 1964 DEW-Line resupply government project.

4.3 Foss Towing (1950-1969)

As the *Leslie Foss*, the *Enchantress* operated for the Foss Tug and Launch Company (Foss), as part of their fleet of nine Miki-class tugboats all purchased as surplus after World War II. They were purchased by Foss as "they had proven dependable, seaworthy, and 'heavy pullers'" (Skalley 1996:121). Miki-class tugs made up the backbone of the post-war Foss towing fleet, running lumber barges across Puget Sound and to California, as well as making seasonal oil runs to Alaska.

5.0 Field Results

The *Enchantress* (45SK369) was examined from a small skiff at high tide. The hull has sustained damage from marine bore worms or Teredos. All windows have been removed except for those in the pilot house which are broken. Metal debris including buckets and pieces of equipment which may or may not have been part of the vessel, are strewn across the fore and aft decks.

The forward and aft masts, the winch, and the roller chock have been removed. The duplex anchor windlass is still present. The booby hatch, which was an access to the deck below, has been replaced by a steel-walled hatch that is not lighted. The original booby hatches were constructed of fitted wood and had portholes; there were also port lights on it so that it could be seen at night.

The brass fittings, steering wheel, and compass have been removed. The port hole glazing, which was brass framed, has been removed. John Benthien stated that the windows and other brass fittings were removed within 24 hours of the *Enchantress* being entangled and beached in the piling. "They came out with chainsaws and tore out the port windows and the other fittings because they knew that the brass was worth something" (John Benthien personal communication 2008). Saw marks were observed in the wood around the windows (Figure 4). A new radar system, as well as a crane/winch system, had been added to the deck. The hull has been severely damaged by Teredos (marine bore worms or shipworms) (Figure 5). According to Lowell Jones, the deterioration is partly due to the fact the she was sheathed in white pine rather than cedar. "Oak and yellow cedar they [Teredos] pretty much leave alone. But, pine, that is like ice cream to them" (Lowell Jones, personal communication 2008).



Figure 4. The pilot house on the *Enchantress* showing cut marks where portholes have been removed (view east).



Figure 5. Hull damage from Teredos (view west).

6.0 Conclusions

To qualify for listing in the NRHP, an historic vessel must have significance as one of the predefined vessel types (i.e. floating historic vessel, dry-berthed historic vessel, hulk, small craft; be at least 50 years old), retain integrity of location, design, setting, materials, workmanship, feeling, and association, and meet one or more of the NRHP criteria (Delgado 1985:2-3). The criteria for listing properties in the NRHP are:

- A. Property is associated with events that have made a significant contribution to the broad patterns or our history; or
- B. Property is associated with the lives of persons significant in our past; or
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction; or
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

The tugboat *Enchantress* (45SK369) meets the definition of a hulk, that is, "substantially intact vessels that are not afloat such as abandoned or laid up craft that are on a mudflat, beach, or other shoreline" (Delgado 1985:2). The *Enchantress* is currently caught on a piling and her hull is resting on the mud of Fidalgo Bay (Figure 6).

Delgado (1985:8) describes integrity of location for historic vessels as "construed to mean that a vessel is located in a port or other location with which the vessel historically has some association, such as a port of construction, or a port of call." The *Enchantress* or LT-495 was built on the East Coast and was abandoned in Anacortes. The vessel has no historical connection with Anacortes or Fidalgo Bay, and Anacortes was not a historical port of call for the vessel. The *Enchantress* also does not retain integrity of design. The vessel retains some integrity of setting because she is on water. She also retains some integrity of materials and workmanship, although there have been many alterations and replacements that were performed without regard to historical materials or construction methods. The *Enchantress* does not retain integrity of feeling or association and is not a good representation of a Miki-class tugboat. Better representations of Miki-class tugs exist, including the *Dominion* owned by Floyd J. Waite of Puget Sound.

In addition, little is known of her military service (World War II 1941–1945). The *Enchantress* was part of the Foss Towing fleet under the name of *Leslie Foss* and she was used for a re-supply of the DEW-Line in 1964. However, the *Enchantress* (LT-495) is not specifically associated with events that contribute to the broad patterns of history, although Miki-class vessels were built for and served during World War II in a variety of situations (Criterion A).



Figure 6. Stern of *Enchantress* caught on piling (view west).

She is not associated with the life or lives of persons significant in history (Criterion B). She probably has some significance under Criterion C for her method of construction which is representative of Miki-class tugboats. The *Enchantress* is not likely to yield information important to history or prehistory (Criterion D). Most importantly, the *Enchantress* does not possess integrity, which is essential for listing in the NRHP, along with meeting one or more of the foregoing criteria. She is no longer the best or even a good representation of her type. Figure 7 shows the vessel as the *Leslie Foss* sometime between 1950 and 1969, while Figure 8 shows the vessel as she is today.

The *Enchantress* is recommended not eligible for listing in the National Register of Historic Place and/or the Washington Heritage Register. The *Enchantress* does not retain integrity of location, design, feeling, or association.

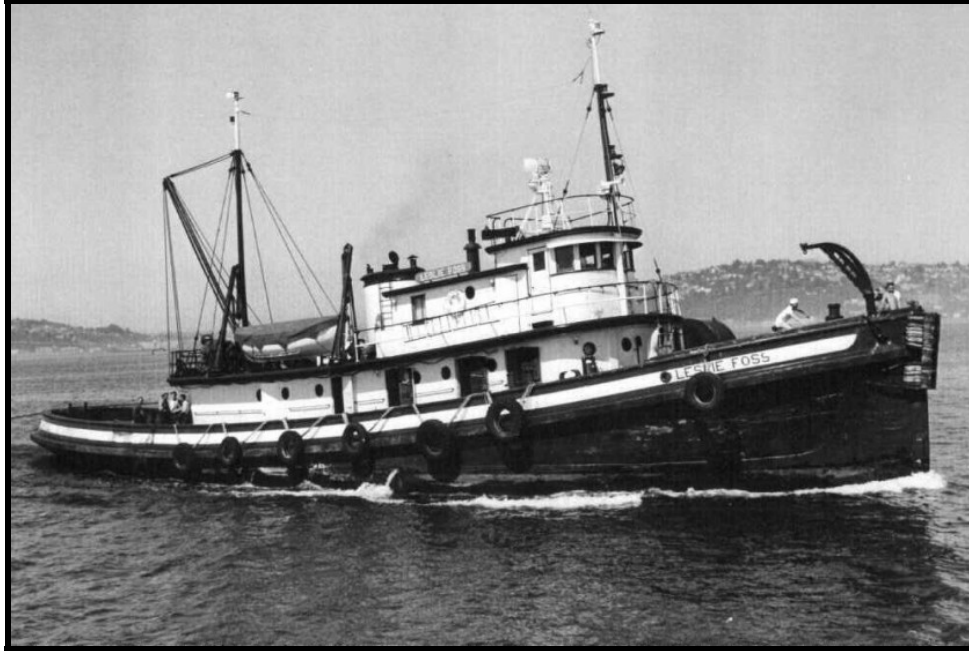


Figure 7. The *Enchantress* as the *Leslie Foss*, 1950-1969 (photo used with permission of John Benthien)



Figure 8. Current condition of the *Enchantress* in Fidalgo Bay, March 20, 2008 (view southeast).

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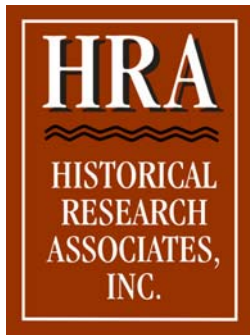
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United States Geological Survey

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Appendix A

Washington State Archaeological Site
Inventory Form



STATE OF WASHINGTON ARCHAEOLOGICAL SITE INVENTORY FORM

Site No. 45SK369

County: Skagit

*Date: 5/5/08 *Compiler: G. Kaehler

Location Information Restrictions: Yes/No Unknown:

SITE DESIGNATION

Site Name: Tugboat Enchantress (LT-495)

Field/ Temporary ID:

Site Type: Shipwreck (not submerged)

SITE LOCATION

*USGS Quad Map Name: Anacortes North 1998, Anacortes South 1978

*Legal Description: T. 35 North R.2 East E/W, Section(s): 30

Quarter Section(s): NE 1/4 of NE1/4

*UTM: Zone 10 Easting 529777 Northing 5371367

Latitude: 48° 29'42 Longitude: 122° 35' 50 Elevation (ft/m): 0

Other Maps Type

Scale Source:

Drainage, Major: Fidalgo Bay Drainage, Minor: River Mile:

Aspect: Slope:

*Location Description (general to specific):

The tugboat Enchantress is located at the end of a neglected piling near the western shore of Fidalgo Bay in Anacortes, Washington.

Approach (to relocate): From Interstate 5 North (I-5) take the Avon cutoff and follow signs to Anacortes. Turn north onto Fidalgo Bay Road. The Enchantress will be visible when looking east over Fidalgo Bay. A boat is required to reach the vessel during high tide.

*Mandatory information for official site designation

SITE DESCRIPTION

Narrative Description:

The site consists of a derelict tugboat that is caught on a creosote pile, part of the piling from a plywood mill that was destroyed by fire. The tugboat is a Miki-class tug built for service during World War II. The tug is resting on the bottom of Fidalgo Bay and is caught on a pile from an old piling that was associated with a plywood mill that burned in 1990.

***Site Type:** Shipwreck (not submerged)

***Dimensions** (*Method of horizontal measurement*):

Length: 127 ft N-S **Direction:** **Width:** 28 ft E-w **Direction:**

Depth: m **Method of vertical measurement**

Vegetation: Water

Local:

Regional:

Landforms: On Site: N/A

Local:

Water Resources: Fidalgo Bay

Distance: 0 meters

Permanence: Permanent

CULTURAL MATERIALS AND FEATURES

***Narrative Description:**

The *Enchantress* was examined from a small skiff at high tide. The site consists of a Miki-class tugboat caught on a piling. The vessel's hull has sustained damage from marine bore worms (Terados). All windows have been removed except for those in the pilot house which are broken. Metal debris including buckets and pieces of equipment which may or may not have been part of the vessel are strewn across the fore and aft decks.

Method of Collection(a) Not collected

Location of Artifacts (Temporary/ Permanent)

SITE AGE

***Component:**

***Dates:** 1944 to present

***Dating Method:** Historic documents

***Phase:**

Basis for Phase Designation:

SITE RECORDERS

Observed by: G. Kaehler/J. Cole

Address:

***Recorded by:** G. Kaehler

***Affiliation/Address:** Historical Research

***Date Recorded:** 3/20/2008

Associates, Inc.

***Affiliation Phone Number:** 206-343-0226

Affiliation E-mail:

Revisited by:

Affiliation Address: 1904 Third Ave. Suite 240

Seattle, WA, 98101

Date Revisited:

SITE HISTORY

Previous Work (references):

The design of the Mikimiki tugboat, although devised for commercial use, had a major influence on World War II tugboats and the post-war towing industry, particularly in the Pacific Northwest. Jack Young of Young Brothers arrived in Seattle in 1927 with a mission. Young Brothers was a Hawaiian company that was involved in the towing of pineapple barges from plantations on outlying islands to the "Big Island," Hawaii. The Young Brothers vessel, the *Mahoe*, had been in use since May of 1925. Jack Young called the *Mahoe* a "truly great vessel" and wanted to award a new shipbuilding contract to either a Seattle or San Francisco-based company. The Mikimiki tugs were designed by L. H. Coolidge, a naval architect, and were built both in West Coast and East Coast shipyards. At the beginning of 1942, more ships were needed for the war effort. Coolidge believed that the 1928 Mikimiki design "could be used as it was a proven, reliable tug that has already been drawn and lofted, and was available with only slight design changes" (Benthien 1998:9). Altogether, 61 Mikimiki design tugboats were built for the U.S. Army. Most of the tugs were built on the West Coast; however, 10 tugs were built on the East Coast, including LT-495 (*Enchantress*). LT-495 was one of five Miki class tugs built at the Minneford Yacht Yard, City Island, New York.

As built, the *Enchantress* was 117 feet long with a 28-foot beam and was approximately 282 gross tons (Benthien 1998; Skalley 1986). The *Enchantress* was constructed as a "single-screw" or single engine tugboat as opposed to a "double- or twin-screw" two engine model. Although the original World War II design specified twin 600/690 horse power (hp) Fairbanks Morse diesel engines, a shortage of engines and material during WWII necessitated the use of single a single engine (Benthien 1998:13). This description of a Miki-class tugboat is taken from Benthien (1998:9):

These tugs were classed by the A.T.S. as LTs (large tug) with an overall design length of 126 feet and a beam of 28 feet. They were heavily constructed with 15-inch square fir keels, engine bed timbers 17-1/2 by 23-1/2 inches, keelsons 12-1/2 by 15 inches, sister keelsons 12-3/4 by 12-1/2 inches, double 7- inch flitches 23 inches center-to-center, top timbers of yellow cedar, 10 by 12-inch yellow cedar deck beams, and planked overall with 3-1/2 inch planking. Bulwarks were solid with iron bark rail; super-structure had outer sheathing of tongues and grove fir, inside sheathing was 3/4- inch waterproof plywood.

The Army contract for construction of the vessels was written so that the shipyards could use local wood for building the tugs. Those Miki-class tugs built on the West Coast were constructed from fir, oak and cedar, while those on the East Coast, like LT-495, were composed of oak for the structure with white pine used for the sheathing. Another difference between East Coast and West Coast construction is that the East Coast vessels were powered by a single 1200 hp Superior engine while West Coast-constructed Mikis were powered by a 1200 hp Enterprise engine. This difference presented some difficulties with the procurement of replacement engine parts when the East Coast vessels were operating on the West Coast.

LT-495 was surplused after the war and was purchased by a number of companies who used her for general towing. As the *John Michael*, she was run on the East Coast by Baltimore Towing until 1950. In 1950, she was purchased by Kotzebue Oil Company and used for general barge towing between Puget Sound and Alaska. The *John Michael* was caught up in a legal battle between Kotzebue Oil Company and Ocean Fisheries over loss of cargo precipitated by bad weather on a trip between Alaska and Seattle. The *John Michael* was ordered for sale by federal courts and was purchased by Foss Launch and Tug Company in 1951 for \$76,000, where she joined a fleet of five other Miki-class tugs already owned by Foss (Skalley 1996:175). Foss renamed the vessel *Leslie Foss* and used her to tow rail barges between Seattle and Bellingham, and on the various Alaska routes. By 1958, she was part of the Coast Lumber Run, barging lumber from Washington, Oregon, and northern California to southern California.

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In 1969, the *Leslie Foss* was sold to a private individual, Robert Martin of Gig Harbor, who upgraded the interior, including the galley and the crew quarters to accommodate 15 persons comfortably (Skalley 1996). Martin renamed the vessel *Enchanter* and used her as a yacht until 1971 when she was sold to another individual for use as a towboat again. Renamed the *Polar Navigator*, she plied the waters of Puget Sound and Alaska as a charter of Northland Marine Lines. In 1976, the *Polar Navigator* was seized by a local shipyard for non-payment of repair bills and subsequently sold to the Sinkey family for use as a pleasure craft and houseboat. They sold the tug in 1979 to a northern California construction company who berthed her at the Foss-Seattle shipyards. The vessel was renamed *Western Sea I* and apparently made at least one trip from Puget Sound to Alaska. Beyond this point, LT-495's history becomes less certain. According to Benthien (1998) she was registered as the *Enchantress* by unknown owners.

SITE OWNERSHIP***Owner/Address: Abandoned vessel****Tax Lot/ Parcel No:****RESEARCH REFERENCES****Items/Documents Used In Research (specify):**

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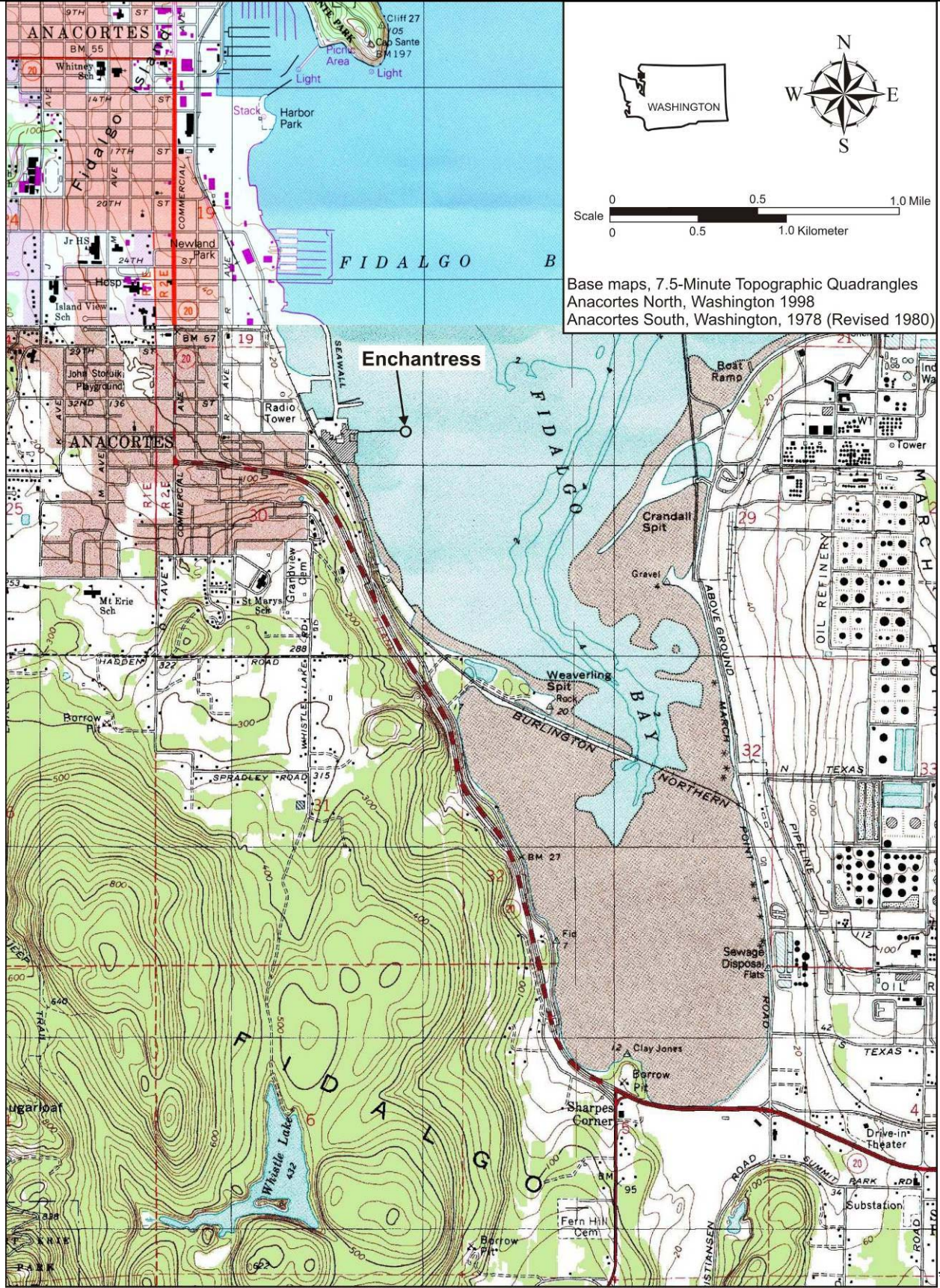
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West, Frank H.

1969 *Snagboat "W.T. Preston" (45SK259)*. National Register of Historic Places Nomination Form. On file at the Department of Archaeology and Historic Preservation, Olympia.

MANDATORY USGS MAP



Base maps, 7.5-Minute Topographic Quadrangles
Anacortes North, Washington 1998
Anacortes South, Washington, 1978 (Revised 1980)

SKETCH MAP



Figure 2. Enchantress (LT-495) (view east)

Site Name:

Label all additions by corresponding headings (e.g., Site Description: On Site Vegetation)



Figure 3. Enchantress in Fidalgo Bay at high tide (view southeast)



Figure 4. The *Enchantress* as the *John Michael*, 1945-1950 (photograph used with permission of John Benthien).



Appendix B
Cole Evaluation of the *Enchantress*

**REPORT ON THE CONDITON OF THE
GROUNDED TUG ENCHANTRESS**

For

**HISTORICAL RESEARCH ASSOCIATES, INC.
1904 Third Avenue, Suite 240
SEATTLE, WASHINGTON 98101-1194**

May 25, 2008

By

James A. Cole
Marine Artist & Historian
3424 Northwest 65th Street
Seattle, Washington 98117

PURPOSE

This report is to cover the findings of an inspection that was made alongside the grounded tug ENCHANTRESS, (O. N. 249484) on March 18, 2008 for the City of Anacortes. The inspection was made to determine if the ENCHANTRESS qualifies to be listed on the National Register.

GIVEN AND ASSUMED PARAMETERS

The Department of Ecology has requested help from the Port of Anacortes in removing the ENCHANTRESS from where it has been grounded for approximately eight years. The vessel will need to be physically lifted to accomplish this since its hull planking is no longer intact. In order for the ENCHANTRESS to qualify to be on the National Register one of the following four categories must be met:

1. Was it important in history?
2. Was it associated with an important person?
3. Is the design and craftsmanship outstanding or unique?
4. Would it be a significant archeological site and is it therefore in original condition?

SUMMARY

Importance in History

The ENCHANTRESS is one of approximately 36 World War II Miki class tugs that were built for the U. S. Army Transportation Service (ATS). The Miki class tugs were single screw boats that were active in World War II serving in the supplying of military facilities. In addition to the 36 boats of the Miki Class there were approximately 25 Miki Miki Class tugs which were twin screw boats¹.

After World War II the Miki and the Miki Miki class tugs worked in the commercial tug and barge industry, mostly on the West Coast of the U. S. They were instrumental in the expansion of several Pacific Northwest tug and barge companies. They also played a major role in the commerce that aided the development of the Territory of Alaska, and bolstered the tug and barge trade between the West Coast and Hawaii.

The ENCHANTRESS was declared surplus by the ATS and sold to the Baltimore Towing Co. in July of 1946 where she was named JOHN MICHAEL. She was then sold to the Kotzebue Oil Co. of Alaska in 1950. As the JOHN MICHAEL she was involved in the loss of a barge during a storm in Alaska and was seized by the sheriff when she returned to Seattle without her tow. She was purchased by the Foss Launch and Tug Co. in April of 1951, named LESLIE FOSS, and operated for Foss as one of six Miki Class tugs. Her Foss career consisted of towing on the West Coast and to Alaska and Hawaii. This included a tow to the Army base near Naknek on Bristol Bay as part of the DEW Line resupply. Other tows took her to Shemya Island, a 3,000 mile tow in the Western Aleutians and over the next several years some to Amchitka also in the Aleutians. The LESLIE FOSS' career with Foss began to wain when she experienced engine trouble on a couple of occasions. She was the only Foss Miki with a Superior engine and parts and maintenance were a problem. She was sold in 1969 to a private owner in Gig Harbor

who used her as a yacht and renamed ENCHANTER. Several years later she was sold to the veteran tug captain Jug Nolze who renamed POLAR NAVIGATOR and she towed for Northland Marine Lines. In 1976 Northland Marine Lines went into bankruptcy and the POLAR NAVIGATOR was seized for payment of shipyard bills. She went on the block at another Marshall's sale and was bought by a private party. In 1979 she was sold to a construction company in northern California and renamed WESTERN SEA I². Following this her life was spent under a number of owners in a variety of services.

Association With an Important Person

World War II records of the ENCHANTRESS are not available other than her name which was L. T. 495 (L. T. was her designation by the ATS as a large tug). Most of her commercial career is summarized above. Most of these were good seafaring people but none of them can be regarded as important or famous.

Design and Craftsmanship

The design of the Miki Class tugs is excellent work, done by naval architect L. E. Coolidge. This design evolved from the Miki Class design that Coolidge did for Young Brothers Towing in Honolulu, Hawaii in 1929. Coolidge recognized the suitability of adapting the Miki design for use by the ATS in World War II. The ENCHANTRESS was one of five Miki-Miki Class tugs built by the Minneford Yacht Yard in City Island New York. The craftsmanship of her construction is good as it was for all of the boats of this class. They were built in shipyards with experience in wood vessel construction, and the contractual requirements of the ATS demanded good quality. I have compared the style of her construction with 17 other wood vessels from her era in Ref. 3 and do not find anything about her to be unique.

Suitability as an Archeological Site

It is necessary for the ENCHANTRESS to be removed from her present mud berth to avoid her scattering debris and oil in the event of a severe storm. Removing her can only be done by demolition since she has been severely attacked by Teredos (ship's worms) and therefore a major part of her hull structure is missing. The Pacific, Gulf and South Atlantic waters are sufficiently infested with Teredos and no wood is immune to their attack⁴. This is evident in the photos in Enclosure 2 which show planking that has been eaten away exposing the frames. This would allow mud to collect inside the hull over a six year period which would make it impossible to lift the hull in an intact state from its present mud berth. The missing structure would likely allow the main engine to fall out of the bottom of the hull.

This was clearly evident when I inspected the ENCHANTRESS from a skiff that was alongside. No one is permitted to go aboard and I would not have done so for my own safety.

The ENCHANTRESS further fails to qualify as an archeological site because most of her original equipment is missing. This includes the masts, tow winch, port lights (port holes), doors, windows, compass, engine order telegraph, and much more.

Modern equipment has been installed on the ENCHANTRESS which does not match her original design or any other vessels of her era. This includes a steel tripod mast, a hydraulic crane, modern radars, etc.

INTEGRITY

In addition to the above four points I will review the Integrity of the ENCHANTRESS as outlined by the seven requirements in Section One of Ref. 5. These requirements are guidelines that the National Register recognizes in order to grade integrity.

Location – Is the ENCHANTRESS located in a port that was significant in her history?
No, she sailed from Seattle during her active commercial career, and may have only called in Anacortes during her years as a commercial tug.

Design – Has her design been changed in order to accomplish any mission of historical significance?
No, the ENCHANTRESS was a work horse throughout her best days, but did not undergo any design changes to achieve major goals

Setting – Is the ENCHANTRESS in a natural setting similar to her working days, and preferably afloat?
No, she is in a very appropriate setting that matches her working days, but she is not afloat. The ENCHANTRESS will never be able to be floated again without hundreds of thousands of dollars being spent on the replacement of major hull structure. This can be explained further by looking at Enclosure 3 which is structural drawing for a Miki-Miki Class tug but does apply directly to the ENCHANTRESS.

Materials – Have repairs or modifications been accomplished with the original type of materials?
This question is academic, but a number of replacements and modifications have been made without regard to using original materials or staying with the original design.

Workmanship – Have the replacement materials been installed in kind with the original?
No, this has not been accomplished due to the different designs of the items used to replace the original such as a steel tripod mast which replaces two wood masts with wire rope rigging.

Association – Is the ENCHANTRESS in an accurate waterfront setting?
No, she is aground, is a potential hazard if she is broken up in a storm, and cannot be relocated intact.

CONCLUSIONS

The ENCHANTRESS does not qualify to be listed on the National Register due to her deteriorated condition, lack of original equipment, and the fact that major parts of her hull structure have been eaten by marine bore worms. This is compared to a number of other Miki and Miki Miki Class tugs which are still afloat. There is one that is still operating as a commercial tug, the DOMINION, and it is apparently a complete and nearly original example of its class.

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2. 1981, Skalley, Michael R., Foss, Ninety Years of Towboating, Superior Publishing Co., Seattle, Washington
3. November 1963, Hanson, H. C., Effect of Deadrise on Loadline Rules, Society of Naval Architects and Marine Engineers, Pacific Northwest Chapter, Seattle, Washington
4. January 1958, Wood, A Manual for Its Use As A Shipbuilding Material, Department of the Navy, Bureau of Ships, Washington, DC
5. National Register Bulletin No. 20, U. S. Department of the Interior, National Park Service, Interagency Resources Division, Washington, D. C.



Appendix C
Summary of Oral Interviews

Appendix C: Summary of Oral Interviews

Individuals and Agencies Contacted

Benthien, John, author of *The Forgotten Fleet of Sixty-One*, meeting March 14, April 25, 2008.

Hargitt, Miles, telephone conversation, April 24, 2008

Griffith, Greg, Deputy State Historic Preservation Officer, meeting, April 18, 2008.

Nystrom, Bob, former crew member of the *Leslie Foss (Enchantress)* telephone conversation, April 24, 2008.

Jones, Lowell, Shipwright, telephone conversation, May 1, 2008.

Mitchell, Bill, Artist, activist, telephone conversation, May 6, 2008.

Oral Interviews

John Benthien

Mr. Benthien is a tugboat researcher and enthusiast who was born and raised in Anacortes. He stated that the *Enchantress* is a "classic tugboat" and what any child would draw if they were asked to draw a tugboat. He stated that the tugs were built to haul supplies and rescue ships but that they "did more than they were built for." He says that a Miki-class tug landed men on the beach in Normandy during World War II.

According to Mr. Benthien, tugs such as the *Enchantress* filled the gap and became the backbone of the towing industry after they were surplused by the U.S. Army. "Foss, Portland Tug and Barge, Crowley (Crowley Maritime), that was all they used" referring it Miki-class tugboats. Mr. Benthien feels that the aspects of design that would be most important to the integrity of the *Enchantress* would be the hull shape, wheelhouse, deck cabin and booby hatch. Of the latter he states "once you saw that you knew what you were dealing with." He stated the forward and aft masts of the *Enchantress* have been removed and the winch is no longer present. He also says that a crane as been added.

Bill Nystrom

Mr Nystrom was a crewmember on the *Enchantress*, then named the *Leslie Foss*, for 6 to 8 months in 1959 on a run from Crescent City to San Pedro. He worked as a messman, cooking, keeping the galley clean, and straightening the quarters of the Skipper and the firstmate. He recalls that the Skipper on this run was Don Hamrick and the firstmate a Don Haldahl. He states that the crew on this run was "hard-drinking" and that they would obtain boxes of beer and liquor in port and bring it onto the *Leslie Foss*. At one point during the run, he recalls the skipper entering the galley and stating that "there was too much drinking going on." The skipper then marched over to the cabinet where the beer and liquor were kept, gathered all the bottles up and took them to his cabin. "I don't know what he did with it [the confiscated alcohol]. Maybe he drank it himself" Mr Nystrom said. Mr. Nystrom was also involved in the DEW Line convoy of 1955 but stated that the *Leslie Foss* was not part of that "70-some ship operation." He said that

the *Leslie Foss* did not operate in any part of the DEW Line from construction to operation, but that Foss Towing was involved as a private contractor.

Miles Hargitt

Mr. Hargitt was the last skipper of the *Enchantress*, dubbed the *Western Sea I* when he ran her. According to Skalley (1986:178) the tug had been sold to a construction company in northern California but was berthed at the Foss-Seattle yard. Mr. Hargitt skippered the tug on her last Alaskan run. He towed one barge from Seattle to Sitka, Alaska where he picked up a second barge. He then continued with both barges to Seward, Alaska where they were delivered. He states that the *Western Sea I* was a good boat and "did a good job for us."

Lowell Jones

"Men of iron building wooden boats" is how Lowell Jones described the construction of the Miki-class tugs. Mr. Jones said that although they were constructed of wood, the tugs were at least "one-third iron." He also stated that it was interesting that although the tugs were built "heavy" meaning that they were of solid construction, they retained their graceful lines and they were fast. From the waterline down, their hull is similar to that of a schooner. Mr. Jones states that the extent of the Teredo or shipworm damage is because the *Enchantress* is planked in white pine rather than oak because she was built on the East Coast. "That pine is like ice cream to them (Teredos); oak they leave alone." Mr. Jones felt that the line of the deckhouse was integral in conveying the identification of a Miki tug. "The Mikis built on the east coast did not have as much sheer in the deck house as those built on the west coast. Sheer is defined as the curvature forward and aft. Mr. Jones says the tug is framed in oak and perhaps fir, another wood that is not favorable to the Teredos. Although shipworms may be demolishing the outer planking, Mr. Jones feels that the tug's frame is intact and therefore she may be structurally sound and possibly capable of renovation.

Bill Mitchell

Mr. Mitchell feels that the *Enchantress* is "the perfect boat in the perfect setting." He feels that she should stay where she is and be allowed to deteriorate naturally. He does not believe that cutting her in half and hauling her to the dump, as has been proposed, is a fitting or respectful end for this vessel. He does not believe she is harmful to the environment and cites the growth of marine life such as barnacles and starfish on her as proof.