National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Mallows Bay - Widewater Historic and Archeological District

Other names/site numbers: **Vessels (124):** Unidentified steamship, 18CH487; Unidentified barge, 18CH488; *Accomac*, 18CH492; *Adway*, 18CH493; *Afrania*, 18CH494; *Aiken*, 18CH495; *Alabat*, 18CH496; *Alanthus*, 18CH497; *Alapaha*, 18CH498; *Alcis*, 18CH499; *Allison*, 18CH500; *Alpaco*, 18CH501; *Alta*, 18CH502; *Andra*, 18VH503; *Angelina*, 18CH504; *Anoka*, 18CH505; *Aowa*, 18CH506; *Arado*, 18CH507; *Baladan*, 18CH508; *Banicia*, 18CH509; *Battahatchee*, 18CH510; *Bayou Teche*, 18CH511; *Bedminster*, 18CH512; *Belgrade*, 18CH513; *Bellbrook*, 18CH514; *Benzonia*, 18CH515; *Bobring*, 18CH516; *Bockonoff*, 18CH517; Unidentified steamship, 18CH518; *Boone*, 18CH519; *Bottineau*, 18CH520; *Boxley*, 18CH 521; *Boykin*, 18CH522; *Braeburn*, 18CH523; *Bromela*, 18CH524; *Buckhorn*, 18CH525; *Buhisan*, 18CH526; Unidentified steamship, 18CH527; Unidentified steamship, 18CH528; *Cabeza*, 18CH529; *Calala*, 18CH430; *Caribou*, 18CH531; *Casmalia*, 18CH532; *Coconino*, 18CH533; *Congaree*, 18CH534; *Cumberland*, 18CH535; *Datis*, 18CH536; *Dertona*, 18CH537; *Dungeness*, 18CH538; *Fernandina*, 18CH539; *Flavel*, 18CH540; *Folsom*, 18CH541; *Fort Stevens*, 18CH542; *Guilford*, 18CH543; *Hoosac*, 18CH544; *Ida S. Dow*, 18CH545; *Kangi*, 18CH546; *Kasota*, 18CH547; *Kickapoo*, 18CH548; *Marshfield*, 18CH549; *Mono*, 18CH550; *Moosabee*, 18CH551; *Musketo*, 18CH552; *Nameki*, 18CH553; *Nemassa*, 18CH554; *North Bend*, 18CH555; *Nupolena*, 18CH556; *Owatama*, 18CH557; *Panga*, 18CH558; *Quapaw*, 18CH559; *Quemakoning*, 18CH560; *Swamscott*, 18CH561; *Tanka*, 18CH562; *Wakan*, 18CH563; *Wayhut*, 18CH564; *Wihaha*, 18CH565; *Woyaca*, 18CH566; *Yawah*, 18CH567; Unidentified steamship, 18CH568; Unidentified steamship, 18CH569; Unidentified steamship, 18CH570; Unidentified steamship, 18 CH571; Unidentified steamship, 18CH572; Unidentified steamship, 18CH573; Unidentified steamship, 18CH574; Unidentified steamship, 18CH575; Unidentified steamship, 18CH576; Unidentified steamship, 18CH577; Unidentified steamship, 18CH578; Unidentified steamship, 18CH579; Unidentified barge, 18CH580; Unidentified barge, 18CH581; Unidentified barge, 18CH582; Unidentified barge, 18CH583; Unidentified barge, 18CH584; Unidentified barge, 18CH585; Unidentified barge, 18CH586; Unidentified barge, 18CH587; Unidentified barge, 18CH588; Unidentified barge, 18CH589; Unidentified barge, 18CH594; Unidentified boat, 18CH597; Unidentified boat, 18CH601; Houseboat/Potomac River Ark, 18CH604; Unidentified centerboard schooner, 18CH605; Unidentified workboat, 18CH606; Unidentified small boat, 18CH607; *Mermentau*, 18CH608; Unidentified centerboard log canoe, 18CH609; Unidentified composite steamship, 18CH612;; Unidentified centerboard schooner, 18CH614; Longboat [?], 18CH615; Unidentified centerboard sharpie, 18CH616; Unidentified steamship, 18CH518; Unidentified boat (search and rescue), 18CH844; and 9 Unidentified steamships [off Widewater; no site numbers]. **Vessel Debris (8):**Ship debris pile, 18CH590; Ship hull fragment, 18CH595; Ship hull fragment, 18CH596; Ship debris field, 18CH600; Ship hull fragment, 18CH602; Vessel debris, 18CH617; Unknown vessel debris, 18CH620; Vessel debris: 18CH842. **Non-Vessels (6):** Wharf 18CH491;

Marine slipway, 18CH591; Berm and log wall, 18CH598; Canal berm, 18CH599; Berm and concrete basin gateway, 18CH603; Steamboat wharf, 18CH843.

Name of related multiple property listing:
N/A
(Enter "N/A" if property is not part of a multiple property listing

2. Location

Street & number: N/A (see section 10 for locational information)
City or town: _____ State: MD County: Charles
Not For Publication: [ ] Vicinity: [X]

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

X national ___ statewide ___ local

Applicable National Register Criteria:

X A ___ B X C X D

Elizabeth Hughes 3.4.15

Signature of certifying official/Title: **Date**

Elizabeth Hughes, Acting Director/SHPO, Maryland Historical Trust

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

Mallows Bay - Widewater Historic and Archeological District
Name of Property

Charles County, MD
County and State

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register
___ determined eligible for the National Register
___ determined not eligible for the National Register
___ removed from the National Register
___ other (explain:) _____

Patrick Andrus 4/24/2015
Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	☐
Public – Local	☐
Public – State	X
Public – Federal	☐

Category of Property

(Check only **one** box.)

Building(s)	☐
District	X
Site	☐
Structure	☐
Object	☐

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
_____	_____	buildings
138	_____	sites

_____	_____	structures
_____	_____	objects
138	_____	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions

(Enter categories from instructions.)

TRANSPORTATION – water related

DEFENSE – water related

Current Functions

(Enter categories from instructions.)

VACANT/NOT IN USE

7. Description

Architectural Classification
(Enter categories from instructions.)
N/A

Materials: (enter categories from instructions.)
Principal exterior materials of the property: N/A

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

See Continuation Sheets

Narrative Description

See Continuation Sheets

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

[x] A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

[ ] B. Property is associated with the lives of persons significant in our past.

[X] 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.

[x] D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

[ ] A. Owned by a religious institution or used for religious purposes

[ ] B. Removed from its original location

[ ] C. A birthplace or grave

[ ] D. A cemetery

[ ] E. A reconstructed building, object, or structure

[ ] F. A commemorative property

[ ] G. Less than 50 years old or achieving significance within the past 50 years

Areas of Significance
(Enter categories from instructions.)
MARITIME HISTORY
MILITARY
ENGINEERING
ARCHITECTURE
TRANSPORTATION
ARCHEOLOGY - HISTORIC

Period of Significance
1917-1945

Significant Dates
First USSB steamship launched 12/1/1917 (*North Bend)*
Last USSB steamships launched 3/1920 (*Boynton* and *Wonahbe*)
Western Marine and Salvage Company Period (1922-1932)
"Wild-cat" Period (1932- 1942)
Bethlehem Steel Company Period (1942- 1945)
Post-War Period (1946-)

Significant Person
(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder
United States Shipping Board
Multiple U.S. Shipyards

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

See Continuation Sheets

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

See Continuation Sheets

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

See Continuation Sheets

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey #_____
____ recorded by Historic American Engineering Record # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

_x_ State Historic Preservation Office
____ Other State agency
____ Federal agency
____ Local government
____ University
_x_ Other
Name of repository: Donald G. Shomette 10525 Ward Road Dunkirk, MD 20754

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property 11,347.20155 acres (17.73008 square miles)

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates

Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: Longitude:
2. Latitude: Longitude:
3. Latitude: Longitude:
4. Latitude: Longitude:

Or

UTM References
Datum (indicated on USGS map):

[ ] NAD 1927 or [X] NAD 1983

1. Zone: 18	Easting:	301738	Northing: 4262137
2. Zone: 18	Easting:	302879	Northing: 4252380
3. Zone: 18	Easting:	298200	Northing: 4252379
4. Zone: 18	Easting :	298204	Northing: 4262157

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary of the Mallows Bay – Widewater Historic and Archeological District begins at the Charles County shoreline at Sandy Point where the Maryland state waters and bottomlands begin at the mean high tide line. The North American Datum UTM coordinates for the northeastern extent of the district is at 301738 East 4262137 North. The eastern boundary follows the mean

high tide line south to an unnamed point between Smith Point and Thomas Point. The North American Datum UTM coordinates for the southeastern extent of the district is at 302879 East 4252380 North. From that point the boundary extends west 4,680 meters across the Potomac River to the low water line just east of the Maryland-Virginia border near Brent's Pont Virginia. The North American Datum UTM coordinates for the southwestern extent of the district is 298200 East 4252379 North. The western boundary extends north following just eastward of the Virginia border to near Clifton Point, Virginia with the North American Datum UTM coordinates for the northwestern point at 298204 East 4262157 North. From there the boundary extends back east across the Potomac River 3,532 meters to the northeastern most point of the district near Sandy Point. The district extends, from north to south, 9,755 meters along the Potomac River. The total area of the district is 11,347.20155 acres (17.73008 square miles). The Maryland side of the district includes both the waters of Wades Bay, Blue Banks, Mallows Bay, Liverpool Cove, and the Mallows Bay "Burning Basin" as far east as the egress for Marlow Creek into the basin itself. The Mallows Bay – Widewater Historic and Archeological District is comprised of only property (land, bottomlands, and/or waters) that is owned by the state of Maryland.

Boundary Justification (Explain why the boundaries were selected.)

The National Register of Historic Places boundary noted above contains a total of at least 124 individual vessels, and an additional 8 vessel debris piles, that have been archeologically documented, with the majority, mostly World War I U.S. Shipping Board Emergency Fleet (USSB) wooden steamships, having been intentionally abandoned. The northeastern-most of the 124 archeologically identified vessel sites lies at Sandy Point, along with numerous known and potential sites related to the USSB fleet and salvage operations from the period 1923-1945. The northwestern-most extremity of the district is believed to contain a number of vessel remains, yet to be discovered, resulting from various periods when the Emergency Fleet vessels are recorded as having drifted from their containment area at Mallows Bay during storms and were sunk. A few survived and were returned to the Maryland shores, but not all. The central section off the Virginia shore in Maryland waters, in a reserve area known as Arkendale Flats, contains at least nine known (and almost certainly more) vessels belonging to the USSB fleet that were accidentally lost while at anchor or intentionally reduced. The southwestern extremity, just north of the entrance to Aquia Creek near Brent's Point, may also contained drift vessels, as well as small craft remains related to Civil War activity in the area. The southeastern boundary stops just past Smith Point and includes Wade's Bay, in which drift vessels are believed to exist, as well as at least one Confederate blockade runner, the *T.W. Riley*, which has yet to be discovered. The most important area overall for the district is comprised of Mallows Bay proper, including Liverpool Cove, and the man-made "Burning Basin" that contains the largest assemblage of historic vessels in North America, and possibly the Western Hemisphere.

11. Form Prepared By

name/title: Donald G. Shomette
organization: Cultural Resource Management
street & number: 10525 Ward Road
city or town: Dunkirk state: MD zip code: 20754
e-mail: ca.shomette@yahoo.com
telephone: 301-855-5280
date: 9/10/14

name/title: Deborah E. Marx, Maritime Archaeologist
organization: NOAA/Office of National Marine Sanctuaries
street & number: 1305 East West Highway
city or town: Silver Spring, MD 20910
e-mail: Deborah.Marx@noaa.gov
telephone: 781-545-8026 ext. 214
date: 9/10/14

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location. See page 46 Map 1 and Map 2.

See Page 52 (Additional Documentation) for Property Map

Photo Log/Index of Photos

See Page 48 (Additional Documentation) for Photo Log

Section 7 - Description

SUMMARY

The Mallows Bay -Widewater Historic and Archeological District on the Potomac River in Maryland is the largest collection of World War I U.S. Shipping Board (USSB) Emergency Fleet Corporation steamships in the world and is significant at the national level under National Register of Historic Places Criteria A, C, and D. These shipwrecks represent a major portion of the entire U.S. merchant marine built during the period 1917-1922. The shipbreaking and scrap operations carried out in the Mallows Bay area between 1922 and 1945 were among the most ambitious in American history, and the archeological record that was left by these activities is abundant. The district contains 124 historic vessels and 8 historic vessel debris piles located in and around Mallows Bay as well as associated structures used in the shipbreaking process. Out of the124 documented vessels (dating from the 18th through 20th century), 101 sites are USSB steamships with varying degrees of structural integrity brought there to be eventually burned and dismantled.

SITE DESCRIPTION

The Mallows Bay Historic and Archeological District (see Map 001) covers an area of submerged lands in Charles County, Maryland that begins at the low water mark off Sandy Point and extends westward across the Potomac River to the low water line just east of the Maryland-Virginia border near Clifton Point, Virginia. From there the boundary extends southward following the Maryland-Virginia border to Brent's Point, Virginia. The boundary then extends northeast to just south of Smith Point, Maryland and follows the low water mark north following the Maryland shoreline back to Sandy Point. The district includes the waters of Wades Bay, Blue Banks, Mallows Bay, Liverpool Cove, and the Mallows Bay "Burning Basin" as far east as the egress for Marlow Creek into the basin itself.

The Mallows Bay Historic and Archeological District contains three types of historic property groups: 1) the documented remains of 124 vessels and 8 individual vessel debris sites dating from the 18th through the late 20th centuries; 2) structures inserted into the marine environment such as navigational aids and wharfage, cribbing, and small craft reception facilities; and 3) alterations of the marine environment and landscape for the specific purpose of industrial ship reduction/wrecking (burning basin and bypass canal, gates, berms, jetties and islands) or harbor creation. Archeological surveys have recorded 6 non-vessel sites related to the shipbreaking process.

The largest concentration of historic vessels resides in and around Mallows Bay, the main site used for the grounding and burning/breaking of the World War I U.S. Shipping Board Emergency Fleet (USSB) steamships. Within Mallows Bay, including the area south of Sandy Point, lies the steel hulled passenger/car ferry *Accomac*, the four-masted schooner *Ida S. Dow*, 11 barges, 88 USSB steamships (71 identified by name and 17 unidentified), and two concentrated debris fields associated with two unidentified vessels. Additionally, Mallows Bay contains a wharf, one small boat log slipway as well as pilings used for accidental fleet drift retention. Historical records indicate that there may be as many as 32 undiscovered USSB vessel remains present in Mallows Bay.

Following Mallows Bay's water upstream into the mouth of Mallows Creek, just north of Liverpool Cove, the area contains a houseboat or "Ark," two schooners, a sharpie, three small craft, a workboat, two log canoes, a fishing vessel, one USSB vessel, and four distinct debris piles associated with unknown vessels. This small embayment of Mallow's Bay was the dredge spoil disposal area used by the Bethlehem Steel Company between 1942 and 1945. Lastly, the small bay at the southern end of Mallow's Creek and furthest upstream from Mallows Bay contains a barge, USCG patrol boat, a single small craft, debris from three unidentified USSB vessels as well as remains from an unknown vessel. Non-vessel remains associated with the 1942 Bethlehem Steel "Burning Basin" which operated there include two berms, pilings, and portions of a cofferdam, two basin walls, log gates, and an earthen walled bypass system.

Lastly, nine unidentified USSB steamships are located across the Potomac River from Mallows Bay near the Virginia border. This cluster of vessels is related to the Mallows Bay shipbreaking activities but no formal archeological analysis has been done on them yet to record specific site details.

In total there are 124 historic vessels and 8 historic vessel debris piles located in and around Mallows Bay as well as associated structures used in the shipbreaking process. Out of the124 documented vessels, 101 sites are USSB steamships with varying degrees of structural integrity brought there to be burned and dismantled.

Additional contributing resources are most likely present but yet to be archeologically recorded inside Mallows Bays as well outside as further down the Potomac River and across the river near the Virginia border. Historical records note several USSB vessels drifted away from their original mooring position near Mallows Bay as a result of storms, fires, and accidents. Nine USSB vessels lie near the Maryland/Virginia border off Arkendale Flats near Widewater, the original anchorage of the USSB fleet. More sites are believed to be present in Wade's Bay and Aquia Creek. Additional surveys will concentrate on documenting the USSB drift vessels within the Mallows Bay Historic and Archeological District.

SITE INVESTIGATIONS

The Mallows Bay Shipwreck Survey was undertaken between 1986 and 1998 under the direction of Donald G. Shomette to examine and assess the marine archeological resources lying in and adjacent to Mallows Bay, Charles County, Maryland. The objectives of the project were: (1) to produce, through non-intrusive investigation, a comprehensive inventory of all historical maritime and archeological resources lying within the confines of Mallows Bay, lying in tidal and non-tidal waters east of a line drawn between Sandy Point and Liverpool Point; (2) to examine the impact of the importation and reduction of as many as 218 wooden steamships produced during the U.S. Shipping Board's Emergency Fleet Corporation World War I shipbuilding program, and sundry other vessels, as well as human alterations of and structures inserted into the marine environment upon the local and regional terrestrial and submarine environment, and (3) and to conduct limited archeological assessment on a representative sample of the shipwreck population.

The principal goal of the field study, designed to expand upon the accumulated written and oral data assembled during archival research, was to conduct an intensive reconnaissance survey of the sunken World War I "Ghost Fleet" and other vessels in Mallows Bay between Sandy Point and Liverpool Point, Maryland, to document the vessel remains and their unique environmental setting, and to prepare a comprehensive written, photographic, videotape, and drawn documentation of the site and its environmental. To accomplish these ends, the following was undertaken: (1) the completion of a photographic and videotape documentary reconnaissance of the site utilizing suitable aircraft; (2) the conducting of a boat-based reconnaissance survey of the site to record and chart known shipwrecks in Mallows Bay; (3) the preparation of a map of all identified shipwrecks and other cultural resources associated with the unique environmental niches created by the sunken fleet, as well as vessels belonging to the World War I fleet at Widewater, Virginia; (4) the recordation of environmental data on distinct floral and faunal communities associated with the unique environmental niches created by the sunken vessels; (5) and the preparation of a final written report documenting the project and its results, including recommendations for future action regarding the sites.

ARCHEOLOGICAL REMAINS OF MALLOWS BAY HISTORIC AND ARCHEOLOGICAL DISTRICT

The following description of the archeological remains of the Mallows Bay-Widewater Historic and Archeological District is based on surveys conducted between 1986 and 1998 during the Mallows Bay Shipwreck Survey. The area contains the remains of 124 historic vessels and 8 individual vessel debris sites dating from the 18th through the late 20th centuries. Additionally,

archeological surveys have recorded 6 non-vessel sites related to the shipbreaking and/or shore side facilities.

The archeological sites in the district are almost all directly associated with the breaking, destruction, and salvage of the United States' World War I Emergency Fleet in and around Mallows Bay, Maryland. The fleet was comprised of wooden cargo steamships built by the United States Shipping Board to supplement the supply efforts overseas during the war. There are 101 individual USSB vessel sites in the district. The schooner *Ida S. Dow*, along with 12 wooden barges, are also associated or possibly associated with the Post-Word War I ship breaking operations. The remaining vessels documented in Mallows Bay are those abandoned there. Eight sites, comprised of two schooners, a sharpie, two log canoes, two small craft, and a large wooden hulled commercial fishing vessel, are related to fishing activities in the region. The last group of vessels are unrelated to the area other than they were left at Mallows Bay to join the rest of the ship graveyard. They include a car and passenger ferry (the only steel hulled vessel in the district), a houseboat, a work boat, and lastly a Coast Guard search and rescue or patrol boat.

The overall condition and integrity of the archeological sites in the Mallows Bay-Widewater Historic and Archeological District vary considerably from site to site (see Photos 012, 013, 014, 015, and 016). While some vessels are relatively intact such as the ferry *Accomac*, the only steel hulled vessel in the area, others are piles of disarticulated debris as a result of the shipbreaking and salvage operations. Many vessels are somewhere in between with the wooden lower hulls partially intact either submerged or partially sticking out the water. The USSB steamships represent the majority of the archeological remains present and surveys have revealed the sites with the most potential to yield information about WWI shipbuilding techniques. *Aowa* is the most intact USSB steamship with the *Nupolela* also well preserved. *Dertona*'s bow is the most intact example with the bows of the *Marshfield* and *Moosabee* also having a high level of integrity. *Fort Stevens*' interior provides the best opportunity for future detailed surveys of those interior components such as bulkheads and lower deck structures. 18CH612 is the only composite USSB steamship still present in the graveyard and affords historians and archeologists a chance to compare and contrast wooden hull to composite shipbuilding techniques.

A total of 187 vessels have been documented in the archival record as lost or abandoned in the Mallows Bay study area, and in the Widewater anchorage of the United States Shipping Board Emergency Fleet. Of the vessels recorded as lost, abandoned, or brought in for reduction, 177 belonged to the Emergency Fleet. An additional ten vessels were lost or abandoned owing to miscellaneous causes. Although the total number of Emergency Fleet vessels scheduled for reduction at Widewater and Mallows Bay were to have totaled 218 ships, only 177 can be accounted for in the archival record, primarily in U.S. Army Corps of Engineers (COE) reports, performance assurance bonds, and survey map data. A total of 154 Emergency Fleet vessels are

identified by name as having been at anchor awaiting reduction or as hulks already reduced in Mallows Bay as of 6 August 1929, when a COE survey of vessels therein resulted in a map identifying the vessels by name and an COE ascribed number. Of these, two vessels, *Botsford* and *Obak*, are indicated as lying off of Sandy Point, while a pencil notation (no date) indicates that *Borad* was scheduled for transfer to Philadelphia. To date no record has been found to indicate the *Borad* transfer was ever carried out. An additional ten vessels, *Aberdeen*, *Blythedale*, *Catawba*, *Gray Eagle*, *Okiya*, *Quidnic*, and *Wasco*, and three unidentified, were lost due to accidental causes or intentionally destroyed while anchored off Widewater, Virginia, in 1923. Eight more vessels are known to have been present and/or destroyed on the Potomac River at or near Mallows Bay. These vessels were: *Chibiabos*, *Cresap*, *Dera*, *Fonduco*, *Mahaska*, *Makanda*, *Nashotah*, and *Waneyanda*. As many as five vessels belonging to the 177-base number may have been hauled ashore on four marine railways built by Western Marine & Salvage Company at Sandy Point, and were reduced by burning and then possibly buried in the adjacent terrace.

Site Descriptions

Historical and archeological site information is provided for each site having a Maryland State archeological site number (referenced below as MD Arch Site No.), assigned by the Maryland Historical Trust. These sites are both terrestrial and submerged. Site field numbers (referenced below as Site Field No.) are those employed during the 1986-1998 survey by Donald Shomette. Army Corps of Engineer numbers (ACE) (referenced below as Army Engineers No.) are those which appeared on the 1929 ACE map of the Mallows Bay ship disposal area. Individual site or vessel histories are supplied if known. The order of site descriptions is based upon the Maryland site numbers. Summary table of the 138 archeological sites with more detailed property descriptions following.

MD Arch Site No	Vessel Name	Vessel Type	USSB Vessel Type	Year Built	Property Type (Vessel, Vessel Debris Pile, or Non-vessel)	Non-Vessel Details	Notes
18CH487		USSB steamship			vessel		northernmost site
18CH488		barge			vessel		
18CH491		non-vessel			non-vessel	wharf/ pilings	
18CH492	*Accomac*	car/passenger ferry		1928	vessel		only steel hulled vessel
18CH493	*Adway*	USSB steamship	ferris	1919	vessel		

18CH494	*Afrania ?*	USSB steamship	ferris	1919	vessel		
18CH495	*Aiken*	USSB steamship	ferris	1919	vessel		
18CH496	*Alabat*	USSB steamship	ferris	1919	vessel		
18CH497	*Alanthus*	USSB steamship	ferris	1919	vessel		
18CH498	*Alapaha*	USSB steamship	ferris	1918	vessel		
18CH499	*Alcis*	USSB steamship	ferris	1919	vessel		
18CH500	*Allison*	USSB Steamship	ferris	1919	vessel		
18CH501	*Alpaco*	USSB steamship	ferris	1918	vessel		
18CH502	*Alta*	USSB steamship	ferris	1919	vessel		
18CH503	*Andra*	USSB steamship	ferris	1918	vessel		
18CH504	*Angelina*	USSB steamship	ferris	1919	vessel		
18CH505	*Anoka*	USSB steamship	peninsula	1918	vessel		
18CH506	*Aowa*	USSB steamship	ferris	1919	vessel		most preserved of fleet
18CH507	*Arado*	USSB steamship	ferris	1918	vessel		
18CH508	*Baladan*	USSB steamship	hough	1918	vessel		
18CH509	*Banicia*	USSB steamship	ferris	1919	vessel		
18CH510	*Battahatchee*	USSB steamship	ferris	1919	vessel		
18CH511	*Bayou Teche*	USSB steamship	ferris	1918	vessel		
18CH512	*Bedminster*	USSB steamship	ferris	1918	vessel		
18CH513	*Belgrade*	USSB steamship	ferris	1918	vessel		
18CH514	*Bellbrook or Bell Brook*	USSB steamship	peninsula	1918	vessel		
18CH515	*Benzonia*	USSB steamship	ferris	1919	vessel		
18CH516	*Bobring*	USSB steamship	pacific american	1918	vessel		
18CH517	*Bockonoff*	USSB steamship	pacific american	1919	vessel		
18CH518		USSB steamship			vessel		
18CH519	*Boone*	USSB steamship	ferris	1919	vessel		
18CH520	*Bottineau*	USSB steamship	ferris	1919	vessel		
18CH521	*Boxley*	USSB	ferris	1918	vessel		

		steamship					
18CH522	*Boykin*	USSB steamship	ferris	1919	vessel		
18CH523	*Braeburn*	USSB steamship	peninsula	1919	vessel		
18CH524	*Bromela*	USSB steamship	grays harbor	1919	vessel		
18CH525	*Buckhorn*	USSB steamship	ferris	1919	vessel		
18CH526	*Buhisan*	USSB steamship	ferris	1918	vessel		
18CH527		USSB steamship			vessel		
18CH528		USSB steamship			vessel		
18CH529	*Cabeza or Cabega*	USSB steamship	ferris	1918	vessel		
18CH530	*Calala*	USSB steamship	supple or balm	1919	vessel		
18CH531	*Caribou*	USSB steamship	ferris	1919	vessel		
18CH532	*Casmalia*	USSB steamship	ferris	1918	vessel		
18CH533	*Coconino*	USSB steamship	hough	1918	vessel		
18CH534	*Congaree*	USSB steamship	ferris	1918	vessel		
18CH535	*Cumberland*	USSB steamship	ferris	1918	vessel		
18CH536	*Datis*	USSB steamship	ferris	1919	vessel		
18CH537	*Dertona ?*	USSB steamship	supple and ballin type	1919	vessel		bow section mostly intact
18CH538	*Dungeness*	USSB steamship	ferris	1918	vessel		
18CH539	*Fernandina*	USSB steamship	ferris	1919	vessel		
18CH540	*Flavel*	USSB steamship	hough	1918	vessel		
18CH541	*Folsom*	USSB steamship	ferris	1919	vessel		
18CH542	*Fort Stevens*	USSB steamship	ferris	1919	vessel		best preserved interior section
18CH543	*Guilford*	USSB steamship	ferris	1919	vessel		

18CH544	*Hoosac*	USSB steamship	ferris	1919	vessel		
18CH545	*Ida S. Dow*	schooner		1918	vessel		used as dorm for wreckers
18CH546	*Kangi*	USSB steamship	ferris	1919	vessel		
18CH547	*Kasota*	USSB steamship	hough	1918	vessel		
18CH548	*Kickapoo*	USSB steamship	hough	1918	vessel		
18CH549	*Marshfield*	USSB steamship	hough	1918	vessel		bow well preserved
18CH550	*Mono*	USSB steamship	hough	1918	vessel		
18CH551	*Moosabee ?*	USSB steamship	ferris	1919	vessel		bow well preserved
18CH552	*Musketo*	USSB steamship	hough	1918	vessel		
18CH553	*Namecki*	USSB steamship	ferris	1918	vessel		
18CH554	*Nemassa*	USSB steamship	ferris	1918	vessel		
18CH555	*North Bend*	USSB steamship	hough	1917	vessel		oldest USSB steamship and first one built
18CH556	*Nupolela*	USSB steamship	ferris	1918	vessel		well preserved
18CH557	*Owatama*	USSB steamship	ferris	1920	vessel		
18CH558	*Panga*	USSB steamship	ferris	1919	vessel		
18CH559	*Quapaw*	USSB steamship	ferris	1919	vessel		
18CH560	*Quemakoning*	USSB steamship	McClelland	1919	vessel		
18CH561	*Swampscott*	USSB steamship	ferris	1918	vessel		
18CH562	*Tanka*	USSB steamship	ferris	1919	vessel		
18CH563	*Wakan or Wakanna*	USSB steamship	hough	1918	vessel		
18CH564	*Wayhut*	USSB steamship	ferris	1919	vessel		
18CH565	*Wihaha*	USSB steamship	ferris	1918	vessel		
18CH566	*Woyaca*	USSB steamship	ferris	1919	vessel		
18CH567	*Yawah*	USSB steamship	ferris	1919	vessel		
18CH568		USSB steamship			vessel		

18CH569		USSB steamship			vessel		
18CH570		USSB steamship			vessel		
18CH571		USSB steamship	ferris ?		vessel		
18CH572		USSB steamship			vessel		
18CH573		USSB steamship			vessel		
18CH574		USSB steamship	ferris		vessel		
18CH575		USSB steamship			vessel		
18CH576		USSB steamship			vessel		
18CH577		USSB steamship			vessel		
18CH578		USSB steamship			vessel		
18CH579		USSB steamship			vessel		
18CH580		barge			vessel		
18CH581		barge			vessel		
18CH582		barge			vessel		
18CH583		barge			vessel		
18CH584		barge			vessel		
18CH585		barge			vessel		
18CH586		barge			vessel		
18CH587		barge			vessel		
18CH588		barge			vessel		
18CH589		barge			vessel		
18CH590		USSB steamship			vessel debris		misc ship parts mound
18CH591		non-vessel			non-vessel	marine slipway (skidway) & landing	
18CH594		barge			vessel		
18CH595		USSB steamship			vessel debris		hull fragment
18CH596		USSB steamship			vessel debris		hull fragment
18CH597		small craft			vessel		Potomac River dory, regional recreational craft

18CH598		non-vessel			non-vessel	pilings and earthen berm	burning basin cofferdam wall
18CH599		non-vessel			non-vessel	earthen berm	
18CH600		unknown			vessel debris		debris field
18CH601	*Chester* ?	USCG patrol boat			vessel		Sea Scout boat
18CH602		USSB steamship			vessel debris		misc fragments
18CH603		non-vessel			non-vessel	earthen berm and iron/concrete retaining wall	
18CH604		houseboat			vessel		Potomac River Ark, possible brothel for salvors, used by a boating and hunting club
18CH605		schooner (centerboard)			vessel		possible fishing vessel
18CH606		workboat			vessel		possible fishing vessel
18CH607		small craft			vessel		possible fishing vessel
18CH608	*Mermentau*	fishing vessel		pre-WW II	vessel		fishing vessel
18CH609		log canoe (centerboard)			vessel		used for fishing or freight
18CH612		USSB steamship (composite)			vessel		only composite ship at Mallows Bay (wood hull with metal frames)
18CH614		schooner (centerboard)			vessel		fishing vessel
18CH615		small craft			vessel		possible longboat from 1776 (*Protector*)
18CH616		sharpie (centerboard)			vessel		possible fishing vessel
18CH617		unknown			vessel debris		rudder and misc remains
18CH618		log canoe			vessel		
18CH620		unknown			vessel debris		small craft fragments, post WWII
18CH842		unknown			vessel debris		hull fragment
18CH843		non-vessel			non-vessel	wharf	
18CH844		search and rescue			vessel		
none		USSB			vessel		

		steamship					
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		
none		USSB steamship			vessel		

Table 1. List of archeological sites in the Mallows Bay – Widewater Historic and Archeological District.

MD Arch Site No.: 18CH487
Site Field No.: 74 Army Engineers No.: none Location: 38°28.998 - 77°16.4601
18CH487 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. It is the northernmost shipwreck site of the district and is dubbed the "The Sentinel Wreck" for its position at the northern approaches to Mallows Bay. Its keel runs southwest to northeast with the bow at the northeast end. Remains measure 260 feet 4 inches long by 45 feet 7 inches wide. Vessel remains includes its keel, keelsons, portions of the stem and sternpost assembly, segments of lower hull, iron and wood fastenings, as well as iron strapping. A bulkhead, possibly from the site, sits southeast of the stern near shore. The steamship rests on its starboard side that lies partially buried in the sandy shoreline. The site contains many well-defined features not found other sites. Among these is a stationary pair of sheaves alongside the keelson in a compartment in the port stern area. The sheaves may have served as a component of the rudder cable line management system. The vessel is believed to have been one which floated free from Mallows Bay, possibly the same which reportedly drifted into Chopawamsic Creek in 1936, and then later removed prior to 1952 by the U.S. Navy and towed back to the Mallows Bay and abandoned.

MD Arch Site No.: 18CH488
Site Field No.: 78 Army Engineers No.: none Location: 38°28.550 - 77°16.290
18CH488 is the remains of an unidentified wooden barge. It lies perpendicular to the shore running east to west with one end sitting on the beach. The hull measures approximately 60 feet long by 22.5 feet wide. It is poorly preserved and only partially exposed above the sediment. Some structural integrity appears to remain on the site although the principal remains are skeletal

features such as iron fasters, stringers, and stanchions and the central chine log. The barge was most likely employed by Bethlehem Steel Corporation during its scrapping operations at Mallows Bay and was abandoned in its present location between 1943 and 1952. It would have been used as a work platform or for cargo or scrap handling. A 3-piling dolphin is located off the northwest corner of the seaward end of the hulk at a distance of 65 feet.

MD Arch Site No.: 18CH491
Site Field No.: 79 Army Engineers No.: none Location: 38°28.540 - 77°16.290
18CH491 is the remains of a wharf comprised of wooden pilings and planks. The wharf remains consist of 3 piling lines extending perpendicularly from the shore, 8 pilings to a line. The lines are set 6 feet apart. Twenty pilings are still extant but 4 pilings in the central sector of the facility appear to be missing. Each piling is 10 inches in diameter. The wharf may be associated with Sandy Point's Cook ferry operations that ran to Widewater, Aquia Creek, and Colchester, Virginia in the 1860s. It also could have been constructed to support the sturgeon fishing operations in the 1880s run by Captain Morgan Monroe or it might be from a steamboat wharf was erected there in the late 19th century (Tilp 1978: 22, 313). Most likely the wharf dates to 1923 when Western Marine and Salvage Company constructed a wharf at Sandy Point to facilitate the scrapping operations being carried out there on the USSB vessels.

MD Arch Site No.: 18CH492
Site Field No.: 35 Location: 38°28.058 – 77°16.135
Site number 18CH492 is the remains of the steel hulled automobile/passenger ferry *Accomac*. The diesel single screw ferry lies resting in its keel in a southwest to northwest orientation with its bow facing northeast at a bearing of 46 degrees. The hull, from the keel to the car deck, forward of midships, is generally well preserved. The superstructure, from the car deck and above, is missing. The area aft of amidships has been cut down, and the extreme stern is awash. The forward sector of the vessel is perhaps the best preserved, above and below decks, with some mechanical equipment on the car deck still in place. Engines and some machinery amidships below and aft are also still in place in an otherwise empty interior. The rudder post stands adjacent to a large pile of stone or concrete laid down in the stern to hold the hull in place. Below decks in the bow, the remains of wooden decking, bulkheading, and electronic circuit boards, etc., are well preserved. The trademark "spoon" bow shape, a major alteration of the original architecture, added ca. 1951, is still well defined, as are many other design features of the ship. The ferry measures 291.1 feet long, 50.1 feet wide, and 16.5 feet deep.

Accomac is the only steel-hulled vessel in the Mallows Bay-Widewater study area. The ship was built in Quincy, Massachusetts in 1928 as the *Virginia Lee*. During World War II it was requisitioned by the U.S. government and loaned to the British Ministry of Transport for convoy duty between Halifax, Nova Scotia and Great Britain. Owing to freezing pipes and mechanical

difficulties, the ship was returned to New York and refitted. Its next mission was hauling rubber, then a strategic war material, from the Brazilian Amazon. After the war, the ship passed through several owners, was converted to diesel power, and renamed *Holiday*. She was soon placed in service as a ferryboat running between Boston, Plymouth, and Provincetown, Massachusetts. During the winter of 1950, under new ownership, while en route to begin a new operation at Houston, Texas, it was severely battered and damaged by a storm off Cape Hatteras. The following spring the ship was sold to the Wilson Line and rebuilt for service with the Virginia Ferry Corporation, a subsidiary of the Pennsylvania Railroad. As the screw steam ferry *Accomac*, the ferryboat was intended for service between Cape Charles and Norfolk, Virginia. The ship underwent a major structural overhaul. To permit accommodation of head-on loading, it was given a new "spoon" bow and was soon capable of hauling 70 cars and 1,200 passengers per trip. She was assigned to the Kiptopeke-Little Creek, Virginia, run. On May 28, 1964, the ship suffered a fire and was permanently taken out of commission. In 1965 her owner is listed as the U.S Secretary of Commerce. By 1971 it was listed as out of documentation. About 1973 the ship was hauled into Mallows Bay and abandoned (Harry Jones, personal communication, 1984; Fred Hopkins to Donald Shomette, personal communication, December 2, 1992; Elliott, 143-451).

MD Arch Site No.: 18CH493
Site Field No.: 23. Army Engineers No.: 36. Location: 38°28.300 – 77°16.068.
18CH493 is the remains of the USSB World War I wooden hulled cargo steamship *Adway*. The historic Ferris type single screw steamship lies resting on its keel, partially submerged, in a northeast by southwest orientation with its bow at the northeast end at a bearing of 23 degrees. There is evidence of fire damage present on the wooden hull. The vessel was outfitted with iron fastenings and strapping. At least 120 feet of the bow of 18CH493 is buried in the shoreline (or torn away) and covered over by a heavy growth of vegetation. A cable was discovered running from the bow inland and up a narrow ravine, apparently to anchor the ship in position. The hull measures roughly 294 feet long and 43 feet wide. *Adway* was built in 1919 by Nilson and Kelez Shipbuilding Corp. of Seattle, Washington, for the United States Shipping Board. The vessel was released from bond on 12 October 1928 and was thus burned down prior to that date. It was moved to its present location prior to June 1943. With its forward area firmly hauled into the shore and partially removed, it is probable that the ship represents one of the few vessels intentionally beached to facilitate scrapping operations. The hulk lies directly in the mouth of what appears to be a crude marine haul or slipway.

MD Arch Site No.: 18CH494
Site Field No.: 16. Army Engineers No.: 58 [?] Location: 38°28.220 - 77°15.593.
18CH494 is most likely the remains of the USSB World War I wooden hulled cargo steamship *Afraina*. The historic Ferris type single screw steamship lies resting on its keel, partially submerged, in a north by south orientation with its bow at the north end at a bearing of 156

degrees. The steamship measures 266 feet 3 inches long by 45 feet 6 inches wide with iron fastenings and iron strapping.The hulk is filled with soils that support a dense growth of vegetation, far too dense to permit effective survey. *Afrania* was built in 1919 by Grant, Smith, Porter Co. of Portland, Oregon, for the United States Shipping Board. It was officially released from bond on 13 July 1926, indicating that the ship was burned down prior to that date. The vessel does not appear in its present position in 1952 aerial photographs. A cable extends across a narrow sound of water, running from the stern of the ship, to which it is affixed, to the shore where it disappears into the soils. It seems likely that the hull was among several vessels that may have drifted from their original anchorage and were later hauled onto the nearshore and fixed in place to prevent continued migration or becoming an obstruction to navigation.

MD Arch Site No.: 18CH495
Site Field No.: 86 Army Engineers No.: 72 Location: 38°28.229 – 77°16.068
18CH494 is most likely the remains of the USSB World War I wooden hulled cargo steamship *Aiken*. The historic Ferris type single screw steamship lies resting on its keel with a slight list to port, partially submerged, in an east by west orientation with its bow at the east end at a bearing of 103 degrees. The steamship measures 257 feet 9 inches long by 45 feet 2 inches wide with iron fastenings and iron strapping. Evidence of its propulsion system includes the 1 foot 9 inch in diameter shaft tunnel, an engine platform, and fire bricks. Each of the fire bricks had a hole in the center and bore the imprint "E.F. Corp.", presumably meaning "Emergency Fleet Corporation." *Aiken* was built in 1919 by the Grant, Smith, Porter Co. of Portland, Oregon, for the United States Shipping Board. It was officially released from bond on 13 July 1926, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least 1929, with only a very slight migration eastward.

MD Arch Site No.: 18CH496
Site Field No.: 120 Army Engineers No.: 73 Location: 38°28.236 - 77°16.126
18CH496 is the remains of the USSB World War I wooden hulled cargo steamship *Alabat*. The historic Ferris type single screw steamship lies entirely submerged, except for forepeak and forward starboard side, and resting on its keel. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 89 degrees. The steamship's dimensions were not determined. The *Alabat* was built in 1919 by the American Shipbuilding Co. of Brunswick, Georgia, for the United States Shipping Board. It was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least 1929. The *Alabat* had the smallest net tonnage of all USSB steamship constructed at 853 tons.

MD Arch Site No.: 18CH497

Site Field No.: 70 Army Engineers No.: 63 Location: 38°28.247 – 77°16.156
18CH497 is the remains of the USSB World War I wooden hulled cargo steamship *Alanthus*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 106 degrees. *Alanthus* was built in 1918 by The Foundation Co. of Passaic River, New Jersey, for the United States Shipping Board. The ship was delivered to the Emergency Fleet Corporation and then turned over to the Potter Transportation Co., Inc. of New York. On 7 December 1918, John A. Donald, Acting Chairman of the USSB, was informed that the vessel would officially become operative on 9 December. In October of 1922, *Alanthus* was among the first wooden steamers to arrive at the Virginia Shipbuilding Corporation wharf at Alexandria, Virginia, to begin reduction by the removal of her engines, boiler, and other heavy gear. Soon after her arrival at the wharf with the steamship *Mojave*, a fire broke out aboard, causing "one of the most stubborn [fires] Alexandria fire fighters have battled." The hull was saved, and then towed to the Widewater anchorage area, and eventually into the outer tier of hulks at Mallows Bay (Cost of Construction; *Alexandria Gazette*, 18 April 1923). The *Alanthus*'s hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH498
Site Field No.: 68 Army Engineers No.: 110 Location: 38°28.230 - 77°1 6.150
18CH498 is the remains of the USSB World War I wooden hulled cargo steamship *Alapaha*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 96.5 degrees. The *Alapaha* was built in 1918 by the Traylor Shipbuilding Corp. of Cornwells Heights, Pennsylvania, for the United States Shipping Board. On 13 August 1929 the vessel was bonded for burning and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH499
Site Field No.: 95 Army Engineers No.: 88 Location: 38°28.172 - 77°16.070
18CH499 is the remains of the USSB World War I wooden hulled cargo steamship *Alcis*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel with sections of its port side hull fallen away. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 102 degrees. The *Alcis* was built in 1919 by the Grant, Smith, Porter Co. of Portland, Oregon, for the United States Shipping Board. The vessel was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.:18CH500
Site Field No.: 135 Army Engineers No.: 120 Location: 38°28.210 - 77°16.140

18CH500 is the remains of the USSB World War I wooden hulled cargo steamship *Allison*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 96 degrees. *Allison* was built in 1919 by the Russell Shipbuilding Co. of Portland, Maine, for the United States Shipping Board. The vessel's hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH501
Site Field No.: 36 Army Engineers No.: 43 Location: 38°28.266 - 77°16.104
18CH501 is the remains of the USSB World War I wooden hulled cargo steamship *Alpaco*. The historic Ferris type single screw steamship lies partially submerged and resting on its keel. The steamship is substantially intact but is difficult to document based upon the large number of surrounding hulks and the level of vegetation growing inside the hull. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 105 degrees. *Alpaco* was built in 1918 by the Hodge Ship Co. of Moss Point, Mississippi, for the United States Shipping Board. The steamship was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date. The hull has been in the present location at least since 1929, with slight migration eastward prior to 1936.

MD Arch Site No.: 18CH502
Site Field No.: 59 Army Engineers No.: 103 Location: 38°28.176 - 77°16.098
18CH502 is the remains of the USSB World War I wooden hulled cargo steamship *Alta*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91 degrees. *Alta* was built in 1919 by the Alabama Drydock and Shipbuilding Co.of Mobile, Alabama, for the United States Shipping Board. The steamship has been in same location since at least 1929.

MD Arch Site No.: 18CH503
Site Field No.: 57 Army Engineers No.: 78 Location: 38°28.185 - 77°16.123
18CH503 is the remains of the USSB World War I wooden hulled cargo steamship *Andra*. The historic Ferris type single screw steamship lies entirely submerged and resting on its keel. Its stern lies in 6 feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 92.5 degrees. *Andra* was built in 1918 by the Russell Shipbuilding Co. of Portland, Maine, for the United States Shipping Board. The vessel was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in present location since at least 1929.

MD Arch Site No.: 18CH504
Site Field No.: 83 Army Engineers No.: 27 Location: 38°28.257 - 77°16.056

18CH504 is the remains of the USSB World War I wooden hulled cargo steamship *Angelina*. The historic Ferris type single screw steamship lies on its keel mostly submerged except for its sides and centerline. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 105.5 degrees and measures 258 feet 8 inches long. There is evidence of iron strapping, iron fastenings, and three bulkhead foundations as well as the propeller shaft tunnel and engine/boiler platforms. The wooden hull also displays evidence of fire damage. *Angelina* was built in 1919 by the Beaumont Shipbuilding and Drydock Co. of Beaumont, Texas, for the United States Shipping Board. It was officially released from bond on 17 March 1928, indicating that the ship was burned down prior to that date, and the hull has been lying in its present location since at least 1929.

MD Arch Site No.: 18CH505
Site Field No.: 29 Army Engineers No.: 146 Location: 38°28.122 - 77°16.124
18CH505 is the remains of the USSB World War I wooden hulled cargo steamship *Anoka*. The historic Peninsula type single screw steamship lies on its keel partially submerged with portions of its hull above water including the stern and forepeak. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 90 degrees. Evidence of its iron strapping and iron fastenings is present along with the engine/boiler platforms. There is broken concrete located in the stern area along with a large iron deck cleat at the stern's port side. *Anoka* was built in 1918 by Peninsula Shipbuilding Co. of Portland, Oregon for the United States Shipping Board. Its hull has been in position, with slight movement, since 1929.

MD Arch Site No.: 18CH506
Site Field No.: 32 Army Engineers No.: 149 Location: 38°28.149 - 77°16.135
18CH506 is the remains of the USSB World War I wooden hulled cargo steamship *Aowa*. The historic Ferris type single screw steamship lies on its keel and is considered to be among the best preserved wooden steamship wreck in the study area, but owing to its position on the outer tier of hulks, exposed to frequently turbulent sea conditions, and submersion during high tide, it is one of the most difficult to access. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 87 degrees. *Aowa* measures 258 feet 6 inches long and 46 feet 6 inches wide. Evidence of its iron strapping and iron fastenings is present along with the engine/boiler platforms and coal bunker foundations. The propeller shaft tunnel is well preserved with at least five shaft casing mounts still in place. The tunnel begins 246 feet 4 inches aft the bow, is 12 feet 2 inches in length, and contains the best example of cross pinning of any site in the fleet. Four bulkheads are present and the afterpeak is weighted with stone or concrete to hold the hulk in place. *Aowa* was built in 1919 by the Johnson Shipyard Co., New York, NY, for the United States Shipping Board and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH507

Site Field No.: 85 Army Engineers No.: 26 Location: 38°28.235 - 77°16.072
18CH507 is the remains of the USSB World War I wooden hulled cargo steamship *Arado*. The historic Ferris type single screw steamship lies on its keel with its sides and centerline exposed above the water. The shipwreck is one of the better preserve steamships in the study area and to a distance of 94 feet forward of stern the site is in excellent condition with one bulkhead foundation intact as well as the propeller shaft tunnel. A second bulkhead foundation is present on the site as well as iron cross strapping, iron fastenings, portions of the rudder, including the gudgeons, stempost, and sternpost. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 107.5 degrees. Surveys recorded concrete in the bow and stern most likely put there to hold the vessel in place for salvage. *Arado* measures 254 feet long and was built in 1918 by the Lone Star Shipbuilding Co., Beaumont, Texas, for the United States Shipping Board. The vessel was officially released from bond on 17 March 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH508
Site Field No.: 12 Army Engineers No.: 17 Location: 38°28.220 - 77°16.070
18CH508 is the remains of the USSB World War I wooden hulled cargo steamship *Baladan*. The historic Hough type double screw steamship lies resting on its keel, partially submerged, in an east by west orientation with its bow at the east end at a bearing of 93.5 degrees. The stern hull area is gone which would have been of a round design. There is evidence of iron fastenings and iron cross strapping in the hull as well as three bulkhead foundations, the stempost, and sternpost. The steamship's remains measure 276 feet 4 inches long and 45 feet 10 inches wide. *Baladan* was built in 1918 by the Kruse and Banks Shipbuilding Co., North Bend, Oregon, for the United States Shipping Board and was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH509
Site Field No.: 53 Army Engineers No.: 89 Location: 38°28.167 - 77°16.103
18CH509 is the remains of the USSB World War I wooden hulled cargo steamship *Banicia* [also *Banica* and *Banicaa*]. The historic Ferris type single screw steamship lies on its keel and is entirely submerged with its condition not well recorded to date. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 105 degrees. Surveys recorded the presence of the stempost and sternpost as well as iron fastenings. *Banicia* was built in 1919 by the Universal Shipbuilding Co., Harris County, Texas, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in its present location since 1929.

MD Arch Site No.: 18CH510
Site Field No.: 52 Army Engineers No.: 84 Location: 38°28.160- 77°16.105
18CH510 is the remains of the USSB World War I wooden hulled cargo steamship *Battahatchee*. The historic Ferris type single screw steamship lies on its keel and is entirely submerged with its condition not well recorded to date. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 102 degrees. Surveys recorded two bulkhead foundations, iron fastenings, the stempost, and sternpost. *Battahatchee* was built in 1919 by the Gildersleeve Ship Construction Co., Gildersleeve, Connecticut, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in its present location since 1929.

MD Arch Site No.: 18CH511
Site Field No.: 37 Army Engineers No.: 40 Location: 38°28.275 - 77°16.095
18CH511 is the remains of the USSB World War I wooden hulled cargo steamship *Bayou Teche*. The historic Ferris type single screw steamship lies on its keel, partially submerged, but with substantial preservation. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 101 degrees. Surveys recorded the boiler and engine platforms and shaft tunnel including 4 shaft casing platforms (each platform is "I" shaped and measures 6 feet in length, 1 foot 11 inches in width). There is evidence of iron cross strapping, iron fastenings, and two bulkheads along with extant stempost, sternpost, and rudder post. The hull measures 264 feet 7.5 inches long and 44 feet 2 inches wide. *Bayou Teche* was built in 1918 by the Janhnke Shipbuilding Co., Tchefuncta River, Louisiana, for the United States Shipping Board. The vessel was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929. The *Bayou Tech* had the smallest gross tonnage of all USSB steamship constructed at 2,368 tons.

MD Arch Site No.: 18CH512
Site Field No.: 90 Army Engineers No.: 112 Location: 38°28.193 - 77°16.087
18CH512 is the remains of the USSB World War I wooden hulled cargo steamship *Bedminster*. The historic Ferris type single screw steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 103.5 degrees. Surveys recorded the presence of the stempost as well as iron fastenings and two bulkheads. *Bedminster* was built in 1918 by Morey and Thomas, Jacksonville, Florida, for the United States Shipping Board. The steamship has been in its present location since at least 1929.

MD Arch Site No.: 18CH513
Site Field No.: 27 Army Engineers No.: 148 Location: 38°28.295 - 77°16.125

18CH513 is the remains of the USSB World War I wooden hulled cargo steamship *Belgrade*. The historic Ferris type single screw steamship lies on its keel with a list to port and is partially submerged. The vessel measures 46 feet wide and sits in an east by west orientation with its bow at the east end at a bearing of 86 degrees. Surveys recorded the presence of the stempost, sternpost, rudderpost, iron fastenings, iron cross strapping, as well as four bulkheads. The *Belgrade* was built in 1918 by the Cumberland Shipbuilding Co., Portland, Maine, for the United States Shipping Board and its hull has been in its present location since 1929.

MD Arch Site No.: 18CH514
Site Field No.: 46 Army Engineers No.: 45 Location: 38°28.253- 77°16.118
18CH514 is the remains of the USSB World War I wooden hulled cargo steamship *Bellbrook* [also given as *Bell Brook*]. The historic Peninsula type single screw steamship lies on its keel and is entirely submerged with is stern in ten feet of water. The vessel measures 10 feet deep and sits in an east by west orientation with its bow at the east end at a bearing of 104 degrees. Surveys located evidence of fire as well as iron fastenings, iron cross strapping, and one bulkhead. *Bellbrook* was built in 1918 by the Peninsula Shipbuilding Co., Portland, Oregon, for the United States. It was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH515
Site Field No.: 119 Army Engineers No.: 146 Location: 38°28.131 - 76°16.132
18CH515 is the remains of the USSB World War I wooden hulled cargo steamship *Benzonia*. The historic Ferris type single screw steamship lies on its keel and has best example of twin shaft casing lines. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 98 degrees. Surveys recorded the presence of a sharp stern, boil end engine platforms, iron fastenings, iron cross strapping, and extant stempost and sternpost. There is concrete in the forepeak and three visible bulkhead foundations. *Benzonia* was built in 1919 by the G.M. Standifer Construction Corp, Vancouver, Washington, for the United States Shipping Board. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH516
Site Field No.: 69 Army Engineers No.: 29 Location: 38°28.254 - 77°16.155
18CH516 is the remains of the USSB World War I wooden hulled cargo steamship *Bobring*. The historic Pacific American type double screw steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 100.5 degrees. Surveys found the hull is devoid of bulkhead remains or other partitions with the exception of a vertical board, 2 feet tall, running along the centerline on the keelson. Numerous fittings, all in poor state of preservation, were noted lying about and several ceramic hexagonal shaped one-inch tiles were recorded near amidships. A portion of the stem appears to have been

torn away or sawed off with substantial wooden debris was encountered on the bottom near the stern. *Bobring* was built in 1918 by Pacific American Fisheries, Bellingham, Washington, for the United States Shipping Board. The steamship was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH517
Site Field No.: 92 Army Engineers No.: 86 Location: 38°28.192- 77°16.131
18CH517 is the remains of the USSB World War I wooden hulled cargo steamship *Bockonoff*. The historic Pacific American type screw steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 90.5 degrees. Surveys recorded the presence of the stempost, sternpost, iron fastenings, and one bulkhead. *Bockonoff* was built in 1919 by Pacific American Fisheries, Bellingham, Washington, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH518
Site Field No.: 17 Army Engineers No.: 57 [?] Location: 38°28.250 - 77°16.000
18CH518 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic single screw steamship lies on its keel and is overgrown with vegetation making examination of the interior impossible. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 94 degrees and measures 257 feet long by 46 feet 6 inches wide. Surveys recorded the presence of the propeller shaft tunnel, iron fastenings, iron cross strapping, stempost, sternpost, and rudderpost. There is evidence of fire on the hull and concrete inside both the stern and bow. Several artifacts are located inside the hull including a brass firehose nozzle. The vessel does not appear in its present position on the 1952 aerial photographs and may have been intentionally moved or simply migrated to its present location after that date to prevent it becoming a hazard to navigation.

MD Arch Site No.: 18CH519
Site Field No.: 9 Army Engineers No.: 16 Location: 38°28.196 - 77°16.006
18CH519 is the remains of the USSB World War I wooden hulled cargo steamship *Boone*. The historic single screw Ferris type steamship lies on its keel with its hull and internal features well preserved. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 99 degrees and measures 228 feet 6 inches long by 46 feet inches wide. Surveys record the presence of iron fastenings, iron cross strapping, propeller shaft tunnel, stempost, sternpost, and four bulkheads. There is concrete present in both the bow and stern. *Boone* was built in 1919 by

the Dantzeler Shipbuilding and Drydock Co., Moss Point, Mississippi, for the United States Shipping Board. The wreck has been in its present location since at least 1929.

MD Arch Site No.: 18CH520
Site Field No.: 67 Army Engineers No.: 116 Location: 38°28.222 - 77°16.152
18CH520 is the remains of the USSB World War I wooden hulled cargo steamship *Bottineau*. The historic single screw Ferris type steamship lies on its keel and is completely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 86 degrees. *Bottineau* was built in 1919 by Barbare Brothers, Tacoma, Washington, for the United States Shipping Board and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH521
Site Field No.: 105 Army Engineers No.: 62 Location: 38°28.242 - 77°16.150
18CH520 is the remains of the USSB World War I wooden hulled cargo steamship *Boxley*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged in six feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 99 degrees. The stem is articulated and well preserved with a 7 foot tall stempost. An eight foot long three foot wide section of the rudder is present inside the hull near amidships on the port side. *Boxley* was built in 1918 by the Grant, Smith, Porter Co, Portland, Oregon, for the United States Shipping Board. It was officially released from bond on 21 December 1928, indicating the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH522
Site Field No.: 66 Army Engineers No.: 118 Location: 38°28.218 - 77°16.154
18CH522 is the remains of the USSB World War I wooden hulled cargo steamship *Boykin*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 94.5 degrees. *Boykin* was built in 1919 by the Coast Shipbuilding Co, Portland, Oregon, for the United States Shipping Board. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH523
Site Field No.: 39 Army Engineers No.: 48 Location: 38°28.258 - 77°16.075
18CH523 is the remains of the USSB World War I wooden hulled cargo steamship *Braeburn* The historic single screw Peninsula type steamship lies on its keel and is well preserved with substantial interior features extant. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 107.5 degrees. Surveys recorded the extant stempost and sternpost (including the rudderpost), intact boiler and engine platforms as well as two bulkhead foundations, iron fastenings and iron cross strapping. Small white ceramic tiles were found

spread about amidships that appear to be similar to hexagonal bathroom floor tiles. A large metal sheet, 4 feet in diameter, probably made of lead and covered with a white oxide was also found amidships. The metal sheet was uneven in shape and perforated by several small holes and was folded under on one side. Its purpose is unknown. *Braeburn* was built in 1919 by the Peninsula Shipbuilding Co., Portland, Oregon, for the United States Shipping Board and was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date. The hull has been in present location at least since 1936, with slight migration after 1929.

MD Arch Site No.: 18CH524
Site Field No.: 45 Army Engineers No.: 30 Location: 38°28.260- 77°16.150
18CH524 is the remains of the USSB World War I wooden hulled cargo steamship *Bromela*. The historic double screw Grays Harbor type steamship lies on its keel and is largely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 108 degrees. This vessel is the only known Grays Harbor type in the Mallows Bay shipwreck population and it is an important site because of the survival of the rudder assemblage in situ. The lower middle rudder assemblage is 7 feet 6 inches in height and 3 feet wide. As the hull rests in 6 feet of water (MLW), where the rudder enters the bottom, more than a foot appears above the waterline. The rudder is only loosely attached to the post and its upper half slants towards the west. The stern edge of the rudder is 3 inches thick, worn by water erosion, and slopes inward towards the ship and the bottom. The iron strapping on the rudder is well preserved. The remains of the iron "L" foot and additional strapping lay just aft the port side of the rudder post in 7 feet of water. The outer edge of the rudder, which is 2 to 3 inches thick, is also worn to a tapered edge by water erosion. A single gudgeon and 2 pintals are extant. The main pintal prong has been sprung loose from the gudgeon, undoubtedly as the ship settled in position. The gudgeon strapping has slipped down along the rudder post, leaving a clear impression of the slippage incised in the wood. The lower pintal is buried beneath the mud but is still in place, although it has slipped from the shoe. *Bromela* was built in 1919 by the Grays Harbor Motorship Co., Grays Harbor, Washington, for the United States Shipping Board. It was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH525
Site Field No.: 41 Army Engineers No.: 98 Location: 38°28.272 - 77°16.137
18CH525 is the remains of the USSB World War I wooden hulled cargo steamship *Buckhorn*. The historic single screw Ferris type steamship lies on its keel and is largely submerged in six feet of water but has a substantial state of preservation. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 106.5 degrees. Surveys recorded the presence of the stempost, sternpost, iron fastenings, iron cross strapping, and four bulkheads. Remains of the propulsion system include the propeller shaft tunnel and the engine and boiler

platforms. *Buckhorn* was built in 1919 by R.J. Chandler, Washington, California, for the United States Shipping Board and its hull has been in the same general location since 1929, although some minor migration has occurred.

MD Arch Site No.: 18CH526
Site Field No.: 89 Army Engineers No.: 104 Location: 38°28.213 - 77°16.124
18CH526 is the remains of the USSB World War I wooden hulled cargo steamship *Buhisan*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 93.5 degrees. Surveys recorded the presence of the stempost, sternpost, iron fastenings, and three bulkhead foundations. There is concrete located in the stern on the afterpeak. *Buhisan* was built in 1918 by the Traylor Shipbuilding Corp., Cornwells Heights, Pennsylvania, for the United States Shipping Board. On 13 August 1929 it was bonded for burning. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH527
Site Field No.: 20 Army Engineers No.: 53 [?] Location: 38°28.265 - 77°16.030
18CH527 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The screw steamship lies on its keel and is filled with soil and overgrown with vegetation. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 106.5 degrees. It measures 245 feet long and 43 feet 6 inches wide and has iron fastenings, iron cross strapping, and two concrete frames in its bow. Surveys recorded the presence of the stempost, rudderpost, sternpost, and two bulkheads. The hull shows evidence of fire on all its sides and the vessel does not appear in place on the 1952 aerial photographs and was apparently towed or migrated to its present position between then and 1986.

MD Arch Site No.: 18CH528
Site Field No.: 18 Army Engineers No.: 56 [?] Location: 38°28.243 - 77°16.003
18CH528 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The single screw historic steamship lies on its keel and is filled with soil and overgrown with vegetation. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 113.5 degrees. The site measures 257 feet 9 inches long by 46 feet 6 inches wide. The bow is in excellent condition, with Roman numeral plimsol numbers clearly visible on the port side bow. The forepeak bulkhead is well defined, and the engine and boiler platforms are intact. Fire damage is evident all around the stern and throughout the exposed hull areas. Surveys recorded the presence of iron fastenings, iron cross strapping, two concrete frames in the bow, a stempost, a sternpost, and three bulkheads. The engine platform was noted extant amidships beneath a dense growth of vegetation. A steel cable hangs down from the starboard bow and is pinned to the bottom underwater, ostensibly to hold the ship in place. It thus seems likely that the hulk was

among several vessels which may have drifted from their original anchorage and were later hauled onto the nearshore and fixed in place to prevent further migration. 18CH528 does not appear in its present position on the 1952 but arrived there prior to 1986.

MD Arch Site No.: 18CH529
Site Field No.: 54 Army Engineers No.: 113 Location: 38°28.171 - 77°16.112
18CH529 is the remains of the USSB World War I wooden hulled cargo steamship *Cabeza*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 105 degrees. Surveys recorded iron fastenings as well as a single bulkhead foundation. *Cabeza* was built in 1918 by the Coast Shipbuilding Co., Portland, Portland, Oregon, for the United States Shipping Board and its hull was been in its present location at least since 1929.

MD Arch Site No.: 18CH530
Site Field No.: 49 Army Engineers No.: 32 Location: 38°28.264 - 77°16.120
18CH530 is the remains of the USSB World War I wooden hulled cargo steamship *Calala*. The historic single screw Supple and Balm type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 108 degrees. Surveys recorded the presence of iron fastenings, the stempost, and two bulkhead foundations. *Calala* was built in 1919 by Supple and Ballin Shipbuilders of Portland, Oregon. The hull has been in its present location since 1929.

MD Arch Site No.: 18CH531
Site Field No.: 30 Army Engineers No.: 152 Location: 38°28.140 - 77°16.140
18CH531 is the remains of the USSB World War I wooden hulled cargo steamship *Caribou*. The historic single screw Ferris type steamship lies on its keel with a well preserved hull, deck, four bulkhead foundations, propeller shaft tunnel, and three casing mounts. The vessel sits in an east by west orientation with its bow at the east end. Surveys recorded the presence of an intact sternpost, iron fastenings, and iron cross strapping. *Caribou* was built in 1919 by the St. Johns River Shipbuilding Co., South Jacksonville, Florida, for the United States Shipping Board. The hull has been in its present location since 1929.

MD Arch Site No.: 18CH532
Site Field No.: 5 Army Engineers No.: 135 Location: 38°28.292 - 77°16.156
18CH532 is the remains of the USSB World War I wooden hulled cargo steamship *Casmalia*. The historic single screw Ferris type steamship lies on its keel and is usually awash or submerged. The site is subject to occasional high energy wave action making documentation difficult. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 101 degrees. Surveys documented the presence of the stempost, sternpost (including in the

rudder post two gudgeons and a possible pintal fragment), iron fastenings, iron cross strapping and two bulkhead foundations. One of those foundations stands two feet vertically off the floor. The vessel measures 260 feet 4 inches long and its bow stands five feet of the bottom while its stern rises eight feet off the bottom and is in an excellent state of preservation. The bow's iron stemplate is lying on the bottom and appears to have been peeled back from its original position. *Casmalia* was built in 1918 by the American Shipbuilding Co, Brunswick, Georgia, for the United States Shipping Board. On 13 August 1929 the ship was bonded for burning and the hull has been in the same general location since 1929. The vessel has been subjected to some notable migration since that time.

MD Arch Site No.: 18CH533
Site Field No.: 15 Army Engineers No.: 21 Location: 38°28.224 - 77°16.037
18CH533 is the remains of the USSB World War I wooden hulled cargo steamship *Coconino*. The historic double screw Hough type steamship lies on its keel and is exposed above the water with considerable debris lying scattered across its deck. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 85 degrees. It measured 267 feet long by 46 feet wide with a round stern. Surveys indicate that the site has iron fastenings, iron cross strapping, an intact sternpost, and three bulkheads. At 113 feet forward of the stem, a square structure with firebrick was observed. In this sector, an iron box, attached to the hull itself, was also observed not far from a threaded standpipe still in position. *Coconino* was built in 1918 by the Kruse and Banks Shipbuilding Co., North Bend, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and it had been in its present location since 1929.

MD Arch Site No.: 18CH534
Site Field No.: 28 Army Engineers No.: 125 Location: 38°28.138 - 77°16.090
18CH534 is the remains of the USSB World War I wooden hulled cargo steamship *Congaree*. The historic single screw Ferris type steamship lies on its keel and is largely submerged on its port side. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 70 degrees. Surveys recorded the presence of iron fastenings, the stempost, and the propeller shaft tunnel. *Congaree* was built in 1918 by The Foundation Co, Passaic River, New Jersey for the United States Shipping Board. On 13 August 1929 the steamship was substituted for *Waneyanda* in a bond for burning. The ship was among those subjected to dynamiting during the period of wildcat scrap operations at Mallows Bay. Its hull has been in its present location since 1929.

MD Arch Site No.: 18CH535
Site Field No.: 136 Army Engineers No.: 32 Location: 38°28.268 - 77°16.090

18CH5335 is the remains of the USSB World War I wooden hulled cargo steamship *Cumberland*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 102 degrees. Surveys recorded the presence of iron fastenings, the stempost, sternpost, and two bulkheads. Propulsion remains include the boiler and engine platforms, the propeller shaft tunnel, and four shaft casing platforms. There is concrete located in the bow section. *Cumberland* was built in 1918 by the Cumberland Shipbuilding Co, Portland, Maine, for the United States Shipping Board. The vessel was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH536
Site Field No.: 47 Army Engineers No.: 44 Location: 38°28.257 - 77°16.115
18CH536 is the remains of the USSB World War I wooden hulled cargo steamship *Datis*. The historic single screw Ferris type steamship lies on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 106 degrees. Surveys recorded the presence of iron fastenings, the stempost, sternpost, and rudder post. The steamship's keelson is exposed but portions of the starboard hull forward of amidships is gone. *Datis* was built in 1919 by the Sommarstrom Shipbuilding Co., Columbia City, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH537
Site Field No.: 19 Army Engineers No.: 55 [?] Location: 38°28.264 - 77°16.015
18CH537 is the remains of the USSB World War I wooden hulled cargo steamship *Dertona* [?]. The historic screw Supple and Ballin type steamship lies on its keel and is exposed, but overgrown vegetation prohibited the examination of its interior. The vessel sits in a south by north orientation with its bow at the south end at a bearing of 136.5 degrees. It measures 278 feet 4 inches long by 44 feet 5 inches wide and has a sharp stern. The vessel's bow section is among the most dramatic and architecturally valuable for interpretation of any in the fleet. Although densely covered by plants, trees, and vines, the hull clearly shows fire trauma, which has exposed planking and frame patterning. At various points in the forward area, the hull stands 6 feet or more above the waterline. The concrete frames in the bow, the most massive in the fleet, provided support for the hull, which is doubled planked on the outer-hull in herringbone fashion. The keelson and sister keelsons are 4 feet in width. Two pair of intact knees are held in place by nuts and bolts, with each knee 6 inches wide, and with each pair spaced 18 inches apart. Each pair of knees is 20 feet 8 inches apart from the next pair. Melted iron sheets, reduced by intense heat, were found in several locations aboard, occasionally even melted into the woodwork. A

single 25-foot-long steel cable was found onboard 140 feet forward of the stern on the starboard side. *Dertona* [?] was built in 1919 by Supple and Ballin, Portland, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 13 July 1926, indicating that the ship was burned down prior to that date. The vessel does not appear in its present position on the 1952 aerial photographs of the transect and apparently was towed or migrated to its present location from its former position to the west between 1952 and 1986.

MD Arch Site No.: 18CH538
Site Field No.: 81 Army Engineers No.: 47 Location: 38°28.257 - 77°16.090
18CH538 is the remains of the USSB World War I wooden hulled cargo steamship *Dungeness*. The historic single screw Ferris type steamship lies on its keel but is usually flooded with only its sides and centerline exposed. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 96 degrees. The vessel's bow, including the stempost, stands six feet off the bottom. *Dungeness* was built in 1918 by the Seaborne Shipyards Co., Seattle, Washington, for the United States Shipping Board. The steamship was officially released from bond on 28 October 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH539
Site Field No.: 10 Army Engineers No.: 94 Location: 38°28.202 - 77°16.040
18CH539 is the remains of the USSB World War I wooden hulled cargo steamship *Fernandina*. The historic single screw Ferris type steamship lies on its keel and is well preserved. Its remains are exposed at low tide and the vessel sits in an east by west orientation with its bow at the east end at a bearing of 98 degrees. The hull measures 256 feet long by 46 feet wide with iron fastenings and iron cross strapping. Surveys recorded the presence of concrete in both the bow and stride the intact propeller shaft tunnel. The steamship's stempost, sternpost, rudder post, and a single gudgeon are in place as well as the main and forepeak bulkhead. *Fernandina* was built in 1919 by the U.S. Maritime Corporation, Brunswick, Georgia, for the United States Shipping Board. The steamship was officially released from bond on 21 December 1928, indicating that the ship was burned down prior to that date, and it has been in its present location at least since August 1929.

MD Arch Site No.: 18CH540
Site Field No.: 72 Army Engineers No.: 24 Location: 38°28.247 - 77°16.127
18CH540 is the remains of the USSB World War I wooden hulled cargo steamship *Flavel*. The historic double screw Hough type steamship lies on its keel and is partially submerged with only ceiling planking in the bow area visible at low tide. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 83 degrees. Surveys recorded the presence of iron fastenings, iron cross strapping, the stempost, and two bulkheads. *Flavel* was built in1918 by the

McEachern Ship Co., Astoria, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since 1929.

MD Arch Site No.: 18CH541
Site Field No.: 134 Army Engineers No.: 111 Location: 38°28.181 - 77°16.122
18CH541 is the remains of the USSB World War I wooden hulled cargo steamship *Folsom*. The historic single screw Ferris type steamship lies on its keel and is partially submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91 degrees. Surveys recorded the presence of iron fastenings, the stempost, and sternpost. *Folsom* was built in 1919 by The Foundation Co., Passaic River, New Jersey, for the United States Shipping Board. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH542
Site Field No.: 14 Army Engineers No.: 67 Location: 38°28.225 - 77°16.079
18CH542 is the remains of the USSB World War I wooden hulled cargo steamship *Fort Stevens*. The historic double screw Ferris type steamship lies on its keel and is one of the better preserved hulls in the Mallows wooden steamship fleet. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 90 degrees. It measures 269 feet 6 inches long by 44 feet 6 inches wide. This site contains one of the best preserved interior segments of lower deck architecture of any in the study area. The decking in the forepeak and some in the afterpeak areas, to their bulkheads, are intact. There are signs of fire trauma in the bow. Ceramic tile fragments were noted lying on the deck. A half dozen small, poured concrete blocks with holes running through them, and Emergency Fleet Corporation imprints on them also lie scattered about, primarily against the starboard side. At 73 feet forward of the stern, in a bulkhead on the starboard side, the lower section of a passageway with frames is still partially intact. At 180 feet forward of the stern, a possible boiler fragment and several iron stanchions were encountered. The twin-engine platforms and boiler platform are in excellent condition but were not measured. The lower sections of the fore and afterpeaks are intact. *Fort Stevens* was built in 1919 by Grant, Smith, Porter Co., Portland, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date. The hull drifted from its 1929 grounding location, to the west to its present location, sometime between 1952 and 1986.

MD Arch Site No.: 18CH543
Site Field No.: 108 Army Engineers No.: 137 Location: 38°28.132 - 77°16.087
18CH543 is the remains of the USSB World War I wooden hulled cargo steamship *Guilford*. The historic single screw Ferris type steamship lies on its keel and has well preserved hull and interior features. The vessel sits in an east by west orientation with its bow at the east end at a

bearing of 79 degrees. Surveys recorded the presence of iron fastenings, the stempost, sternpost, and two bulkheads as well as the engine and boiler platforms. *Guilford* was built in 1919 by the Maryland Shipbuilding Co., Sollers Point, Maryland, for the United States Shipping Board. The hull has been in its present location since at least 1929. *Guilford* is the only known Maryland-built USSB hull extant in Mallows Bay.

MD Arch Site No.: 18CH544
Site Field No.: 64 Army Engineers No.: 87 Location: 38°28.196 - 77°16.132
18CH544 is the remains of the USSB World War I wooden hulled cargo steamship *Hoosac*. The historic single screw Ferris type steamship lies entirely submerged in an east by west orientation with its bow at the east end at a bearing of 99.5 degrees. Surveys recorded the presence of iron fastenings as well as extant stempost and sternpost. *Hoosac* was built in 1919 by the Tampa Dock Co., Tampa, Florida, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and it has been in its present location since at least August 1929.

MD Arch Site No.: 18CH545
Site Field No.: 109 Army Engineers No.: None Location: 38°28.103 - 77°16.110
18CH545 is the remains of the four-masted merchant schooner *Ida S. Dow*. The wooden hulled historic schooner rests on its keel and is well preserved with its remains oriented in an east by west direction at a bearing of 95 degrees. The schooner's bow is at the east end and overall it measures 215 in length by 40 feet wide. The current depth of hold is only six feet of the original 19 feet 8 inches as built. *Ida S. Dow* was built in 1918 by the Atlantic Coast Company, Thomaston, Maine for the coastal cargo trade. It measured 1,411 gross tons, 1,280 net tons, and 225 feet in length. The schooner's port of registry was Boston, Massachusetts, and then Bath, Maine. In 1931 its owner was Cromwell & Thurlow, [and] William F. Plummer, and her master was R.C. Rawding. The ship managed to survive World War I and the subsequent "great 1920 tie-up" of merchant freight haulers, the ship was overtaken by misfortune on 30 November 1931, when it was damaged in collision with the German steamship *Herman Frasch*. The injured schooner was towed stern first into Hampton Roads and then hulked and abandoned at Newport News, Virginia. In the spring of 1934, the hulk was acquired by scrap salvors operating at Mallows Bay, towed up to the embayment, and set up as a floating dormitory for wreckers. The ship was anchored to the southwest of the southern end of the Mallows Bay grounding area. Sometime prior to 1 September 1936, the leaking hulk, no longer serviceable as a barracks ship, was hauled a short distance in from its anchorage and grounded squarely off the southern end of the main grounding area, filled with mud and sunk in place. In April 1940 the hulk was registered as abandoned. Between 1936 and 1943, the hull apparently migrated several feet westward to the location it now occupies. The hulk has suffered from fire trauma, and a portion of the stern is gone. A break in the hull was noted on the starboard side at 75 feet aft the bow,

although there is some strong hull integrity remaining. Heavy silts fill the interior of most of the hull (Tilp 1978: 88; Morris 1975: 136).

MD Arch Site No.: 18CH546
Site Field No.: 55 Army Engineers No.: 115 Location: 38°28.177 - 77°16.144
18CH546 is the remains of the USSB World War I wooden hulled cargo steamship *Kangi*. The historic single screw Ferris type steamship lies resting on its keel and is largely submerged so its condition could not be determined. It sits in an east by west orientation with its bow at the east end at a bearing of 94.5 degrees. Surveys did record the presence of iron fastenings, two bulkheads, the stempost and sternpost, as well as a portside passageway bulkhead and two passage portals. *Kangi* was built in 1919 by G.M. Standifer, Portland, Oregon, for the United States Shipping Board. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH547
Site Field No.: 129 Army Engineers No.: 150 Location: 3827.112 - 7716.090
18CH547 is the remains of the USSB World War I wooden hulled cargo steamship *Kasota*. The historic double screw Hough type steamship lies resting on its keel and is partially submerged in an east by west orientation with its bow at the east end at a bearing of 91 degrees. The steamship has a round stern and measures 275 feet long and 46 feet wide. Surveys recorded the presence of iron fastenings, the stempost, and one bulkhead foundation. *Kasota* was built in 1918 by the Grant, Smith, Porter Co., Portland, Oregon, for the United States Shipping Board. Its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH548
Site Field No.: 93 Army Engineers No.: 13 Location: 38°28.180 – 77°16.067
18CH548 is the remains of the USSB World War I wooden hulled cargo steamship *Kickapoo* The historic double screw Hough type steamship lies in six feet of water resting on its keel and has well preserved deck planking and bulkhead foundations. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 101 degrees. The hull's post side is twisted and partially disarticulated. *Kickapoo* was built in 1918 by the Kruse and Banks Shipbuilding Co., North Bend, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH549
Site Field No.: 94 Army Engineers No.: 12 Location: 38°28.176 - 77°16.058
18CH549 is the remains of the USSB World War I wooden hulled cargo steamship *Marshfield* The historic double screw Hough type steamship lies in six feet of water resting on its keel and has well preserved deck planking and bulkhead foundations. The vessel sits in an east by west

orientation with its bow at the east end at a bearing of 100 degrees. Examination of the hull indicates the bow to be in an excellent state of preservation, with architecture, nails, pins, and other fittings still articulated. A total of 6 planks, each 1 foot wide and 1 inch thick, formed the visible exterior hull wall from surface to bottom. Examination of the port side, from the bow to the third bulkhead area, revealed the bulkheads to be stabilized by large wooden knees, extending from the ceiling planks to the sides, sandwiching the bulkheads between them. The stern is broken off on both sides of the sternpost. The port side stern was twisted off to the west. The keelson and fragments of limber boards, or possibly the sister keelson sections, were turned up and obviously broken off. The broken starboard side timbers were also turned to the west. *Marshfield* was built in 1918 by the Coos Bay Shipbuilding Co., Marshfield, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least August 1929.

MD Arch Site No.: 18CH550
Site Field No.: 106 Army Engineers No.: 99 Location: 38°28.235 - 77°16.160
18CH550 is the remains of the USSB World War I wooden hulled cargo steamship *Mono*. The historic double screw Hough type steamship lies in six feet of water resting on its keel and entirely submerged except for the forepeak. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 95 degrees. Surveys recorded the round stern and the presence of iron fastenings, two bulkhead foundations, and the stempost. *Mono* was built in 1918 by the Fulton Shipbuilding Co, Washington, California, for the United States Shipping Board. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH551
Site Field No.: 21 Army Engineers No.: 53 [?] Location: 38°28.270 - 77°16.043
18CH551 is the remains of the USSB World War I wooden hulled cargo steamship *Moosabee*. The historic single screw Ferris type steamship lies resting on its keel and is filled with soil and overgrown vegetation. It is mostly exposed and generally dry. The vessel sits in a southeast by northwest orientation with its bow at the northeast end at a bearing of 46.5 degrees. The bow is in an excellent state of preservation and lies only 3 feet from the bluff shoreline. It stands 6 feet above the waterline and there is extensive evidence of fire damage throughout steamship's forward half. Overall the steamship measures 267 feet 7 inches long by 44 feet wide and has a sharp stern. Surveys recorded the presence of iron fastenings, concrete in the stern, an extant stempost and sternpost, and two bulkheads. *Moosabee* [?] was built in1919 by the G.M. Standifer Construction Corp., Vancouver, Washington, for the United States Shipping Board. It was officially released from bond on 17 March 1928, indicating that the ship was burned down prior to that date. The steamship does not appear in its current location on the 1952 aerial photographs and apparently was towed or migrated there between then and 1986, after having experienced

some migration from its 1929 grounding site. The *Moosabee* was one of the two smallest USSB steamship built at 166.6 feet in length.

MD Arch Site No.: 18CH552
Site Field No.: 84 Army Engineers No.: 28 Location: 38°28.243 - 77°16.085
18CH552 is the remains of the USSB World War I wooden hulled cargo steamship *Musketo*. The historic double screw Hough type steamship lies resting on its keel with its sides and centerline exposed. It appears to have a slight tilt to starboard and the stern section is absent. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 109 degrees. Surveys recorded iron fastenings, a single bulkhead foundation, and the sternpost standing four feet out of the water. *Musketo* was built in 1918 by the Sommarstrom Shipbuilding Co., Columbia City, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 28 July 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH553
Site Field No.: 65 Army Engineers No.: 126 Location: 38°28.210 - 77°16.139
18CH553 is the remains of the USSB World War I wooden hulled cargo steamship *Namecki*. The historic single screw Ferris type steamship lies resting on its keel and is entirely submerged. It appears to have a slight tilt to starboard and the stern section is absent. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 93 degrees. Surveys recorded iron fastenings and the stempost. *Namecki* was built in 1918 by the Tampa Dock Co., Tampa, Florida, for the United States Shipping Board. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH554
Site Field No.: 26 Army Engineers No.: 139 Location: 38°28.127 - 77°16.082
18CH554 is the remains of the USSB World War I wooden hulled cargo steamship *Nemassa*. The historic single screw Ferris type steamship lies resting on its keel and standing six feet off the bottom. The 258 foot long vessel sits in an east by west orientation with its bow at the east end at a bearing of 78 degrees. Surveys recorded the presence of a sharp stern, propeller shaft tunnel, iron fastening, iron cross strapping, three bulkhead foundations, and intact stempost and sternpost. *Nemassa* was built in 1918 by the Freeport Shipbuilding Co., South Freeport, Maine, for the United States Shipping Board. On 13 August 1929 *Nemassa* was bonded for burning and its hull has been in its present location since1929.

MD Arch Site No.: 18CH555
Site Field No.: 82 Army Engineers No.: 50 Location: 38°28.250 - 77°16.055

18CH555 is the remains of the USSB World War I wooden hulled cargo steamship *North Bend.* The historic double screw Hough type steamship lies resting on its keel, mostly flooded, with its sides and centerline exposed. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 102.5 degrees. The steamship measures 267 feet long by 46 feet 6 inches wide with a round stern. The wreck's stem appears somewhat damaged and canted above the waterline along a break line. These broken portions on the starboard side stand approximately 1 foot above MLW. The site features a waterline rub rail on the hull, the only one documented to date in the fleet. The boiler platform is 4 foot 5 inches wide and tapers to 3 feet. *North Bend* was built in 1917 by the Kruse and Banks Shipbuilding Co., North Bend, Oregon, for the United States Shipping Board. The *North Bend*, named after a town in Oregon, is the earliest USSB wooden steamer completed and certified during the Emergency Fleet program. It was originally described as a Ferris type vessel of 240 feet in length, and 4,000 deadweight tons, built in 120 days by the firm of Kruse and Banks, of Coos Bay, Oregon. The dimensions of site 18CH555, however, do not correspond with those of the hull identified by the War Department in 1929 as that of *North Bend.* Since the hull was among those that did not migrate at all from 1929 to the present and is most certainly the same as recorded by the Army Engineers, the size difference poses some question about the correctness of the 1929 chart, or possible errors in the archeological data. However, numerous discrepancies in contract ordered dimensions and completed dimensions have been documented throughout the shipbuilding program, and as the dimensions and layout of site 18CH555 correspond to those of a typical Hough type vessel, and its location is documented twice (1929 and 1936) by the War Department, it is believed that the site is probably one and the same as *North Bend. North Bend*'s career, like most USSB wooden steamers, was short. On 24 May 1918, after outfitting and undergoing sea trials, the ship was ready for delivery and sea duty. Immediately upon delivery, she was placed in the trade between the Pacific Coast and the Hawaiian Islands, carrying general merchandise outwards and sugar inwards. The precise date at which the ship was brought to the Potomac River is unknown, but it was approved for release from bond, meaning that it had been burned down to the waterline, on 15 June 1928, and officially released on 28 July 1928. The hull has been in its present location at least since 1929.

MD Arch Site No.: 18CH556
Site Field No.: 31 Army Engineers No.: 151 Location: 38°28.145 - 77°16.129
18CH556 is the remains of the USSB World War I wooden hulled cargo steamship *Nupolela.* The historic single screw Ferris type steamship lies resting on its keel with well-preserved hull and deck features, as well as bulkhead foundations, propeller shaft tunnel, and casing mounts. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 80.5 degrees. Surveys recorded the presence of iron fastenings, iron cross strapping, two bulkheads, as well as the engine and boiler platforms and coal bunker foundations. *Nupolela* was built in 1918 by the Grant, Smith, Porter Co., Portland, Oregon, for the United States Shipping Board.

The steamship was not boarded, but viewed as a well preserved site replete with compartments, coal bunkers, and other internal features not extant on many other vessels in Mallows Bay. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH557
Site Field No.: 44 Army Engineers No.: 31 Location: 38°28.265- 77°16.145
18CH557 is the remains of the USSB World War I wooden hulled cargo steamship *Owatama*. The historic single screw Ferris type steamship lies resting on its keel and is entirely submerged in six to eight feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 107.5 degrees. *Owatama* was built in 1920 by the Wilson Shipbuilding Co., Astoria, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 21 December 1928, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least 1943.

MD Arch Site No.: 18CH558
Site Field No.: 40 Army Engineers No.: 33 Location: 38°28.273 - 77°16.122
18CH558 is the remains of the USSB World War I wooden hulled cargo steamship *Panga*. The historic single screw Ferris type steamship lies resting on its keel and is almost entirely submerged in six feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 100.5 degrees. The wooden hull is in a substantial state of preservation with a six foot depth of hold and the sternpost and stempost in place. Surveys recorded the presence of iron and wood fastenings, iron cross strapping, and small concrete frames in the stern. *Panga* was built in1919 by the Dirks-Blodgett Shipbuilding Co., Pascagoula, Mississippi, for the United States Shipping Board. The steamship was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date, and its hull has been in its present location since at least August 1929.

MD Arch Site No.: 18CH559
Site Field No.: 33 Army Engineers No.: 61 Location: 38°28.140 - 77°16.138
18CH559 is the remains of the USSB World War I wooden hulled cargo steamship *Quapaw*. The historic single screw Ferris type steamship lies resting on its keel and usually submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91.5 degrees. Surveys recorded the vessel being 258 feet long by 46 feet wide. Numerous fitting details were encountered during the survey such as an intake seacock. Surveys recorded the presence of the 26 foot long engine platform, iron fastenings, iron cross strapping, four bulkheads and the stempost. *Quapaw* was built in 1919 by McBride and Law, Beaumont, Texas, for the United States Shipping Board. The steamship was officially released from bond on 12 October 1928, indicating that the ship was burned down prior to that date, and the hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH560
Site Field No.: 34 Army Engineers No.: 123 Location: 38°28.162 - 77°16.143
18CH560 is the remains of the USSB World War I wooden hulled cargo steamship *Quemakoning*. The historic screw McClelland type steamship lies resting on its keel and is largely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91.5 degrees. It measures 256 feet 8 inches long by 46 feet wide and has iron fastenings and iron cross strapping. 18CH560 contains the largest molded poured concrete building feature in the fleet. The massive block of poured concrete, formed and braced in timber casings, occupies much of the forepeak area of the ship, but none noted in stem, although rubble fragments are found in the aft hold area. The concrete block in the bow lies atop the deck, with its casings having long since rotted away or been removed. The block itself still contains the imprint of the forms, but is rapidly disintegrating due to exposure to alternating water and weather conditions. The forward side of the block base is 5 feet 4 inches from the outside measure of the bow stem perpendicular. The aft side of the block base is 17 feet 2 inches on both port and starboard sides. The purpose of the block is unknown. Immediately forward of the second bulkhead, the keelson was measured at 3 feet wide. Approaching the afterpeak area, the keelson and sister keelsons combined are 4 feet across. Sixteen vertical posts were noted along the aft midships port side and may represent the stanchion remains of a coal bunker section. The stem of the ship appears to be badly damaged and broken, but contains at least a 6 feet depth in hold. *Quemakoning* was built in 1919 by the Beaumont Shipbuilding and Drydock Co., Beaumont, Texas, for the United States Shipping Board. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH561
Site Field No.: 11 Army Engineers No.: 100 Location: 38°28.206 - 77°16.065
18CH561 is the remains of the USSB World War I wooden hulled cargo steamship *Swamscott*. The historic single screw Ferris type steamship lies resting on its keel and is largely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 95 degrees. Surveys recorded the vessel being 250 feet 4 inches long with well-preserved hull and interior features including iron fastenings and iron cross strapping. The propeller shaft tunnel is in place measuring 12 feet long by 1 foot 7 inches wide. Additionally there are large quantities of molded concrete structures onboard, principally in forepeak area. *Swampscott* was built in 1918 by the Beaumont Shipbuilding and Drydock Co., Beaumont, Texas, for the United States Shipping Board. The hull has been in its present location at least since 1929.

MD Arch Site No.: 18CH562
Site Field No.: 51 Army Engineers No.: 119 Location: 38°28.165 - 77°16.131

18CH562 is the remains of the USSB World War I wooden hulled cargo steamship *Tankat*. The historic single screw Ferris type steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 97 degrees. Surveys recorded the vessel having iron fastenings as well as an extant stempost and sternpost. *Tanka* was built in 1919 by the Traylor Shipbuilding Corp., Cornwells Heights, Pennsylvania, for the United States Shipping Board. Its hull has been in its present location since 1929 with only minor shifting of the stem.

MD Arch Site No.: 18CH563
Site Field No.: 91 Army Engineers No.: 75 Location: 38°28.190 - 77°16.100
18CH563 is the remains of the USSB World War I wooden hulled cargo steamship *Wakan* or *Wakanna*. The historic double screw Hough type steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 97 degrees. Surveys recorded the vessel having a round stern, iron fastenings, and four bulkheads. *Wakan* was built in 1918 by the Grant, Smith, Porter Co., Portland, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least August 1929.

MD Arch Site No.: 18CH564
Site Field No.: 88 Army Engineers No.: 68 Location: 38°28.215 - 77°16.104
18CH564 is the remains of the USSB World War I wooden hulled cargo steamship *Wayhut*. The historic single screw Ferris type steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 98 degrees. Surveys recorded the vessel having a sharp stern, iron fastenings, and an extant stempost. There is a small pile of concrete in the bow as well as in the stern near the vessel's sides. *Wayhut* was built in 1919 by the St. Johns River Shipbuilding Co., South Jacksonville, Florida, for the United States Shipping Board. It was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least 1929.

MD Arch Site No.: 18CH565
Site Field No.: 13 Army Engineers No.: 66 Location: 38°28.217 - 77°16.078
18CH565 is the remains of the USSB World War I wooden hulled cargo steamship *Wihaha*. The historic single screw Ferris type steamship lies resting on its keel and is partially submerged. The vessel's hull is in good condition but the interior is broken up. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91 degrees. Its measures 259 feet 2 inches long by 44 feet 6 inches wide with a sharp stern. Surveys recorded the presence of iron fastenings, iron cross straps, an extant stempost and sternpost as well as portions of its propeller

shaft tunnel and rudder post. Two bulkheads are present, the forepeak and main, along with the ship's centerline bulkhead that is the most prominent visible architectural feature. There is concrete in both the bow and stern and a fire was found amidships. A large steel cable was noted in the bow. *Wihaha* was built in 1918 by the Grant, Smith, Porter Co., Portland, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date. The hull has been in its present location at least since 1929.

MD Arch Site No.: 18CH566
Site Field No.: 87 Army Engineers No.: 90 Location: 38°28.223 - 77°16.110
18CH566 is the remains of the USSB World War I wooden hulled cargo steamship *Woyaca*. The historic single screw Ferris type steamship lies resting on its keel and is listing to starboard exposing the port side and its centerline. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 102.5 degrees. Surveys recorded iron fastenings, an extant stempost and three bulkhead foundations. *Woyaca* was built in 1919 by L.H. Shattuck, Portland, Oregon, for the United States Shipping Board. The steamship was officially released from bond on 27 April 1929, indicating that the ship was burned down prior to that date. The hull has been in its present location since at least August 1929.

MD Arch Site No.: 18CH567
Site Field No.: 137 Army Engineers No.: 33 Location: 38°28.282 - 77°16.165
18CH567 is the remains of the USSB World War I wooden hulled cargo steamship *Yawah*. The historic single screw Ferris type steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end. *Yawah* was built in 1919 by L.H. Shattuck, Portsmouth, New Hampshire, for the United States Shipping Board. On 13 August 1929 the ship was bonded for burning. Hull has been in its same general location since at least 1929, but has shifted position on several occasions and migrated somewhat westward to its present position between 1943 and 1952.

MD Arch Site No.: 18CH568
Site Field No.: 60 Army Engineers No.: 147 Location: 38°28.117 - 77°16.120
18CH568 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 91.5 degrees. Surveys recorded the presence of iron fastenings and an extant stempost. The steamship's hull has been in its present location since at least 1936.

MD Arch Site No.: 18CH569
Site Field No.: 61 Army Engineers No.: 154 Location: 38°28.113 - 77°16.125

18CH569 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 94.5 degrees. Surveys recorded the presence of iron fastenings. The steamship's hull has been in its present location since at least 1936.

MD Arch Site No: 18CH570
Site Field No: 1 Army Engineers No.: Unknown Location: 38° 28.285 - 77° 16.106
18CH570 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic double screw steamship lies resting on its keel and is partially intact with its bow missing and its hull drawn up on shore. The vessel sits in a north by south orientation with its amidships at the north end and its stern at the south end. Examination of the starboard aft area underwater indicates the hull is extremely well preserved to a depth of 9 feet. The steamship's amidships is exposed while its stern is submerged and considerable debris is located off the wreck's starboard side. The extant remains measure 245 feet in length and 47 feet in width with a sharp stern and extant stempost. Surveys recorded the presence of iron fastenings and iron bands or cross straps. The ship's forward section is gone or buried beneath soils that have accreted in the area. The twin-engine platforms of the site are among the most clearly defined architectural feature of the vessel. A sand bar formed aft the engine platforms between 1994 and 1995 which, together with the remains of the hulk, forms a barrier to ready entrance into the bay from the north. This vessel migrated into its present position sometime between 1952 and 1986.

MD Arch Site No.: 18CH571
Site Field No.: 4 Army Engineers No.: 105 Location: 38°28.301 - 77°16.154
18CH571 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic single screw steamship, possibly a Ferris type, lies resting on its keel and is usually submerged under 4 to 10 feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 108 degrees. It measures 256 feet long by 46 feet wide with a sharp stern and no evidence of fire damage. Surveys recorded the presence of the propeller shaft tunnel, iron cross straps, an extant stempost and sternpost (including the gudgeon), two bulkhead foundations, and firebricks. There are concrete frames in the bow with a second set of small blocks or frames in the stem alongside the shaft tunnel. The keelson and sister keelson assemblage are 6 feet in width. Interior features are buried under a covering of fine sand, suggesting this site may have been among the vessels filled with sediments to hold them in place. 18CH571 has been in its approximate location, with only minor movements, since 1929.

MD Arch Site No.: 18CH572
Site Field No.: 24 Army Engineers No.: Unknown Location: 38°28.305 - 77°16.080

18CH572 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic single screw steamship, nicknamed "The Concrete Wreck," lies resting on its keel and is exposed 3 feet above the surface but covered with soil and vegetation. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 61 degrees. It measures 284 feet long by 45 feet wide with a sharp stern. Surveys recorded the presence of the 5 inch deep propeller shaft tunnel, iron fastenings, iron cross strapping, extant stempost and sternpost (including the gudgeon), and bulkheads. Stepped concrete frames are located in both the bow and stern. In the stern a substantial steel cable was noted, with a rectangular bolted clip bearing the imprint "Genuine 3/4 USA." This hull apparently migrated or was towed to its present position sometime after 1952, as it does not appear in situ on the aerial photos of that period, but before 1986 when the first archeological inventory work began.

MD Arch Site No.: 18CH573
Site Field No.: 38 Army Engineers No.: Unknown Location: 38°28.079 - 77°1 6.134
18CH573 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its side, almost entirely submerged, and severely broken up. The vessel sits in a southwest by northeast orientation at a bearing of 59 degrees. The bow location was not determined. Around 13 August 1979, during a hurricane, 18CH573 broke free from Mallows Bay and drifted away. The vessel was eventually secured by the U.S. Coast Guard and returned to the embayment and tied to the starboard side of *Accomac*.

MD Arch Site No.: 18CH574
Site Field No.: 56 Army Engineers No.: Unknown Location: 38°28.183 - 77°16.152
18CH574 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and is largely submerged in an east by west orientation with its bow at the east end at a bearing of 91 degrees. The vessel has a sharp stern, iron fastenings, and an intact stempost as well as four bulkheads. A single pole stands vertically exposed almost squarely amidships in the centerline. The hulk has been in its present position since at least 1943.

MD Arch Site No.: 18CH575
Site Field No.: 58 Army Engineers No.: Unknown Location: 38°28.188 - 77°16.156
18CH575 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and its stern is entirely submerged and the forward interior flooded. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 92.5 degrees. Surveys recorded a well preserved forward bulkhead and three additional bulkhead foundations as well as iron fastenings and extant stempost. The hull has been in its present location since at least March 1936.

MD Arch Site No.: 18CH576
Site Field No.: 63 Army Engineers No.: None Location: 38°28.195 - 77°16.157
18CH576 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and its stern is entirely submerged with its bow exposed but flooded. Some of its features are well preserved which other are extremely eroded. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 92.5 degrees. Surveys recorded the presence of iron fastenings, three bulkheads, and an extant stempost. The hull has been located in its present position since at least 1936.

MD Arch Site No.: 18CH577
Site Field No.: 80 Army Engineers No.: Unknown Location: 38°28.118 - 77°16.156
18CH577 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its side in poor condition with only half of its lower hull intact. The vessel sits in a north south orientation on a bearing of 174 degrees. This hulk is believed to have been among several that floated free from the anchorage area and was later returned, but not deposited amidst the wrecks. The site does not appear on the 1952 aerial photos and thus must have been placed in its present position after that date.

MD Arch Site No.: 18CH578
Site Field No.: 133 Army Engineers No.: Unknown Location: 38°28.202 - 77°16.578
18CH578 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and is entirely submerged. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 92 degrees. Surveys recorded the presence of iron fastenings and an extant stempost. The hull came to rest in its present location between 1936 and 1943.

MD Arch Site No.: 18CH579
Site Field No.: 42 Army Engineers No.: 34 Location: 38°28.281- 77°16.164
18CH59 is the remains of an unidentified USSB World War I wooden hulled cargo steamship. The historic screw steamship lies resting on its keel and is entirely submerged in 6 to 8 feet of water. The vessel sits in an east by west orientation with its bow at the east end at a bearing of 83 degrees. The hull has been in its present location since at least 1943.

MD Arch Site No.: 18CH580
Site Field No: 2 Army Engineers No.: None Location: 38°28.308 - 77°16.108
18CH580 is the remains of a historic unidentified wooden hulled barge. It lies partially exposed in a north by south orientation on a bearing of 193.5 degrees. The barge has a plank on frame hull with a flat bottom and square stern. It is moderately preserved with iron fastenings and many interior hull features visible such as floor stretchers, wall support timbers, side wall planking,

and floor planking. The barge is mostly likely of American origin and has no onboard propulsion system. The length is estimated at 50 feet and a width estimated at 25 feet. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay by independent scrap salvors or the Bethlehem Steel Corporation. Small barges of this size were definitely operating in Mallows Bay during the period of wildcat operations and the Steinbraker era in the 1930s and afterwards. One such barge is pictured laden with a cargo that appears to be sand or earth, off the port side of *Ida S. Dow*, in the lower sector of Mallows Bay, ca. 1936. 18CH580 has been in its present position since mid-1943.

MD Arch Site No.: 18CH581
Site Field No.: 3 Army Engineers No.: None Location: 38°28.301 - 77°16.092
18CH581 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is largely submerged and in a fragile condition. Its orientation is on a bearing of 129.5 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. The remains' measure 170 feet in length, 32 feet 4 inches in width, and 4 feet deep. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. Surveys recorded the presence of iron fastenings, an extant stempost and sternpost along with five stringers and wall timbers. Sidewall planking is still attached in some sections, but most planks have collapsed outward. Fragile floor planking is still evident, but was determined to exist only by probing with iron rods. Several knee braces or foundation rail cornice supports were noted. 18CH581 is similar to modem steel barges in every aspect except that it is of wood construction, and is quite similar to several barges excavated at the Battery Cove Site in Alexandria, Virginia (Terrell1990:10-35). This vessel has been in its current position since at least 1936, indicating that it was probably brought in for utility work by either Western Marine and Salvage Company or wildcat scrap operators afterwards.

MD Arch Site No.: 18CH582
Site Field No.: 6 Army Engineers No.: None Location: 38°28.101 – 77°16.000
18CH582 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is partially exposed on its western end but buried under sediment on its eastern end. The barge is generally in poor condition. Its orientation is in an east west direction on a bearing of 85.5 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. Its remains' measure an estimated 45 feet in length. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. 18CH582 is partially buried beneath spoil that was bulldozed over it. The site is situated at the western extremity of a man-made island (now accreted to the shore) produced by spoil materials dumped

in the area during the dredging of access channels in the nearby waters and the Burning Basin ca. 1942. The mound, which stands approximately 6 to 8 feet high, covering the wreck's eastern end, is eroding away. The barge was brought to its present location sometime after 1936 and before 1942. It is probable that the hulk was intentionally buried.

MD Arch Site No.: 18CH583
Site Field No.: 7 Army Engineers No.: None Location: 38°28.099 - 77°16.000
18CH583 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is partially exposed on its western end but buried under sediment on its eastern end. The barge is generally in poor condition. Its orientation is in an east west direction on a bearing of 85.5 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. Its remains' measure an estimated 45 feet in length. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay.

MD Arch Site No.: 18CH584
Site Field No.: 22 Army Engineers No.: None Location: 38°28.278 - 77°16.060
18CH584 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is entirely submerged. Its orientation is in a northwest by southeast direction on a bearing of 96 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay.

MD Arch Site No.: 18CH585
Site Field No.: 25 Army Engineers No.: None Location: 38°28.305 - 77°16.134
18CH585 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is entirely submerged. The barge is generally in poor condition and fragmented. Its orientation is in an east west direction on a bearing of 95 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. Its remains' measure an estimated 65 feet in length, estimated 20 feet in width, and an estimated 4 to 6 feet deep. Surveys recorded the presence of iron as well as tongue and groove. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. Examination by divers suggests the site is almost a duplicate of site 18CH588 (Barge), which is 63 feet long and 20 feet abeam and stands 4 feet off the bottom. 18CH585 was moved to its present location between 1943 and 1952.

MD Arch Site No.: 18CH586

Site Field No.: 43 Army Engineers No.: None Location: 38°28.271- 77°16.168
18CH586 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is entirely submerged. The barge is generally in poor condition and fragmented. Its orientation is in an east west direction on a bearing of 105 degrees. The barge has a plank on frame hull with a flat bottom. The vessel is mostly likely of American origin and has no onboard propulsion system. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. The barge has been in its present location since at least 1943.

MD Arch Site No.: 18CH587
Site Field No.: 104 Army Engineers No.: None Location: 38°28.304 - 77°1 6.070
18CH587 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is entirely submerged with poor preservation. Its orientation is in a north south direction with one end lying on the beach. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay by Western Marine and Salvage Company or Bethlehem Steel Corporation. The site was discovered through aerial photography but has not been evaluated through hands on investigation. This vessel arrived at its present location sometime between 1943 and 1952.

MD Arch Site No.: 18CH588
Site Field No.: 110 Army Engineers No.: None Location: 38°28.284 - 77°16.125
18CH588 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom with poor preservation. Its orientation is in an east by west direction with a bearing of 117 degrees. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. It is an estimated 63 feet long by 20 feet wide by 4 feet deep. Surveys recorded a spacing of three feet between frames with tongue and groove and iron fastenings. The barge's outer hull stands vertically four feet high with the bow and stern ends at a 45° angle from the floor. Ten stanchions line each side, 6 feet apart, each reinforced by wooden knees fastened to them. Stringers run longitudinally along the floor, and are stabilized by cross beams. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. The site is quite similar to 18CH585. The hull has been in its present location since at least 1943 and may have been employed by wildcat scrap salvors in the late 1930s, but more likely by the Bethlehem Steel Corporation during the work at Mallows Bay in World War II.

MD Arch Site No.: 18CH589
Site Field No.: 130 Army Engineers No.: Unknown Location: 38°28.136 - 77°16.126

18CH589 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is entirely submerged. Its orientation is in an east by west on a bearing of 92 degrees. The barge has a plank on frame hull with a flat bottom and square stern. Vessels dimensions are estimated at 100 feet in length by 35 feet in width based on aerial photos. The vessel is mostly likely of American origin and has no onboard propulsion system. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. This vessel arrived at its present location sometime between 1943 and 1952.

MD Arch Site No.: 18CH590
Site Field No.: 8 Army Engineers No.: None Location: 38°28.141 - 77°16.598
18CH590 is the remains of a historic unidentified USSB steamship. The site is comprised of individual sections of remains as well as a rectangular mound of disarticulated debris. Surveys recorded the presence of iron fastenings, iron strapping, and fragments of a single intact bulkhead. This site appears to have been a debris pile composed of miscellaneous ship parts on the northern extremity of a small island, erected from dredge spoil, that later eroded away. However, as it lies squarely in the same position that the bow of the wooden steamship *Fort Sill*, had been grounded in until at least early 1943, it is possible that the mound may constitute a disarticulated remnant of that vessel. The mound was first revealed in 1952 aerial photographs as the nearby shoreline eroded away.

MD Arch Site No.: 18CH591
Site Field No.: 101 Army Engineers No.: None Location: 38°28.247 - 77°15.586
18CH591 is the remains of a non-vessel site comprised of a historic marine slipway or skidway and landing. The site serve as either a stable berthing area for small craft suitable to facilitate offloading of scrap metals salvaged from the USSB fleet, or as a construction/launching site for small watercraft. Logs, cut and stripped of bark but otherwise untrimmed, were employed as stacked slip guides, or possibly as skids. The logs project from the shore in nearly parallel lines on both sides of the way and were anchored in the earth for a considerable distance inland. The disposition of the buried sections were determined by probing through the soil with iron rods. All logs lie on the same elevation. A distinctive V-shape, formed by the progression of logs, was further accentuated by an area excavated from the shoreline within the head of the way to facilitate snug berthing. This V-shape, although filled with rotting organic material and soft muds, is still quite discernible. At the head of the slipway, a complex cable yarding and lift system, designed to haul salvaged scrap up a narrow ravine to a roadway on the nearby ridge, may have been employed to work in tandem with the offloading of scrap from boats brought into the slip. A possible second slipway was located to the immediate north of 18CH591. Its disposition was also determined largely by probing as only a small section of its timbers are exposed. Unlike the better exposed 18CH591, the timbers of this site are not at parallels with each other. This slip's characteristics were not readily visible, and the site, which is incorporated

in the 18CH591 plan, will require further investigation to verify or deny is actual identity and construction.

MD Arch Site No.: 18CH592
*not included in nomination-outside the district boundary
Site Field No.: 126 Army Engineers No.: None Location: 38°28. 230 – 77°16.570
18CH592 is the remains of a cable system and is located on shore.

MD Arch Site No.: 18CH594
Site Field No.: 48 Army Engineers No.: None Location: 38°28. 100 – 77°16.490
18CH594 is the remains of a historic unidentified wooden hulled barge. It lies on its bottom and is partially submerged and in moderate condition below the waterline. Its orientation is in an southwest by northeast. The barge has a plank on frame hull with a flat bottom and square stern. The vessel is mostly likely of American origin and has no onboard propulsion system. The barge's probably service was a work platform or for cargo hauling associated with the disposal of the USSB steamship fleet at Mallows Bay. The hulk may have been employed in the Burning Basin during its construction or after the basin was completed and placed in service in 1942-43. 18CH594 was first documented on the site after 1952.

MD Arch Site No.: 18CH595
Site Field No.: 71 Army Engineers No.: None Location: 38°28.157 - 77°15.475
18CH595 is the remains of a historic unidentified USSB steamship. The site is comprised of a fragmentary hull section that is broken up and lying submerged with evidence of fire damage. The steamship's wooden hull section lies on the northwest side of the Burning Basin and is a duplicate form similar to other hull encountered in the area.

MD Arch Site No.: 18CH596
Site Field No.: 73 Army Engineers No.: None Location: 38°28.63 - 77°16.460
18CH596 is the remains of a historic unidentified USSB steamship. The site is comprised of a fragmentary hull section that is broken up and lying submerged with evidence of fire damage. The steamship's wooden hull section lies on the northwest side of the Burning Basin and is a duplicate form similar to other hull encountered in the area. This fragment may be a broken off component of the 18CH595 hull fragment.

MD Arch Site No.: 18CH597
Site Field No.: 98 Army Engineers No.: None Location: 38°28.110 - 77°15.520
18CH597 is the remains of a single screw unidentified historic small craft associated with recreational uses or fishing. The 23 foot 1 inch long by 5 feet 3 inch wide wooden plywood

plank on frame vessel is rapidly deteriorating. Its orientation is in a north northwest by east southeast bearing with the bow facing southeast on a bearing of 105 degrees. The small boat has a single cuddy cabin forward and an open aft deck. The cuddy cabin has perforations for 2 portholes. The inboard engine is still present on the site. 18CH597 has been described as a Potomac River dory, a regional recreational craft, and probably built ca. 1940s or 1950s (Michael Humphries, personal communication, 1993; Dr. Ralph E. Eshelman, personal communication, 1994).

MD Arch Site No.: 18CH598

Site Field No.: 100 Army Engineers No.: None Location: 38°28.160 - 77°15.450 to 38°28.140 - 77°15.437 (*future survey need to update geographic coordinates)

18CH598 is the remains of a historic cofferdam (north) wall associated with the Mallows Bay Burning Basin. The wall consists of a line of wooden log pilings, backed by an earthen berm. The feature was constructed by the Bethlehem Steel Corporation in 1942-43 as part of a scrap salvage basin complex. The basin, usually referred to as the "Burning Basin", was excavated from the wetland outlet area of Marlow's Creek, after which a bypass channel was cut around the northern side of the basin. An earthen berm was erected on the inside of the bypass to separate the basin from the bypass. Gates were built at the northern and southern extremity of the basin. When the south gate was opened, ships could be floated in, then the gates would be closed, and the basin pumped dry so that the hulks could be burned down and stripped more efficiently and completely. When the gates were closed, the flow of the creek was circumvented around the north side of the berm bypass wall to exit into Mallows Bay. The north cofferdam wall appears to be the only sector of the basin containment area that was reinforced by a log piling wall. Many of the pilings have collapsed into an eroding ditch that now divides the remnant of the berm and the piling line. Although the gate area is permanently open now, it is gradually silting in. The wall itself, now serves as a visible barrier between the Marlow's Creek wetland to north and the Burning Basin harbor. The earthen berm measures 246 feet in length from its northwestern extremity to a parallel terminal point at the southeastern extremity of the piling wall, and 104 feet more to its connecting point with the upland terrace. It ranges in elevation from only a few inches at its northwest extremity to 5 feet at its highest elevation. The adjacent piling wall extends in a straight line 255 feet in length. In the eroded gap between the piling wall and the berm lay many pilings and timbers that have collapsed over time. In many places the piling wall appears to have been supported by wooden stretcher planks extending from the berm. All of the stretchers have collapsed into the gap. Timber fragments and piling stubs noted beneath the soils of the berm in the NW section suggest the piling wall-berm structure may have once extended across a portion of the current outlet of Marlow's Creek that now feeds into the Burning Basin.

MD Arch Site No.: 18CH599

Site No.: 118 Army Engineers No.: None Location: 38°28.160 - 77°15.480 to 38°28.140 - 77°15.205. (*future survey need to update geographic coordinates)
18CH599 is the remains of a historic cofferdam (northwest) wall associated with the Mallows Bay Burning Basin. The wall is constructed of earth along the western side of the Burning Basin. The feature was constructed by the Bethlehem Steel Corporation in 1942-43 as part of the Burning Basin scrap salvage operations hull reduction area. The basin was excavated from the outlet area of Marlow's Creek, and a channel cut around the northern side of the basin. An earthen berm was erected on the inside of the channel, and gates built at the northern and southern extremity of the basin. An earthen berm was also erected along the northwest sector, along the outer side of which water from Marlow's Creek flowed to an outlet on the Potomac River. When the gates were closed, the basin could be pumped dry, and the flow of the creek circumvented around the north side of the basin. When the south gate was opened, ships could be floated in, then the gates would be closed, and the basin pumped dry so that the hulks could be burned down and stripped more efficiently. This section of the basin berm is all that remains of the original wall in the sector. Diver investigation of the site resulted in the discovery of a section of cable projecting from the berm underwater, and fragments of wooden steamships nearby. Their discovery led to an initial conclusion that the site was that of a wooden steamship that had completely disintegrated, leaving only the fill soils left to hold it in place. This assessment was corrected upon the discovery of information regarding the construction of the coffer wall around the basin and aerial photos, ca. 1943, showing the canal circumventing the basin.

MD Arch Site No.: 18CH600
Site Field No.: 122 Army Engineers No.: None Location: 38°28.120 - 77°15.520 to 38°28.115 - 77°15.520 (*future survey need to update geographic coordinates)
18CH600 is the remains of a historic vessel debris field including wooden hull fragments. This site is located at the head of a tiny gut near the entrance to the Burning Basin, and on the inside of the earthen berm forming the western half of 18CH603 (concrete and corrugated iron wall). A variety of small craft shipwreck fragments lay on and beneath a mudflat here, exposed only at MLW. Owing to the difficulty of accessing the features, it is uncertain if they constitute portions of a single vessel, or are the debris from a number of vessels. It is also uncertain if they originated at the present site, or migrated there, driven by wind and water. Most of the material viewed from the shore suggests that they relate to small craft rather than the large wooden steamships that were brought into the basin for scrap reduction operations. Owing to the alterations of the landscape in this sector during World War II, it is likely that any vessel remains lying in this section were deposited after 1942 (although they may well be from vessels constructed during some earlier period).

MD Arch Site No.: 18CH601

Site Field No.: 124 Army Engineers No.: None Location: 38°28.145 - 77°15.445 (*future survey need to update geographic coordinates)
18CH601 is the remains of a historic single screw wooden vessel. The ship rests on its keel with 45° starboard list. The hull was largely intact in 1996 and above water, with its deck and superstructure extant. It lies in a northwest by southeast orientation with the bow facing southeast on a bearing of 137°. A pipe fitting found projecting from the engine bore the imprint "WPC 1945". The numbers may either be a date, a manufacturer's serial number, or some or serve some other identifying purpose. Oral tradition suggests the vessel to have seen service as a U.S. Coast Guard patrol vessel until sold out of service. She was long a waterfront feature at the Alexandria, Virginia, waterfront from which she operated as a Sea Scout boat until finally abandoned in the basin. The name of the vessel might be *Chester* (Reed Scott, 1992; Fred Tilp, personal communication, 1982).

MD Arch Site No.: 18CH602
Site Field No.: 125 Army Engineers No.: None Location: 38°28. 160 - 77°1 5.470 (*future survey need to update geographic coordinates)
18CH602 is the remains of a historic unidentified USSB steamship mainly comprised of a large hull fragment. It is in a good state of preservation and lies in an east by west orientation. This piece, approximately 11 feet in length and 6 feet in width, is undoubtedly a fragment of the many ships broken up in the burning basin by Bethlehem Steel during WWII.

MD Arch Site No.: 18CH603
Site Field No.: 132 Army Engineers No.: None Location: 38°28.080 - 77°15.000 (*future survey need to update geographic coordinates)
18CH603 is the remains of a historic concrete structure, corrugated iron retaining wall, and earthern berm. This structure was erected by the Bethlehem Steel Corporation ca. 1942-43 to form the gateway to the industrially excavated Burning Basin. The basin was built to facilitate the rapid and complete reduction of the USSB fleet in Mallows Bay by fire. An earthen wall was erected on the south end of the basin, reinforced in its central sector by corrugated iron plates. On the easternmost extremity of the site, a reinforced concrete wall and gateway was erected. The opening of the gateway was 48 feet across, and wide enough to permit passage through of the widest USSB wooden steamship hulls. No archival record of the actual gateway construction has been located to date, but the historic photographic record suggests that a floating gate, typical of many drydock gates employed from colonial times to the present day, was used to seal off the basin when required. A 1944 Army Engineers plan of the area indicates that a small pump house was erected between1942 and 1944 on the berm 50 feet from the western end of the gateway. Investigation of the extant remains of the berm failed to yield any evidence of the pump house.

MD Arch Site No.: 18CH604

Site Field No.: 50 Army Engineers No.: None Location: 38°28.065 - 77°15.525 (*future survey need to update geographic coordinates)
18CH604 is the remains of an unidentified houseboat located on pilings. The vessel's historic wooden remains lie in an east by west orientation. In 1986 the houseboat was found situated on pilings, by 1994 they had begun to collapse, and by 1998 had entirely disintegrated. This site, according to the late historian Fred Tilp, may have once served as a floating brothel, servicing the scrappers and salvors who worked in Mallows Bay (Tilp, personal communication, 1982). Nearly intact until the mid-1990s, the site was a modest structure, reportedly last owned by the Tantallon Hunt Club, and employed as a field cabin. It stood only several feet out of the water, having been placed on pilings, and was last painted white on its sides, with blue trim and facings. A slatted skirt once surrounded its lower side, concealing the pilings beneath. The structure was but a single story high, with doorways on both sides at the stern, and 10 louvered windows on each side. The interior was divided into 7 small rooms, revealing usage for many purposes. A living room, replete with a brick fireplace at its stern end wall, and extensive shelving, was cluttered with debris and trash dating from the 1950s to the present, as well as several 48-inch homemade iron-fluked anchors, apparently stored there by local watermen. With the recent collapse of the superstructure, these anchors have been salvaged and were last in the possession of Captain Reed Scott, former manager of the Mallows Bay Boat Club. A bedroom with a small wooden bed built into the wall, and another room, also probably a bedroom, were filled with eel traps in their last stages of collapse. Two more rooms were of undetermined service but may also have been employed as sleeping quarters. There was also a bathroom with a shower stall and sink, and a kitchen at the stern. A narrow walkway surrounded the entire structure at deck level, and on the western end, the remnants of a porch were in evidence. Five mattress spring sets hung from the porch into the water. Water storage tanks, and fuel tanks for cooking and possibly power, as well as pipes for a plumbing system, were in evidence below the deck. This structure collapsed or was among the many vessels destroyed by the Maryland Derelict Removal Program ca. 1996. This site, though claimed by Tilp to have served as a Potomac River brothel, or "Ark," does not appear in the 1952 aerial photos of the area. Nor do any features found on the wreck pre-date the 1950s. The wooden houseboat design, however, is quite similar to those documented at Alexandria and employed as brothels. No proof, documentary or archeological, has yet been located indicating that the site served as anything other than a recreational domicile for a Tantallon Hunt Club (Reed Scott, personal communication, 1994).

MD Arch Site No.: 18CH605
Site Field No.: 62 Army Engineers No.: Schooner Location: 38°28.027 - 77°16.130
18CH605 is the remains of an unidentified historic wooden centerboard two-masted schooner. It rests on its keel and is entirely submerged and largely disintegrated except along the keel and centerboard line. The 89 feet 5 inch long schooner lies in a north by south orientation with the bow facing south on a bearing of approximately 310 degrees. Surveys recorded the wooden

plank on frame vessel with wood and iron fastenings. This site lies in 5 feet of water and is exposed only during blowouts of the embayment. The vessel may be one of those abandoned by the fishery operations at Liverpool Point in the 1923-26 period. This wreck has been in its present location since at least 1929, and quite probably longer. Its position coincides roughly with one of several islands erected from spoil removed from the Burning Basin excavation in 1942-43 and employed to create several island in and around Liverpool Cove. It is possible the vessel may have served to help hold the island walls from eroding.

MD Arch Site No.: 18CH606
Site Field No.: 75 Army Engineers No.: None Location: 38°28.062 - 77°15.530 (*future survey need to update geographic coordinates)
18CH6060 is the remains of an unidentified historic workboat or fishing vessel. The single masted wooden vessel is submerged and in a poor state of preservation with minimal extant features. Surveys measured the site at 25 feet in length by 9 feet 9 inches in width with an east by west axis. Lying in less than 2 feet of water, this site's most prominent feature is a well preserved winch, still bolted to a small fragment of the deck. The winch is bolted to the deck 1 foot from the vessel's western end. The winch is 3 feet in diameter, and of the type commonly employed in workboats from the beginning of the 20th century onward. No serial numbers, manufacturer's marks, or identification plates of any type were found. Four feet to the east of the winch, a small round hole, 9 inches in diameter, was found cut through the deck for a mast step. A very slight impression for a hatch cover was also noted. The site is surrounded on its shoreward (eastern) extremity by small piles of river cobble, similar to cobble found along the immediate shore. On the opposite side lies a small spread of gray river cobble, each stone measuring 6 inches to 1 foot in diameter. It is unclear whether the cobble was part of a small jetty or may have served to weight the wreck down. Owing to the lack of hull remains at the site, it is probable that the deck and winch may have been separated during bad weather or by wreckers.

MD Arch Site No.: 18CH607
Site Field No.: 76 Army Engineers No.: None Location: 38°28.055 - 77°15.535 (*future survey need to update geographic coordinates)
18CH607 is the remains of an unidentified wooden small craft. The vessel type is undetermined but appears to be associated with fishing or other recreational pursuits. This site is only fragmentary but appears to be a discrete vessel distinct from other fragmentary vessel remains lying in close proximity. Its remains lie in an east by west orientation and only minimal features are extant.

MD Arch Site No.: 18CH608
Site Field No.: 77 Army Engineers No.: None Location: 38°27.350 – 77°16.110

18CH608 is the remains of a historic single double screw commercial fishing vessel, the *Mermentau*. The vessel is resting on its keel with a list to starboard in a southeast by northwest orientation. It was structurally intact until the 1995 Derelict Removal program reduced the extant and exposed superstructure and hull. The site now consists of submerged hull remains along the keel line and some disarticulated machinery. Surveys recorded the vessels dimensions at 121.7 feet long by 20.6 feet wide by 9.8 feet depth of hold with a single mast and round stern. Initial investigation of the site on 17 July 1993 revealed that the ship was in a substantial state of preservation, even though it was hard aground by the bow, and listing at a 30° angle. The circular pilot house, officers' cabins, crew cabins, and other facilities were still intact. *Mermentau* was constructed at Reedville, Virginia, prior to World War II, and used in the menhaden fishery. It was abandoned in its current location ca. 1985 after having been anchored and abandoned in the Mallows Bay area and then taken up as a residence by an unknown individual. It is reported by local informants that the vessel was driven from its anchorage and onto the shore at Liverpool Point during a storm, and finally abandoned by its last occupant (Reed Scott, personal communication, 1993).

MD Arch Site No.: 18CH609
Site Field No.: 96 Army Engineers No.: None Location: 38°27.597 - 77°16.002 (*future survey need to update geographic coordinates)
18CH609 is the remains of an unidentified centerboard 5-log canoe associated with fishing or fright hauling. The historic wooden sailing vessel is largely broken up and submerged under a foot of water except along the centerboard line. Three of 5 (possibly 7) logs, some framing, and portions of the centerboard box are extant. A 4th log lay in the near shore, disarticulated from the main wreck area. The vessel runs in a west northwest by south southeast orientation on a bearing of 225 degrees. Its remains measure 50 feet long by 3 feet wide with shell first construction including square iron mails and pins. Surveys recorded two extant frames still fitted to keel log and remaining frame log. The centerboard well is 14 feet 7 inches in length, and 3.5 inches wide, sided by 1-inch planks. The well slot is cut through the center of the keel log, with boxing mounted around it, and held in place by iron pins driven vertically through to the board ends. The 3 extant log planks (keel log, garboard log, and wing log) are in an advanced state of deterioration, primarily resulting from water erosion. A 4th log, possibly the second garboard log, replete with frame fragments and pins still assembled, was discovered 6 feet off the southern side of the wreck, but buried too deeply in the mud to permit examination except by touch. A single small knee fragment was also discovered lying disarticulated on the south end of the hull. 18CH609 is conjecture to possibly be the bugeye schooner *Bessie Lafayette*, or one of the several vessels abandoned by the fisheries operations ca. 1926. The site is in the same location as one of 2 schooners indicated in Liverpool Cove in the 11 August 1929 Army Engineers chart of the Mallows Bay grounding area and adjacent waters.

MD Arch Site No.: 18CH612

Site Field No.: 107 Army Engineers No.: None Location: 38°28.011 - 77°15.562 (*future survey need to update geographic coordinates)

18CH612 is the remains of an unidentified USSB steamship that lies in a north by south orientation with its bow facing south on a bearing of 180 degrees. The vessel rests on its keel with the port side on shore on the eastern side of Liverpool Cove. The ship's forward half is extant to a maximum elevation of 5 feet, but averages 2 feet. The aft half is extant along the keel line with only some hull and bottom plank timbers extant below but not above water. Surveys recorded the vessel's remains at 166 feet 6 inches long by 34 feet wide with a sharp stern. 18CH612 is the only composite ship, wooden hull with metal frames, located to date in Mallows Bay. A total of 7 of the 26 known composite vessels built during and after World War II for the USSB are known to have been brought into Mallows Bay prior to October 1929, 6 of which were destined for final reduction. These vessels included: *Balino*, *Battonville*, *Borad*, *Bostford*, *Dalgada*, *Obak*, and *Tuwetanka*. *Battonville* and *Borad* were reportedly removed to Philadelphia, although no final documentation on the move has been located to date. *Botsford* and *Obak* were employed as barracks ships at Sandy Point, and their fortunes are unknown, although they are indicated as beached at Sandy Point in 1929. *Dalgada* and *Tuwetanka* were reduced prior to August 27, 1929 and do not appear on the Army Corps of Engineers map of Mallows Bay by name. *Balino*'s fate is unknown. Another composite vessel, the ex-USS *Nokomis*, was also brought into Mallows Bay for reduction by the Bethlehem Steel Corporation during World War II, but this vessel's beam (31 feet 10 inches) fails to match that of 18CH612. It is thus possible that 18CH612 is either the *Balino*, *Bostford*, or *Obak*, although it may be another as-yet-unidentified composite which arrived amidst as many as 37 unidentified vessels that may have been brought into the embayment during the WM&SC regime. This hull has been in its present location since at least 1944.

MD Arch Site No.: 18CH614

Site Field No.: 112 Army Engineers No.: None Location: 38°28.005 - 77°16.010 (*future survey need to update geographic coordinates)

18CH614 is the remains of an unidentified centerboard schooner used for fishing or freight hauling. The vessel is entirely buried below grade and appears to have collapsed outward, with frames lying level with ground. The centerboard boxing foundation stands above the grade. The site is normally underwater and in a near shore environment only infrequently exposed by extreme low tides or blowouts. 18CH614 lies in a north by south orientation and measures 75 feet long by 22 feet wide. This vessel may be among those abandoned by the Morgan Monroe fishery operations ca. 1926.

MD Arch Site No.: 18CH615

Site Field No.: 113 Army Engineers No.: None Location: 38°27.597 - 77°16.005 (*future survey need to update geographic coordinates)
18CH615 is the remains of an unidentified wooden double ended small craft. The vessel is entirely buried below grade and is normally submerged. The painter and port side are only slightly exposed. The site is normally underwater but in a near shore area infrequently exposed by extreme low tides or blowouts. Surveys recorded the site lying on a north by south bearing with dimensions of 25 feet 2 inches long by 6 feet wide. There is no evidence of an engine therefore the vessel was most likely oar powered. The wreck may be one of those abandoned by the Morgan Monroe fishery operations at Liverpool Point in 1926, but may also be a candidate for a longboat belonging to the Virginia State Navy row galley *Protector*, which was stove in and abandoned during a military engagement on July 22, 1776. The 18CH615 (Small boat) site is the only small craft encountered with copper nails and bronze pins for fastenings.

MD Arch Site No.: 18CH616
Site Field No.: 114 Army Engineers No.: None Location: 38°27.583 - 77'156.590
18CH616 is the remains of an unidentified single masted wooden centerboard or sharpie schooner. The historic sailing vessel rests on its keel with its lower hull, frames, centerboard, and mast step extant but in poor condition. It was involved with fishing activities or employed as a turtle scrape. The vessel lies in a north by south orientation with its bow facing north. Surveys recorded the vessel at 46 feet 10 inches long, 14 feet wide, 3 feet deep, with a sharp stern and iron and wood fastenings. This double-ended craft has a flat bottom, with 2 mast steps, set 2 feet and 34 feet aft the bow. The intact centerboard well is 12 feet 8 inches in length, with at least the upper section of the centerboard still present. The centerboard box is 13 feet 3 inches in length. The extant architecture suggests a sharpie design. The sharpie, a distinctive watercraft built during the last quarter of the 19th century, varied in length from between 20 to 35 feet, but occasionally reached 65 feet or more, and was usually a 2-masted rig. Its rise in popularity, mostly among oyster tongers of Long Island Sound, began in the fisheries at New Haven, Connecticut, in the 1870s. The design was introduced to the Chesapeake during the early 1870s and was usually rigged with 2 leg-of-mutton sails, using sprits instead of booms, mounting a short bowsprit, and an outboard rudder on a skeg. The Potomac River sharpies ranged in length from 18 to 28 feet, and were used mainly for oyster and crab scrapes. If this site is indeed a sharpie of the period, it is the largest on record in the Chesapeake.

MD Arch Site No.: 18CH617
Site Field No.: 115 Army Engineers No.: None Location: 38°27.580 - 77°15.582 (*future survey need to update geographic coordinates)
18CH617 is the remains of an unidentified wooden vessel including portions of its buried hull and rudder. This disarticulated section of a small watercraft's wooden rudder lay on and beneath a small sandbar in Liverpool Cove, at the outlet of Liverpool Creek, and immediately south of

site 18CH616. It is possible that it may be a component of a nearby wreck that has broken off and drifted ashore. Probing in the immediate vicinity with iron rods indicated the potential for remains of a wooden structure in the area, possibly a small vessel or fragment thereof. As this sector of the shoreline is abundant with wooden vessel debris, primarily from small watercraft (as opposed to the larger fragments of USSB vessels), it is possible that this rudder assemblage may be part of a buried vessel that drifted in and became covered by the encroaching shoreline. It is also possible the rudder may be a component of either sites 18CH609 (Centerboard log canoe) or 18CH616 (Centerboard sharpie), or some other schooner wreck in the cove.

MD Arch Site No.: 18CH618
Site Field No.: 116 Army Engineers No.: None Location: 38°27.575 - 77°1 56.595
18CH618 is the remains of an unidentified wooden log canoe. The site is comprised of only a fragment of the historic vessel that lies in a north by south orientation. It measures 42 feet 6 inches long by 2 feet wide with a shell first construction and iron fastenings. 18CH619 probably belongs to a log canoe, bugeye, or brogan. It was held together with pins fitted along the axis of the thin sides, or by mortise joinery. It is possible that the fragment is a component of 18CH616 (Centerboard sharpie) that has drifted off.

MD Arch Site No.: 18CH620
Site Field No.: 121 Army Engineers No.: None Location: 38°28.093 - 77°16.562
18CH620 is the remains of an unidentified vessel of unknown type. The site is comprised of vessel debris and fragments. It is located at the head of a tiny gut near the entrance to the Burning Basin, and on the outside of the earthen berm forming the western half of 18CH603 (Concrete and corrugated iron wall). A variety of small craft shipwreck fragments lay on and beneath a mudflat here, exposed only at MLW. Owing to the difficulty of accessing the features, it is uncertain if the site constitutes portions of a single vessel, or the debris from a number of vessels. It is also uncertain if they originated at the present site, or migrated there, driven by wind and water. Owing to the alterations of the landscape in this sector during World War II, it is likely that any vessel remains lying in this area were deposited after 1942 (although they may well be from vessels constructed during some earlier period).

State Site No.: 18CH842
Site Field No.: 123 Army Engineers No.: None Location: 38°28.065 - 77°15.540 (*future survey need to update geographic coordinates)
18CH842 is the remains of an unknown wooden small craft lying in a north by south orientation. The vessel is fragmentary and has been broken up as a result of collisions with boats traveling through the nearby channel. The engine driven craft has iron fastenings and was most likely used for fishing or recreational pursuits.

State Site No.: 18CH843
Site Field No.: 128 Army Engineers No.: None Location: Not Acquired, used nearest site 18CH608 (38°27.350 – 77°16.110)
18CH843 is the remains of a wooden wharf comprised of pilings and planks associated with Liverpool Cove. The first Liverpool wharf was erected in 1871 by William L. Chiles and James M. Harvey of Nanjemoy, MD. In 1888 the area was purchased by Morgan L. Monroe who opened a sturgeon fishery there which continued until 1926 when the Western Marine and Salvage Company's occupation caused its closure. The Liverpool Point steamboat wharf then served as a landing for Potomac River steamboats such as the 315 ton *Potomac* until the wharf fell into disrepair (*Port Tobacco Times*, 1 September 1871; Beitzell, 285; Tilp, 21). There are timber remains of two wharves at Liverpool Cove, one being an L-shaped structure, similar to wharves constructed from 1975 onward, and another wharf to the south that is a simple long wharf. The L-shaped wharf measures 30 feet wide and 90 feet long from shore. The seaward L-foot is an estimated 25 feet wide by 75 feet long. The long wharf is 15 feet wide and 80 feet long. The L-shaped wharf is believed to be the earlier of the two structures and is one of the largest steamboat wharf ruins on the Maryland shores of the Potomac.

State Site No.: 18CH844
Site Field No.: 131 Army Engineers No.: None Location: 38°27.097 – 77°15.515 (*future survey need to update geographic coordinates)
18CH844 is the remains of an unidentified wooden hulled search and rescue or fishing boat. The historic vessel lies resting on its keel fully aground and exposed in an east by west orientation with its bow facing east on a bearing of 91 degrees. Surveys recorded the screw driven vessel's round stern including the impression of the number "7431." It measures 75 feet long by 14 feet wide with a 3 foot draft and intact stem and sternposts. A small 23 foot long cabin sits at the stern with four portholes on both sides. The main deck forward of the cabin has collapsed into the hold exposing the battery bank. Inside the hull there is a variety of shipboard materials such as a toilet and kitchen equipment. 18CH844 has lines similar to a small Navy patrol craft used for search and rescue work between 1940 and 1960.

Sites Without a MD State Site No.

There are nine unidentified USSB wooden steamships within the district but outside of Mallows Bay proper that have not been assigned a Maryland State site number. They are located in Maryland state waters but near the Virginia shore across the Potomac known as the Widewater area or Akendale Flats. They are listed below from north to south.

1. 382616.65 N, 771910.89 W
6. 382613.93 N, 771912.81 W

2. 382616.03 N, 771910.58 W
3. 382615.52 N, 771910.78 W
4. 382615.05 N, 771910.84 W
5. 382614.44 N, 771910.86 W
7. 382613.16 N, 771911.04 W
8. 382613.71 N, 771907.39 W
9. 382611.87 N, 771912.39 W

Typological Variants Represented in the USSB Wooden Steamship Population

A total of eight wooden and one composite steamship designs emerged during the United States Shipping Board's Wooden Steamship Emergency Fleet construction program in America. The principal design, designated as the Ferris type, was named after its designer, Theodore E. Ferris, Chief Naval Architect for the USSB. The Ferris type served as the basic design for most vessels constructed in the program. However, a variety of related typologies evolved somewhat independently while others developed directly from the basic Ferris format. Owing to the inadequacy of some extant shipyards to accommodate the assemblage of certain design specifications, and the rapid evolution of USSB policy regarding plans, production, and equipage, no fewer than eight basic wooden vessel types and one composite vessel type were produced, each with its own unique features, dimensional characteristics, and layout.

These designs, designated as Ferris, Hough, Supple and Ballin (or Balin), Grays Harbor, Peninsula, Pacific American, Daugherty, and Allen for wooden steamships, and McClelland for composite ships, formed the totality of design formats for all wooden and composite ship construction during the program. Of these types, only the Allen, of which only one was constructed, has not been documented as being represented in Mallows Bay in 1929. All typologies except the Allen and Daugherty types have been documented as represented in the extant USSB wooden steamship shipwreck population in Mallows Bay as of 1 January 1998.

Although a total of at least 177 vessels of a possible 218 can be definitely verified as having been brought into the Potomac, the basic typological information ascertained during inventory work at Mallows Bay has focused on the 154 ships documented in the 11 August 1929 Army Engineers map. Vessels which are known to have been brought into the Potomac but not verified as having been deposited in Mallows Bay, and USSB vessels noted on subsequent maps and charts but which are unidentified by name, are not addressed in the typological assessment.

Not surprisingly, the most common vessel class, 75.32 percent of the total, is the Ferris type, followed by the Hough type, with 9.09 per cent. The McClelland type accounted for 5.20 percent, while Supple-Ballin, Peninsula, and Pacific American accounted for only 2.60 percent each. The Grays Harbor type accounted for 1.95 percent, while the Daugherty type represented only .08 per cent of the population.

Of the original 154 vessels identified by name, a total of 71 have been determined to remain in the Mallows Bay study area as of 1 January 1998. Thirty more wooden and one composite USSB vessel, which have been verified as present in the Mallows Bay study, are unidentified. The Ferris type, with 51 vessels, and Hough type, with 20 vessels were the most common. Peninsula type accounts for 3 vessels and was followed by Pacific American and Supple-Ballin both with 2 vessels each. McClelland and Grays Harbor types are each are represented in the study area with one vessel. No Daugherty type is verified by name as present.

Fifty eight shipyards in 16 states on the Atlantic, Gulf, and Pacific coasts that constructed USSB steamships, the largest number, 36.36 per cent, came from Washington, and 18.83 per cent from Oregon. Indeed, the Pacific Coast states of Washington, Oregon, and California produced 59.74 per cent of all 154 identified USSB wooden ship hulls reduced in Mallows Bay, followed by the Atlantic Coast states with 25.32 per cent, and the Gulf Coast states (including the west coast of Florida) with 14.94 per cent.

Of the USSB steamships remaining in Mallows Bay as of 1 January 1998, the largest number, 22, were produced in Oregon, while 11 were produced in Washington shipyards. Pacific Coast shipyards produced 36 steamships of the entire extant identified population, while Atlantic Coast yards produced 22 vessels and Gulf Coast Yards generated 13 vessels. The only Maryland shipyard represented is the Maryland Shipbuilding Company, of Sollers Point, Maryland, which built the *Guilford*, a 3588-ton standard a Ferris type vessel, completed in April 1919, and constructed of yellow, hard, or pitch pine, with galvanized fittings, iron strapped on frames, and four bulkheads. No Virginia or District of Columbia shipyard is represented in the Mallows Bay shipwreck population.

Section 8 – Statement of Significance

SUMMARY

The Mallows Bay - Widewater Historic and Archeological District are significant at the national level under National Register of Historic Places Criteria A, C, and D. The shipbreaking and scrap operations of U.S. Shipping Board Emergency Fleet steamships (USSB) carried out during the period 1922-1944/45 were among the most ambitious in American history, and the archeological record that was left by these activities are abundant. These operations, and subsequent activities, may be divided into four discrete periods: (1) the Western Marine and Salvage Company (WM&SC) Period (1922-1932); (2) the "Wild-cat" Period (1932- 1942); (3) the Bethlehem Steel Company Period (1942- 1945), and (4) the Post-War Period (1946-). Each of these periods are typified by activities that provide an important sequence influencing the context, disposition, preservation, and typology of the extant shipwreck and industrial archeological resource base within the study area. The Mallows Bay - Widewater Historic and Archeological District and its contributing USSB steamships provide a superb cross section of maritime production and technological development during a single, pivotal point in American history. Indeed, the production of the USSB Emergency Fleet made the United States of America, for the first time in its history, the greatest shipbuilding nation in the world, with more ship tonnage constructed in a shorter period of time than had ever been produced before.

No World War I USSB steamships are listed on the National Register of Historic Places or even held in a museum collection today. While other assemblages of USSB steamships exist, such as at least twenty unfinished hulls abandoned in the Neches and Sabine rivers in Texas, none have been nominated or listed on the National Register of Historic Places.

The Mallows Bay - Widewater Historic and Archeological District qualifies for listing under National Register of Historic Places Criteria A (association with events that have made a significant contribution to the broad patterns of our history) based upon the areas' association with the World War I USSB Emergency Fleet shipbreaking operations. The process was a period of trial and error for the development of appropriate methodologies for shipbreaking on the Potomac River and in America. The WM&SC period was typified by maritime activities of an unparalleled scale in peacetime that required logistical and industrial applications never tried before. The movement of as many as 218 ships from the government anchorage at City Point and Clarendon, Virginia, on the James River, to a government designated anchorage on the Potomac River, off Widewater, Virginia, is largely un-documented, but was most certainly an undertaking requiring enormous organizational expertise. As the Great Depression settled in, WM&SC abandoned the scrapping efforts at Mallows Bay and the Army Engineers declared all work by them completed yet the great majority of the 154 vessels identified in 1929 surveys by the Army

Corps remained, with much of their superstructures and fittings salvaged for scrap, and the remainder of their hulls burned down to the waterline. Between 1932 and 1942 the USSB shipwrecks of Mallows served as a magnet for wildcat scrap salvors with as many as 50 to 75 salvors reportedly working the wrecks on any given day. They employed every means of non-industrial removal, from simple hand tools to dynamite. By the end of the period, only a few vessels had entirely disappeared from the scene, as 144 USSB hulks were still in evidence in the embayment, along with six barge wrecks, and the hulk of the schooner *Ida S. Dow*. With the onset of World War II, the remaining shipwrecks of Mallows Bay were estimated to contain enough iron and other strategic metals needed for the war effort to make further salvage efforts worthwhile. The Bethlehem Steel Corporation was contracted by the federal government to undertake the task. Bethlehem's operations proved effective in that at least 49 USSB vessels and the ex-USS *Nokomis* were completely removed from the Mallows Bay population by January 1945. The post war period was marked by substantial alterations in the terrestrial landscape, the migration or intentional movement of numerous USSB hulks in and about the embayment, and the utilization of the grounding area and Burning Basin as dumping grounds for numerous abandoned vessels of many types and periods. Efforts to prevent movement may be found at several sites which are attached to the shore or other vessels by steel cables. Many of the USSB hulks, filled with sediments to prevent movement, rapidly evolved into "flower pot" wrecks, with their own unique and developing mini-ecosystems.

The Mallows Bay - Widewater Historic and Archeological District qualifies for listing under National Register of Historic Places Criteria C (the 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) based upon the presence of a large collection of World War I USSB Emergency Fleet steamships. The most numerous segment of the shipwreck population in the district are the wooden and composite steamships of the World War I era USSB Emergency Fleet, the largest such assemblage of steamships in the world. These wrecks represent a significant component of not only the 277 ships purchased by Western Marine & Salvage at government auction in 1922, but a major portion of the entire U.S. merchant marine built during the period 1917-1922. The USSB fleet includes a wide variety of typologically and historically significant vessels, such as the *North Bend*, the first wooden steamship built and certified in World War I. Moreover, the USSB shipwreck population contains seven of the eight principal wooden steamship design types built during World War I. Many were the Ferris class cargo ship, the principal ship design of the program. A few were experimental types, while some served as benchmarks of construction and technological achievement in the first major standardized templated shipbuilding program in America. At Brent's Marsh, amidst seven sister steamers, lies the *Aberdeen*, a coal fired steamship built in a record breaking 17.5 days from keel

laying to launch. The majority saw service in American waters, while some operated in European waters and the Pacific as well, albeit after World War I.

The Mallows Bay - Widewater Historic and Archeological District qualifies for listing under the National Register Criteria D based upon the archeological site's likelihood to yield information import to history. The district contains 124 historic vessels and 8 historic vessel debris piles located in and around Mallows Bay as well as associated structures used in the shipbreaking process. Out of the124 documented vessels (dating from the 18th through 20th century), 101 sites are USSB steamships with varying degrees of structural integrity brought there to be eventually burned and dismantled. Additional contributing resources are most likely present but yet to be archeologically recorded inside Mallows Bays as well outside as further down the Potomac River and across the river near the Virginia border. Historical records note several USSB vessels drifted away from their original mooring position near Mallows Bay as a result of storms, fires, and accidents. Ten USSB vessels lie near the Maryland/Virginia border off Arkendale Flats near Widewater, the original anchorage of the USSB fleet. More sites are believed to be present in Wade's Bay and Aquia Creek. The district's archeological remains will provide information not recorded in historical documents. The type of information that can be learned from these sites include details about vessel design, use, and adaptation as well as the shipbreaking processes and salver operations. Archeological evidence will also provide data on the site formation process and alternation of the physical landscape to support the use of the Mallows Bay – Widewater District as a ship graveyard.

History of Mallows Bay – Widewater Area

In 1608 the first European to fully explore the navigable length of the Potomac River and document it, and the first known white man to lay eyes upon embayment now known as Mallows Bay, was Captain John Smith of Virginia. Others, such as Henry Fleet, Henry Spelman, and Leonard Calvert soon followed, but left no comment regarding the indention of the Maryland shoreline that would later be known as Mallows Bay. Not until 1670 would evidence of plantations established near the embayment be published on Augustine Hermann's famed map *Virginia and Maryland* by the first settlers, one of whom is identified as Zachariah Wade (on lands later purchased by George Washington). Not until 1735, when Walter Hoxton published his *Mapp of the Chesapeak*, did prominent landmarks about the bay actually begin to appear on maps and charts of the region. For the first time, the southern lip of the bay was identified as Liverpool Point. Not until 1776, however, was the northern lip of the bay noted as Sandy Point on Anthony Smith's *A New and Accurate Chart of the Bay of Chesapeake*, a name by which it most likely had been known for some time before. The area was still isolated and lightly occupied by a few local residents who gained subsistence from agricultural pursuits, and possibly from seasonal subsistence fishing for shad and herring, though the still unnamed embayment

undoubtedly already served as a convenient natural refuge and anchorage for shallow draft workboats and other vessels plying the Potomac River. Indeed, its strategic location offered the first major sheltered anchorage on the Maryland shore for in-bound vessels after rounding Maryland Point well to the south, and the last on the same shore for outbound vessels after passing Chickamuxen Creek until they approached Nanjemoy Creek.[1]

In July 1776 the Potomac River reach between Mallows Bay and the opposite shoreline of Virginia began to suffer from depredations by British and loyalist naval forces under the direction of Virginia's deposed royal governor, James Murray, the Earl Lord Dunmore. Driven from Virginia by patriot forces, but in command of a large armed flotilla manned by loyalist refugees and freed slaves, and supported by several Royal Navy men-of-war, Dunmore was desperately short of water and provisions. He had penetrated the waters of the lower Potomac hoping to find the resources to keep his forces afloat until regular troops might be sent to regain Virginia. Deterred from landing by local patriot militia forces lower down at St. George's Island, and then by the lack of potable water on the island. In desperation he resolved to conduct a watering expedition further up the river. Leaving the bulk of his flotilla anchored off St. George's, he proceeded up the river with a force of four ships bent on securing the necessary water and "to harass & annoy the Enemy by landing at different places."

On the afternoon of July 22, the British squadron dropped anchor off Sandy Point, Maryland. The following morning, as the British filled their water casks on the Virginia shore, a force of 300 Virginia militia assembled at the home of William Brent three miles south of the Stafford County-Prince William County, Virginia, border. The British dispatched a tender and row galley with Royal Marines and the 14th Regiment of Infantry to attack the Brent estate, known as "Richland," and break up the forces assembling there, which was successfully carried out. Dunmore then turned his attentions toward the Maryland shoreline between Mallows Bay and Sandy Point. The engagement that followed involved a recruiting party of men from the Virginia Potomac Flotilla galley *Protector*, who had come ashore to join a force of Maryland militiamen commanded by Colonel William Harrison. The Virginians, arrived in the bay aboard two boats under Captain Robert Conway, commander of the *Protector*, then lying upriver at the seaport of Alexandria, Virginia. Colonel Harrison's force numbered several hundred men. Dunmore attempted to seize the two vessels that *Protector*'s men had arrived in. Conway and Thomas did the most expedient thing by staving in the bottom of one of the vessel to prevent capture, but had counted on the strong Maryland militia force to repel any British attempt to capture their other boat. After a brief firefight which drove off the American forces, Dunmore's troopers and marines landed and brought away the second longboat, as noted in the log of HMS *Roebuck*: "Tuesday 23d...at 4 Saw a Number of Arm'd men about a Boat in a Creek Sent the Galley which brot the Boat off." Two days after the engagement, the British completed their task of taking on fresh water and proceeded down the Potomac unopposed.[2]

Mallows Bay returned to its rural obscurity following the American Revolution. However, by 1822 Sandy Point was considered important enough for a road to be constructed linking it to Port Tobacco, the county seat of Charles County, Maryland, probably as a consequence of the infant fisheries industry which was already taking root on the river. In 1841 contemporary maps indicate that one of two creeks that fed into the embayment had finally taken on a name, that of the Marlow family which dwelled upon its banks. By the onset of the Civil War, the bay itself was being called Marlow's Creek. By the 1840s, Liverpool Point was under the ownership of Robert A. Clarke and Samuel Barnard.[3]

The documentary record regarding Mallows Bay during this period is limited, but considering the bountiful marine resources of the site, it is quite likely that it was already serving as a major staging area for commercial fishing on the Potomac River, probably as early as the 1830s. Indeed, by 1837, Sandy Point was definitely hosting one of thirty known major fisheries on the river. And, judging from the reported take at mid-decade, it was a most productive, if rigorous, enterprise.[4]

Although commercial fishing on the Potomac had begun as early as the 1760s, it was not until the onset of the 19th century that the river's vast finned bounty began to be exploited on an industrial scale. In 1835 a Virginia gazetteer stated that 22,500,000 shad (Alosa *aestivalis*) and 750,000 herring (A. *pseudoharengus*) were being caught per year in the river, though only a few fishing methods, such as the use of simple short tongs for harvesting shallow water oysters, and small seines, weirs, and primitive fish hooks for bringing in finned fish, were being employed at the beginning of the century.[5]

The shores of Mallows, or Marlow's, Bay from Sandy Point to Liverpool Point served admirably for haul seining operations, which was to become the most efficient manner of commercial fishing prior to the Civil War era. The operation based at Sandy Point would have varied little from others on the river. The fishing camp would have been established on the beach near the hauling grounds where the seine haulers lived during the fishing season. The crew, usually slaves, varied from five or six men at the beginning and end of the season to approximately thirty men when fishing was intense. In addition to slaves, one or two men were usually hired as seine managers, one as a seine mender, and another as a clerk for the fishery. From six to eight marker boats were utilized to transport catches from the landing to market in Alexandria, Virginia. The round trip by sailing or rowing could take more than two days. The run boats returned with salt, fish barrels, and various other items of clothing and equipment used in the fishery.[6]

The seine was 350 yards long. Its dimensions, according to one prominent Potomac haul seine fisherman of the early 19th century, George Chapman, were "going out wing 130 yards 2 1/2

inch mesh 144 meshes deep, middle 120 yards, small, 2 inch mesh 180 meshes deep, coming in wing 100 yards 2 1/2 inch mesh, 144 to 168 meshes deep." Cork floats were used on the headrope. The footrope was not leaded, but probably hung with a heavy line to keep the net on the bottom. Tar was used as a net preservative.[7] Some seining operations were enormous in extent. By the late 1830s tremendous seines employed on the Delaware and Susquehanna rivers had been introduced to the Potomac "Extending nearly across the river, one thousand to two thousand two hundred fathoms in length (6,000 to 7,000 feet) with an equal length of rope attached to one end" these massive seines were then "dragged up and down the stream with the tide, so as to sweep away anything within its bed." The use of such equipment, of course, had the effect of severely impacting or destroying the spawn, and shutting down many of the small fisheries that lined the river.[8]

In 1858, however, another important adoption of fishing technology was undertaken on the river. This was the utilization of pound nets to block large areas of the river, from shallow to moderately deep waters. Stake gill nets were also to be employed on an ever-widening basis. Employment of this fishing method was primarily in the upper Potomac above Mathias Point. Nets were usually put in early spring (March) to catch the ascending schools of andromous fish, such as striped bass and shad, and were discontinued by the end of April. Stake gill nets were most frequently deployed from Sandy Point to Douglas Point, and were usually carried out from the edge of Mallows Bay all the way across the Potomac to the shoals of Widewater. The new fishing methods rapidly began to deplete the resource base. Indeed, concerns about over-harvest in the Potomac were being expressed as early as 1817, but frequent efforts at punitive legislation in both Maryland and Virginia did little to stem the tide that soon depleted the river.[9]

By the onset of the Civil War, Marlow's Creek began to appear in contemporary maps as Marlow's Bay, on the shores of which a landing known as Main Wood Landing had been established. A quarter mile distant inland from the headwaters of Marlow's Creek was a settlement referred to as Jacksontown, although neither the "town" or the landing were connected by any formal road system to other sectors of the county. Both Liverpool Point and Sandy Point, however, had been connected to Port Tobacco and to the road system leading north toward Washington, D.C. In 1862, a contemporary military map of the region notes that a family named Waters occupied the waterfront at Sandy Point, while another family named Price occupied Liverpool Point. A ferry landing called Cooke's Ferry had also been erected at Sandy Point somewhat prior to the Civil War, for it connected with another landing on the Virginia shore at Widewater which was cut off from Union access in the opening days of the conflict.[10]

During the Civil War, Southern Maryland, particularly Charles and St. Mary's Counties, was notoriously sympathetic to the Confederate cause. In late 1861 Charles County was immediately occupied and heavily fortified by Federal troops under Major General Joseph Hooker, as much to

quell possible insurrection and halt smuggling across the Potomac as to protect against a feared Confederate invasion of Southern Maryland. Despite such precautions during this period, information and mail were frequently smuggled from the more isolated reaches of the county, such as Marlow's Bay, across the river to Virginia. In late 1861 Confederate batteries along the Virginia shoreline were periodically opened against Union forces in the Sandy Point area.[11]

Federal control of the Marlow's Bay area was maintained from Camp Wool, 4.5 miles north of Liverpool Point. But a major storage depot for the army was erected at Liverpool Point, which supported a landing site for naval support. During the fall of 1861 to early 1862, at the peak of Union fears over a possible Confederate invasion of Maryland from the Virginia shore, Liverpool Point was held by a forward unit of Smith's 5th Excelsior Brigade, an element of Colonel Charles K. Grahams' 74th New York Infantry, under General Daniel Sickles, attached to General Joseph Hooker's Division, and defended by several artillery batteries.[12]

In March 1862, a major 1,000-man amphibious reconnaissance in force was launched under Sickles's command from Liverpool Point, landing at Shipping Point on the Virginia side of the river. During the raid, the first use in history of the rapid fire Gatling Gun, or "Coffee Grinder" as the weapon was then dubbed, was successfully engaged by Union forces. After it's us the gun was returned to defensive works at Liverpool Point.[13]

Following the Civil War, in 1885, an ex-patriot Virginian, Captain Morgan L. Monroe, rented a farm on Sandy Point, which "proved to be the most lucrative location for fishing on the river, due to the deep channel close to shore." In 1888, Monroe erected a sturgeon fishing station and caviar processing plant at Liverpool Point.[14]

Monroe purchased at least five Philadelphia sturgeon fishing skiffs, and the services of ten men, many of them family members, and two mules to carry on the operation. His fishing and processing operations were later recalled by his son Lawrence:

> We worked the river from the end of June through the first part of September; returning home [Riverside] on Saturday night only to sleep all day Sunday. Never taking our clothes off even when sleeping on straw mattresses in the factory. Our best catch was 14 fish [sturgeon] in one day. We stacked the fish up ashore like logs, awaiting the processing by our shore-based family. My father gave up fishing for sturgeon in 1926 but continued to pound-net shad for food fish and herring for fertilizer chum, dying in 1946 from . . . problems caused by the hard work of landing heavy sturgeon. Most fishing was from Smith Point to Glymont where the channel is deepest and narrow

with a shoal area nearby for the fish to fight themselves out.[15]

Monroe had employed an active fleet of sturgeon skiffs on the Potomac, imported by train from Philadelphia where they had been built. These were the last "foreign vessels" to gain popularity on the Potomac. In 1926, after closing down the Liverpool Point plant, Monroe pulled the remnants of his sturgeon fleet, the skiffs *Black Bottom*, *W. S. Childs*, and *Edythe*, ashore at Liverpool Point and abandoned them.[16]

In 1896 the Marlow's Bay region witnessed the first marine tragedy known to have occurred near its shores. On October 5 of that year, two pungys, the 27-ton *Capitol* under Captain Robert Cheseldine, and the 17-ton *Dove* under Captain Robert John Cheseldine and his brother George, while sailing in tandem along the Maryland shoreline, were caught in a sudden storm and were simultaneously swamped off Sandy Point. Robert and his two-man crew, William B. Jones and Joseph Price, were drowned. *Capitol* was totally lost. Though swamped, *Dove* was eventually saved, and her crew reached shore safely. The ill-fated *Capitol*, built in 1859 in Somerset County, Maryland, by Robert Cheseldine, had been 50 feet in length and, at the time of her loss, home-ported in Whites Neck Creek, Maryland.[17]

Despite such tragedies, which were not uncommon on the Potomac, Marlow's Bay continued to be employed by local mariners, several of whom called the place their homeport. From the late 19th century on, Potomac River steamers such as the big 315-ton steamboat *Potomac*, of the Mount Vernon and Marshall Hall Steamboat Company, had stopped regularly at Liverpool Point, at which place a service wharf had been erected, to take on and off load passengers, produce, livestock, and mail.[18]

One of the vessels that called Marlow's Bay home was the square-sailed bugeye *Lola Taylor*, a vessel owned and operated by Captain Andrew Kendrick, and employed, off and on, carrying general cargoes and firewood between Alexandria and Fort Washington. *Lola Taylor* was a vessel of 10 tons burthen, 56 feet in length, 16.2 feet abeam, and 2.3 feet deep in hold. She had been built in Westmoreland County, Virginia, in 1886, and would serve under Kendrick until sold to Captain Randolph Thomas of St. George's Island, Maryland. On September 29, 1939, *Lola Taylor* was reported abandoned at Cross Road, Virginia. Another vessel that would call Marlow's Bay home port during this period was the *Bessie Lafayette*, which may have served under one of Kendrick's relatives who would also ply the Potomac. Unlike *Lola Taylor*, *Bessie Lafayette* would end her days in the little embayment, stripped and abandoned. Only her trailboard would survive, saved by author and historian Fred Tilp, and displayed at his home in Alexandria, Virginia, until his death in the 1980s.[19]

Marlow's Bay, however, continued to retain its patina of isolation, a remote sector of the Potomac River known only to the river's diminishing population of watermen, a handful of rural farmers along its shores, and the steamboat captains who regularly stopped at the landings at Sandy Point and Liverpool Point. From January 1904 to May 1905, owing to a destructive ice flow on the river, Liverpool Wharf was placed out of service, effectively redirecting passenger and commercial traffic to other landings, and contributing to a growing isolation of the region. With the onset of the First World War in Europe, however, the very remoteness of the little embayment would soon lead to its transformation into the largest and most densely populated ship "graveyard" in the United States.[20]

United States Shipping Board's Wooden Steamship Fleet

On April 2, 1917, the day President Woodrow Wilson issued a national call to arms against Imperial Germany, the entire continent of Europe, and much of the rest of the world, had already been immersed in a very costly war for nearly three years. The entry of the United States into the Great War came at a crucial moment. American allies, in particular Great Britain and France, were reeling from the devastating onslaught of Germany's campaign of unrestricted submarine warfare. Only a few weeks before Wilson's declaration, in February and March 1917 over 1,000,000 tons of merchant shipping, more than 200 ships per month, had been destroyed by German submarines and mines, and the rate of destruction during April was destined to be even worse. By the end of the month, one in every four ships leaving England, nearly 100 vessels per week, would perish. More than 5,000,000 tons of allied merchant shipping had been destroyed by the Central Powers since the beginning of World War I in 1914, and there seemed every indication that the undersea campaign prosecuted by German submarine forces would be carried out with increasing vigor during the coming summer months. With barely 20 million tons of merchant shipping still afloat for all of the allied nations combined, the outlook appeared grim. England's starvation and elimination from the war seemed imminent. [21]

The United States entered the war with unvarnished zeal and little more. Yet to gauge the enormous logistics necessary to wage war on the other side of the submarine-infested Atlantic, it is necessary only to look at a few comparative statistics. In 1915 the merchant tonnage of the entire world was estimated at 49,262,000 tons, of which 43.5 percent was British, 12 percent American, 10 percent German, and 5 percent French. Between 1899 and 1915 the shipyards of the United States had launched only 540,000 tons of blue water shipping, or 14.6 percent of the world total of 3,685,000 tons. Hitherto preoccupied with westward expansion and domestic struggles, the United States had, indeed, largely forsaken merchant shipbuilding following the Civil War and permitted foreign vessels, primarily British, to transport most of its sea commerce. During the late 1800s efforts had been launched by several concerns to reestablish the American merchant marine to its pre-Civil War status, but these efforts failed. At the onset of World War I,

in 1914, the United Kingdom launched 1,683,533 gross tons as compared to 200,762 by the United States. [22] The expectation that the war would continue for several years prompted American shipbuilders to accelerate production; they launched 192 ships totaling 228,016 gross tons during the first half of 1916. Nevertheless, by April 1917 the United States had achieved some progress yet expended a large share of its modest shipbuilding energies upon foreign rather than domestic accounts. [23]

With growing public concerns over possible entry into the war in Europe, in 1914 Secretary of the Treasury William G. McAdoo conceived of a shipping corporation which the federal government would own. In 1916, Congress finally enacted a Shipping Bill charged with the promotion and regulation of the United States water transport which could also commandeer private lines if it determined that they did not perform advantageously for the public. [24]

It is doubtful if U.S. Shipping Board officials, at that time, expected to establish a shipbuilding program, or could have foreseen the construction of wooden vessels as a component of such a program. Yet, the severe toll being extracted by German submarines upon allied shipping was soon to clearly emphasize the need for ships of all types. In 1917, Germany's institution of unrestricted warfare sparked a review of the Shipping Board's functions. These circumstances led to the creation of the United States Shipping Board (USSB) Emergency Fleet Corporation (EFC) in April 1917 under provisions of the Shipping Act of 1916, which empowered the Board to form a stock corporation. Organized under the laws of the District of Columbia with a capital stock of $50,000,000 (which eventually grew to $3,000,000,000), the EFC could purchase, construct, equip, lease, charter, maintain, and operate merchant vessels in the service of the United States.[25]

In January 1917, William Denman, a prominent attorney with experience in admiralty law, was chosen as Chairman of the USSB. Not long afterwards, in mid-February, F.A. Eustis, a well-known and politically-connected yachtsman, formulated the concept of a large shipbuilding project that would focus on the construction of wooden steamships rather than steel hulled ships and presented it to Denman. For Denman, the concept seemed to have great merit, particularly at this important juncture. [26] In April, following the declaration of war, a general speeding up of merchant ship construction in the United States was initiated. Denman announced the USSB's primary steel construction program and introduced a corollary plan, based on Eustis's concept, to augment the steel ship fleet with 800 to 1,000 wooden ships. A rapid overhaul of the 6,000,000 tons of German shipping seized by the U.S. Government, and the probable temporary suspension of work on naval contracts, which could be completed within three years, was also planned. These efforts were undertaken to make available facilities for building at least 500,000 tons of merchant ships in addition to the large volume of business then in hand in the steel shipyards on the coasts and Great Lakes. Denman later complained that the press had ignored all but the

would be required for each vessel. It was considered within the range of possibility to produce a fleet of 800 to 1,000 ships of this type within a mere eighteen months. Combined with the output of steel merchant vessels produced in that same time, production was expected to exceed or at least keep pace with the highest rate of shipping loss caused by enemy submarine action, thus making the German submarine blockade of Europe ineffectual. Indeed, it was argued, wooden ships of up to 5,000 deadweight tons, which required more than 1,500,000 board feet of lumber for construction, would have a lifting buoyancy or lifting power of 1,335 tons and would be nearly unsinkable. Denman once even publicly remarked, that even if they could be sunk, the United States could soon turn them out faster than the Germans could sink them![31]

Announcement of the wooden shipbuilding program encouraged many persons to enter the enterprise. Aspiring wooden ship builders, an estimated eighty percent of them without experience, were soon forwarding as many as five contract applications a day. EFC estimators initially anticipated a lump sum cost for building the wooden hulls at $300,000, while they expected machinery installation to approximate $200,000. The actual total expense would eventually exceed $750,000 per vessel. [32]

Prototype plans for one class of wooden cargo boat which were accepted by the USSB, and which received the highest rating ever granted for wooden vessels by the American Bureau of Shipping, were made public and published for the first time in April 1917. This design, by William T. Donnelly, of New York (who was neither a naval architect or had ever designed a steamship), presented a revolutionary new departure in wooden ship construction in that the principles evolved in the development of steel shipbuilding were directly applied to wooden construction, resulting in a ship initially deemed far superior in strength and carrying capacity to the type of ship formerly built of wood. The construction was such that practically all parts were standardized, so that the materials received from the mills could be assembled into the ship with a minimum of fabrication at the yard. [33]

As speed of construction was a first requisite in the building of this fleet, all shipbuilders and engine and machinery manufacturers who had facilities adaptable to this work were advised to immediately place their plants at the disposal of the USSB, then headquartered in the Munsey building, Washington, D. C. Contracts for work were to be placed by the EFC and its agents. Donnelly, an engineer whose offices were located at 17 Battery Place, in New York, authored the first important analysis of the wooden ship construction effort and the problems likely to be encountered. The title of his work was "Problem of the Wooden Cargo Ship: Description and Calculations Relative to Construction of 5,500 Deadweight Carrying Capacity Cargo Vessel" [34]

The plans and information submitted therein were relative to a wooden ship of dimensions and carrying power considerably beyond anything hitherto constructed and was the result of many

years of study and investigation of the problem. They were published with the proviso that they were not to be considered in any sense a war measure. In fact, the plans, which presented a larger vessel then was destined to be adopted, together with the calculations, had been almost, if not quite, completed before the agitation for wooden ships was brought about by Germany's campaign of unrestricted submarine warfare. [35]

Acceptance of the wooden ship concept as a viable means to achieve the wartime needs of American and allied shipping, it was hoped, would be necessary to move the program forward rapidly. Another of the leading proponents of the wooden ship concept was Theodore E. Ferris, a naval architect, whose offices were at 30 Church Street, in New York City. Because of his extensive experience and grasp of the tenants of wooden ship construction, Ferris was appointed to the position of official Naval Architect for the USSB, and, acting upon the instructions of Denman, but drawing upon the Donnelly concept, proceeded to produce plans for a vessel type that was to become one of the principal types constructed during the program. The use of diesel and electrical power for propulsion, which had been promoted by Donnelly, however, was quietly shelved. By July 1917, Ferris had completed plans and specifications for a standard 3,500 ton wooden steamship that was to bear his name and would become synonymous with the program. [36]

Ferris USSB Steamship Specifications

The following is an extended extract describing the design and specifications for the Ferris Ships. The principal dimensions of the ships were as follows:

Length overall	281 feet 6 inches
Length between perpendiculars	268 feet beam, over planking 46 feet
Depth, molded at side of upper deck	26 feet
Load draft from bottom of keel shoe	23 feet 6 inches
Total estimated deadweight	3,500 long tons
Sea speed, loaded	10 knots
Indicated horsepower	1,400

Estimated Weights
The estimated weights of the standard wooden ships as furnished by Ferris were as follows:

Item	Yellow Pine Ship Long Tons	Douglas Fir Ship Long Tons
Wood in hull	1,827.0	1,827.0

Fastenings	145.7	145.7
Anchors and cables	31.4	31.4
Paint and caulking	10.0	10.0
Forgings and castings	35.0	35.0
Hull piping and machinery	50.0	50.0
Two guns	7.0	7.0
Miscellaneous outfit	27.9	27.9
Total hull weight	1,980.0	2,134.0
Propelling machinery	275.0	275.0
Deadweight	3,625.0	3,421.0
Displacement at 23'6" S.W	5,880.0	5,830.0

These figures for the wood hull were based on bills of material after deducting scrap, and for lumber of about 18 percent moisture. With green lumber well weight was computed at about 12 percent more. [37]

General Arrangement
The vessel was of the single deck type with hold beams and shifting 'tween decks with wood deckhouses on the bridge and poop decks. The vessel had a straight stem and elliptical stern and was fitted with two wood pole masts rigged with cargo booms, and one smokestack. Four cargo hatches were provided in the upper deck and a small hatch in the poop deck. Four caulked watertight wooden bulkheads extended to the upper deck, forming two cargo holds and the machinery space. There was a deep tank forward of amidships for water ballast and also water tanks for boiler feed. Culinary water was to be carried in separate steel tanks located in the engine room. The after peak was piped for fresh water for boiler feed and for salt water for the trimming tank. The fore peak was piped for fresh water only. Steam winches were fitted at the hatches for working the cargo booms. The amidships deckhouses on the bridge deck contained the officers' quarters, chart room, wireless, gunners, quarters for petty officers, engineers, cooks, oilers, messmen, etc. The bridge space was used for coal or cargo and a part of the poop space for stores or cargo. Awnings were to be fitted over the bridge abreast the wheelhouse, over the boat deck between the officers' house and wireless house, abreast of the officers' house, abreast of the steering house, and around the stern at the poop deck. [38]

Propulsion
The propelling machinery was to consist of one triple expansion engine; two single-ended Scotch boilers or watertube boilers fitted with heated forced draft for coal burning with one fire room, together with all necessary auxiliaries, electric light plant, steam winches, warping capstan, steam windlass, steam and auxiliary hand-steering gear, ice machine, steam heating system and complete drainage system. Twin-screw reciprocating or geared turbine steam propelling

machinery could be substituted for the single screw propelling machinery, subject to approval of the owners. [39]

Materials
The timber and lumber used in the construction of this vessel could be either dense southern yellow pine as graded by the Southern Pine Association, or Douglas fir. The entire hull was to be of yellow pine except the stem post, rudder post, rudder stock, horn timber, shaft log and keel shoe, which was to be of white oak. Wood knees were to be of hackmatack or oak. Treenails were to be of locust or split oak. Joiner sheathing and decks, where specified, and were to be of cypress. [40]

Hull Construction
The keel was of yellow pine 16 inches by 14 inches, to which was fitted a shoe of white oak 3 inches thick and 16 inches wide. The stem of yellow pine was sided 16 inches and molded 20 inches. The apron of yellow pine was 16 inches by 16 inches backed up with a second apron of the same size. Both aprons were to be of one length, extending to the forecastle deck. The stem grip was of white oak sided the same as the stem. The knightheads were of yellow pine sided 20 inches and molded the same as the frames, fayed up to inside the apron. The forward deadwood and knee were of yellow pine sided 16 inches and molded 18 inches, extending from through the floors forward for receiving the heels of the cant frames. The knee was of hackmatack or oak, connecting the keel to the stem grip, and apron 16 inches sided with long arms. The forward deadwoods were of yellow pine sided 16 inches, bedded in between the top keelson and apron. The outside and inside stem posts were of white oak sided 28 inches in way of the shaft log 16 inches above the keel and at head molded 24 inches. The lower end of each post was tapered to the siding of the keel and was to have a tenon 5 by 12 by 14 inches fastened with two 13/8 inch treenails. Each stem post extended to the upper deck and was fastened to the deck beams. The after side of the outer post was rounded out above and below the stem bush casting for an easy flow of the water. The shaft log was of white oak built up in four pieces 14 by 14 inches bored out to receive the stem tube. The after deadwood and knee were of yellow pine sided 16 inches and molded 18 inches, extending from through the frame floor aft to the stem post for receiving the heels of the cant frames. The after deadwoods were of yellow pine sided 16 inches, bedded in between the top of the shaft log and inner stem post. The rudder post was of white oak sided 16 inches, molded 18 inches, and was to have a tenon in the keel 5 by 12 by 14 inches fastened with two 1 3/8 inch treenails. [41]

Framing
The rudder stock was to be of a select white oak finished 18 inches in diameter. The rudder blade was built up of yellow pine tapered to 14 inches at the after edge. The main frames were to be double-sawed of yellow pine. The bilge frames were to be worked out of crooked oak, straight fir

or wide yellow pine, sided 12 inches, molded on keel 18 inches, at turn of bilge 16 inches, at top of bilge 12 inches, at upper deck 10 inches, at bridge, forecastle and poop deck, 8 inches; also at bulwark rail, 8 inches. The frames were to be spaced 36 inches center to center. In way of the bridge, forecastle and poop, the frames continued up double. There were eight main keelsons of yellow pine 14 by 14 inches, and on each side girder keelsons of yellow pine were arranged on the midship section, the first strake 10 by 14 inches, and the second and third strakes 8 by 14 inches. The first and second strakes were worked the full length between the peak bulkheads, the third or top strake, was to be worked for about three-fifths the length amidships. [42]

Ceiling and Planking

The bottom and side ceiling were all to be of yellow pine. The bottom ceiling was to measure 8 by 12 inches, the side ceiling 10 by 12 inches. One strake of the side ceiling on each side was to be 12 by 12 inches locked over the frames, as shown on the midship section. There were three strakes of bilge ceiling on each side of yellow pine, 14 by 14 inches, with five strakes between 12 by 14 inches. The garboard strakes were to be of yellow pine; the first strake, 10 by 14 inches; the second strake, 8 by 14 inches; third strake, 6 by 14 inches. The outside planking, also of yellow pine, was indicated as follows: bottom planking, 5 by 14 inches; bilge planking, 6 by 10 inches; side planking, 5 by 10 inches, 5 by 9 inches, and 5 by 8 inches; topside planking, 6 by 9 inches. Between the planking and the frames was a system of iron strapping arranged as follows: At the upper deck beams was a top chord, 8 inches by 3/4 inch, extending from 12 feet forward of the forward hatch to 12 feet aft of the after hatch. The plates in this chord were connected by triple riveted butt straps and were fastened to each frame by two 1-inch by 10-inch bolts, staggered. Diagonal straps of 4 inch by 112-inch iron, let into the outside of the frames, and inclined at 45 degrees each way, were fitted so as to meet at the top chord in every frame space. The diagonals were connected to the chord by two 7/8 inch rivets at each crossing by one 1-inch rivet. They were also fastened to each frame timber by one 1-inch by 10 inch bolt. The diagonals were to be carried well down and wrapped around the bilge far enough to overlap the ends of the floor timbers. [43]

Decks

At the upper deck were two strakes of deck beam shelf timbers on each side, 10 inches by 12 inches, one lock strake, 12 by 12 inches locked 2 inches over the beams, and one bosom strake, 14 by 14 inches. The hold beam shelf timbers consisted of one strake, 10 inches by 12 inches on each side, and one lock strake 12 inches by 12 inches, while below the hold beams was one strake 12 by 14 inches, one lock strake 14 by 14 inches and one bosom strake 14 by 14 inches. The upper deck beams were to be of yellow pine, sided 12 inches, molded 14 inches, worked with 9-inch crown shape 5 inches and spring, 4 inches. The beams were to be doubled at the hatch and engine and boiler openings. The beams were to be spaced about 4 feet center to center. In the way of hatches and other openings carlin beams were to be fitted, sided 8 inches, molded

14 inches. The hold beams were of yellow pine, sided 14 inches and molded 16 inches. They were fitted throughout the hull between hatches and other upper deck openings, spaced about 4 feet centers. Beam and filling timbers, spaced about 4 feet apart, were to be fitted between the upper and lower shelf timbers where through-hold beams were not fitted. [44]

Stanchions
In the way of hatch coamings, there were to be fitted on each side continuous from the forecastlehead bulkhead to the poop bulkhead deck girders made up of two 14- by 14-inch and one 12- by 12-inch timbers, with 14- by 14-inch hatch header and filling timber between through beams. The hatch-end coamings were to be made up with 14- by 14-inch and 12- by 12-inch toe fitted into the girder timbers, forming the remainder of the hatch coamings, 10 by 10 inches. Center and wing stanchions of yellow pine, 12 by 12 inches, were to be spaced and located as shown on the framing plans. The center stanchions were connected to the keelsons with 8-inch wood knees, one stanchion in way of each hold beam, connected at the hold beam with two 3/4 by 4-inch iron straps fastened with six 7/8-inch screw bolts; also connected to upper deck beams in a similar manner. Iron tie rods, 1 1/2 inches diameter with turnbuckles, were to be fitted in way of the upper beams and hold beams, spaced about every fourth beam. [45]

Bulkheads
Forward of the boiler room bulkhead extending into the hold was a deep water tank for water ballast, extending up to the line of the hold beams. The bulkhead was to be of 3- by 8-inch double diagonal yellow pine, with studding of 8- by 12-inch yellow pine spaced 24 inches apart. The center fore-and-aft bulkhead was to be of yellow pine 6 inches thick with 8- by 12-inch yellow pine studding, spaced about 30 inches apart. These tanks were to have a capacity of about 350 tons of salt water. Aft of the engine room bulkhead on each side of the thrust recess, extending up to the line of the hold beams, were tanks for boiler feed having a capacity of about 80 tons of fresh water. The tanks were to be constructed in the same manner as the deepwater tanks. The forepeak tank was arranged for carrying fresh water. The after peak was arranged for carrying fresh water for boiler feed and for salt water for trimming pure. Between the engine and fire room was to be erected a steel screen bulkhead built of plating 3/16-inch thick, stiffened with 2 1/2 by 1/4-inch angles, spaced about 24 inches apart. The bulkhead was to fit partly around the boilers and to have a hinged door for passage from the engine to fire room. [46]

Fastenings
In the matter of fastenings, the following was provided as specifications: All fastenings were to be equal to the requirements of the American Bureau of Shipping and, in accordance with the following plans of fastenings: all nail, spike and bolt iron fastenings were to be galvanized as were all clinch rings; screw bolt fastening were to be used where necessary; all bolt, iron fastenings through yellow pine or fir wood for bolts up to 24 inches in length were to be driven

with about 1/8-inch drift; for bolts exceeding 24 inches in length driven drift of 1/16 inch; for bolts through oak, 1/16-inch drift; all bolts driven over clinch rings were to be well headed and blunt or drift bolts pointed where necessary; all bolt fastenings in outside planking, waterways, plankshears, tails and weather bulkheads, and all bolt or spike fastenings in weather deck were to be plugged with white or yellow pine plugs dipped in white lead paint. The treenails were to be of good grade split locust, oak or other approved wood and wedged on both ends across the grain of the wood through which they were driven. As many treenails as possible, at least one half, were to be driven through and wedged on both ends. Tie rods and screw bolts, where necessary were to be set up in large, heavy plate washers. [47]

Boilers

Steam was to be furnished at 190 pounds per square inch working pressure by two three-furnace, marine type, coal burning boilers, constructed in accordance with the United States Steamboat Inspection Rules and those of the American Bureau of Shipping. Each boiler was to be 14 feet 6 inches inside diameter and 11 feet 2 inches long overall. The total effective boiler heating surface was to be 4,500 square feet, and the total grate area 105 square feet. Each boiler was to have three independent combustion chambers. The tubes were to be 2 1/2 inch outside diameter of charcoal iron lap-welded. Each boiler was fitted with three corrugated furnaces of the Morison suspension type of 42 inches inside diameter. The boilers were to be located in a single stokehold with a common fireroom, and the products of combustion were to be led up a single stack reaching to a height of about 76 feet above the base line. As an alternative for Scotch boilers, the following watertube boilers were considered acceptable: Babcock & Wilcox, Howden, Yarrow or Mosher, with a heating surface of not less than 5,000 square feet. Other types of watertube boilers were also considered with the stipulation that the heating surface meet approval. [48]

Propelling Machinery, Single Screw Ship

For a single screw ship, fitted with a reciprocating engine, the main engine was to be of the triple expansion type with cylinders 19 by 32 1/4 by 54 inches diameter, with a common stroke of 42 inches. The engine was to be built for a piston speed of about 630 feet per minute and capable of developing 90 revolutions per minute with the ship at the load draft. The engine was designed to develop 1,400 indicated horsepower when working under full boiler pressure, with no live steam passing the high pressure cylinder and no live steam in the receivers. Engines of a size different from the above were, however, acceptable if capable of meeting the desired conditions, as regarded indicated horsepower and piston speed. The framing of the main engine consisted of cast iron housings, while the bed plate was of cast iron. The main valves for the high pressure and intermediate pressure cylinders were of the piston type with a double-ported slide valve for the low pressure cylinder. The valve gear was to be of the Stephenson link motion with double bar links. It was to be worked off the main engine, by beams, attached pumps consisting of a main air pump and two bilge pumps. The operating platform was to be on the starboard side at

the engine room floor. The crankshaft was in two sections of "the built-up type," secured by solid forged steel couplings and straight coupling bolts. The piston rods, connecting rods, shafting and working parts generally were forged of open-hearth steel. The crank shaft was 11 1/4 inches diameter. The line shafting was 10 5/8 inch diameter and the thrust shaft 11 1/4 inches diameter, while the propeller shaft was 12 inches diameter. The four-bladed propeller was to be of cast iron. Steam from the main engine was exhausted into a single condenser, containing about 2,500 square feet of condensing surface. Cooling water was supplied by one main centrifugal type circulating pump with 12-inch suction and discharge and a capacity of 2,000 gallons per minute against a head of 15 feet. The engine for driving the circulating pump was to be of the vertical type. The main air pump of the Edwards type worked off the low-pressure crosshead of the main engine. The pump was 22 inches diameter by 18 inches stroke. Two bilge pumps of 3 1/2 inches diameter by 18 inches stroke were also worked off the low-pressure crosshead of the main engine. [49]

Independent Pumps
Independent pumps were to include: two main and auxiliary feed, 10 by 6 by 12 inches, vertical simplex type; one general service, 10 by 6 by 10 inches, horizontal duplex; one fire, bilge and general service, 10 by 6 by 10 inches horizontal duplex; one sanitary, 6 by 5 3/4 by 6 inches horizontal duplex; one fresh water, 4 1/2 by 2 3/4 by 4 inches, horizontal duplex; and one evaporator feed, 4 1/2 by 2 3/4 by 4 inches, horizontal duplex. [50]

Auxiliaries
To be located in the engine room was a forced draft fan driven by a direct-connected engine for supplying air for a system of heated forced draft. The fan was to be capable of continuously handling air for the combustion of 3,000 pounds of coal per hour at a pressure of 2 inches of water at the blower outlet. The fan was driven by a single fully enclosed dust- and moisture-proof vertical inverted cylinder high-speed steam engine. In the fire room was to be a 6-inch hydraulic ash ejector operated by water from the fire and bilge and general service pumps. Also located in the engine room was a feed water heater of sufficient capacity to heat 30,000 pounds of feed water per hour from 120 to 212 degrees Fahrenheit when using exhaust steam at 5 pounds per square inch gage. The rise in pressure of the feed water passing through the tubes was intended not to exceed 20 pounds per square inch. There was also to be a feed and filter tank of 800 gallons capacity installed in the engine room. [51]

Propelling Machinery, Twin Screw Vessels
In the twin-screw vessels propelled by reciprocating engines, the boiler plant was to be identical with that of the single-screw vessels. The engines themselves were of the triple expansion type with cylinders 14 3/4 by 25 by 42 inches diameter with a common stroke of 27 inches. The engines would turn outboard when going ahead. The engines were built for a piston speed of

about 600 feet per minute and each engine was capable of developing 600 indicated horsepower at 133 revolutions per minute, when working under full boiler pressure with live steam in the receivers, and 700 indicated horsepower at 115 revolutions per minute, with no live steam in the receivers. Engines of different size from the above would be acceptable if they were capable of meeting the desired conditions of indicated horsepower and piston speed. The framing of the main engine consisted of cast iron back housings and cast iron or forged steel front columns. The bed-plate was to be of cast iron. The main valves for the high pressure and intermediate cylinders were to be of the piston type with a slide valve for the low pressure cylinder. The valve gear was to be of the Stephenson link motion with double bar links. The operating platform of each engine was to be on the inboard side at the engine room floor with reversing gear, throttles and stop valve gears, cylinder drains, receiver valve gears, etc., all collected at one point. The crank and thrust shafts were to be 8 inches in diameter, while the line shafting was 7 1/2 inches diameter. The propeller shaft was 8 1/2 inches diameter. The three-bladed propellers were to be of solid cast iron. [52]

Engine Room Auxiliaries
Two main condensers were to be provided, each with a condensing surface of 1,300 square feet. There were also to be two main circulating pumps of the centrifugal type with 8-inch suction and discharge, each pump being driven by a vertical engine. The main air pumps were to be of the twin beam type, 7 1/2 by 17 1/2 by 10 inches. The independent pumps required included the following: two main and auxiliary feed, 10 by 6 by 12 inches, vertical simplex; one general service, 10 by 6 by 10 inches horizontal duplex; one fire, bilge and general service by 6 by 10 inches, horizontal duplex; one sanitary 6 by 5 3/4 by 6 inches, horizontal duplex; one fresh water 4 1/2 by 2 3/4 by 4 inches, horizontal duplex; and one evaporator feed, 4 1/2 by 2 3/4 by 4 inches, horizontal duplex. A feed water heater and feed and filter tanks and other auxiliaries were provided, similar to the equipment for the single screw ships. [53]

Propelling Machinery, Single Screw Geared Turbines
For a single screw, geared turbine, coal-burning ship the propelling machinery was to be built to conform with and meet the requirements of the American Bureau of Shipping and the rules and inspection prescribed by the United States supervising inspectors of steam vessels. The turbine was to be of the General Electric, Westinghouse, De Laval, Kerr or other approved make of 1,400 shaft horsepower and connected to the main shaft by double helical gearing. The revolutions of the main shaft were not to exceed 110 per minute. A backing turbine was to be incorporated in the same casing with the ahead turbine, and, when supplied with the same amount of steam as used for full load conditions, would develop not less than two-thirds of the full power ahead torque on not more than two-thirds of the full speed revolutions per minute. With steam at 180 pounds gage pressure at the throttle and 28 inches vacuum in the condenser, and at normal full power revolutions, the steam consumption would not exceed 12.5 pounds per

shaft horsepower per hour. The thrust bearing was to be of the Kingsbury type, incorporated in the low speed gear and casing. The propeller was of cast iron, solid, four-bladed. The engine and fire room auxiliaries were to be the same as in the single screw ship driven with reciprocating engines with the exception of the main air pump, which was to be of the twin-beam type, 12 to 28 inches by 18 inches. There was also to be an auxiliary combined air and circulating pump, 10 by 12 by 12 inches, horizontal duplex. [54]

Form of Contract
Ferris's recommendations, which were quickly adopted by the USSB, were that contracts for the construction of the standard type wooden vessel should be let on a lump-sum basis only. According to the terms of the contract, for an order for twelve ships the USSB would agree to pay a certain sum within thirty days after signing the contract; 5 percent of the contract price of all twelve ships within sixty days after signing the contract; 5 percent of the contract price of all twelve ships within ninety days after signing the contract. When the keel of each ship was laid there was to be paid 20 percent of the price of the ship. When each such ship was completely framed, 30 percent of the price of the ship was to be paid. When each such ship was launched, 15 percent of the price of the ship was to be paid. When the machinery in each ship was installed, 10 percent of the price of the ship was to be paid and the balance on each ship was then to be paid thirty days after delivery to and acceptance thereof by the owner. Before final acceptance of the ship, the owner was permitted to make at the contractor's expense a dock trial not exceeding six hours, or a sea trial not to exceed four hours at some point convenient to the contractor's yard. Inspectors appointed by the owner were to inspect all materials and workmanship entering into the construction of the ship, and these inspectors were to be authorized to reject all materials and all workmanship which did not comply with the specifications agreed to. The owner could reserve the right by orders in writing to make such reasonable improvements, additions, or substitutions not materially affecting the general design of the vessel as the owner may deem necessary. Such changes or alterations were to be compensated for by the owner. [55]

Hough and Other Designs of USSB Steamship

The EFC would eventually let contracts for more than 500 wooden steamships during the wartime period, but later canceled some 200 of them. Although they attracted less attention than cargo steamers, the EFC would also build sailing vessels, barges, ocean and harbor tugs, and even a wooden tanker, as well as concrete ships, and, of course, steel hulled vessels. Although the Ferris type would serve as the primary wooden cargo vessel of the program, other vessel designs, mostly variations of the Ferris type, were also constructed. These included: Allen, Daugherty, Grays Harbor (or Ward), McClelland, Pacific American, Peninsula, Seattle (or Geary), Supple and Ballin, and Hough. McClelland and Supple and Balin represented experimental variations of the basic wooden steamship called a composite. Given dimensions

similar to the wooden steamship, the composite consisted of a steel frame with wooden plating intended both to provide added structural strength and to alleviate the problem of obtaining large timbers for the keel and keelsons. These ships proved to be quite expensive, however, and very difficult to synthesize and only a few were built. [56]

For the most part, however, the majority of the wooden steamship types were of similar configurations, although they ranged in size to 5,000 tons. Yet, the Hough design, produced by Edward S. Hough, of San Francisco, which was significantly different in hull configuration from the standard Ferris hull, would eventually gain the second widest acceptance of wooden vessels constructed during the Emergency Fleet program. Unlike the Ferris type, for the greater part of the length of this vessel the sides were flat and the bottom V-shaped, with a deadrise of 3 feet. With this form of hull, the majority of the frames were straight 12-inch by 12-inch timbers, a common stock size of timber, generally known as "mill run" lumber. As the sides and bottom were straight for the greater part of the length, most of the planking and ceiling was also straight-line work, and could be gotten out in a minimum of time with a minimum of hand labor. [57]

As the Hough hull design closely resembled that of a barge, the building of the ship required very much less shaping and molding than was the case with the usual Ferris ship model. Not only were the timbers and planking for the most part straight, and therefore could be quickly and accurately cut at the mills, but also the fastenings and connections were such that time could be saved in checking and fitting the planks and timbers as compared with the ordinary ship form of vessel. An important advantage of the design was the fact that very little frame or surface dubbing was required, and with the straight-sided machine-cut planking the caulking was more easily and quickly performed. A raised forecastle deck and a house aft provided gun platforms, on which were mounted rapid-fire guns for defense against submarine attack. Amidships was a bridge deck, above which was a boat deck, and in the midship deckhouse all hands were to be quartered. [58]

General Arrangement
Propulsion was to be facilitated by two sets of triple expansion reciprocating engines, supplied with steam by two boilers operating under forced draft. Geared turbine propelling machinery could be substituted for the reciprocating engines at the option of the builder. The hull was subdivided by six traverse bulkheads below the main deck. A double bottom extended from the forward collision bulkhead to the inboard end of the stern tube, and this was subdivided at the traverse bulkheads. These spaces were used for water ballast and were piped for filling and emptying as usual. A longitudinal centerline bulkhead extended the full length of the ship from the forward to the after collision bulkhead and up to the main deck. This bulkhead was built up of 6-inch by 8-inch edge-bolted material, faced on both sides with 4-inch by 12-inch planking

worked diagonally and landing against a continuous sill at the top and bottom. This bulkhead was not caulked and openings were provided.

Cargo was handled through three sets of twin hatches by means of six cargo booms of 5 tons capacity each, fitted to the masts and served by steam winches. Fresh water was carried in steel tanks stowed about the machinery spaces and at the stern of the ship. Provision was made for 80 tons of fresh water for boiler use and 30 tons for culinary purposes. The vessel was thoroughly equipped with auxiliary machinery, including an electric light plant, steam winches, steam capstan, steam windlass, steam-steering gear with hand auxiliary, an ice machine, a steam heating system and a pump and drainage system. [59]

Keel and Keelson
The keel consisted of a timber, 12 inches by 18 inches, in long lengths fastened with 1 114-inch headed bolts set up over clinch rings at the bottom. The keel was fastened to the center keelson and to the top floor timbers as follows: In each bay one 1 1/8-inch drift bolt driven from the inside and clinched over a ring outside; in each bay 1 1/4-inch headed bolts driven from the inside and clinched over rings on the bottom of the keel; at each frame two 1 1/8-inch drift bolts were driven from the inside clinched over rings outside. The keel was protected by a shoe 3 inches thick by 18 inches wide. [60]

Stem and Stern Post
The stem, sided 18 inches and molded 24 inches, was 46 feet long and scharfed to a natural knee at the forefoot. A half round iron band, 5 inches wide, extended from the stem head down to the 2 feet below the light waterline, and was wrapped over and fastened to a 3/4-inch by 10-inch flat band extending around the forefoot over the keel split and spread at the end. The apron, sided 18 inches and molded 24 inches, was in one length, extending to the forecastle deck. The knightsheads were in one length to the forecastle head, sided 24 inches and molded 12 inches. A natural knee connected the stem to the keel and the deadwoods were chocked into the keelson and apron.

The sternpost was 48 inches fore-and-alt and 18 inches wide, bearded aft neat the rudder to 12 inches wide. The bottom was fitted with a cast-steel shoe, carrying the bottom rudder pintal and the top was chocked solid at the deck beam and kneed off sideways. A rudder trunk was built on the after side of the post, fitted with a round lead sleeve turned over and made tight top and bottom. A cast-steel bearing lined with lignum vitae was placed at the bottom of the sleeve and a cast-iron stuffing box at the top. The deadwoods were worked diagonally, a natural knee being fitted at the junction of the keel and sternpost. Two horn timbers, 18 inches by 20 inches and about 24 feet long, were placed one on each side of the sternpost connecting with the rim and

landed on the frames. The rudder was built up of two 112-inch steel plates set apart 24-inches, stiffened by horizontal web plates and angles. The rudder stock was of forged steel. [61]

Framing
The side frames were double, 12 inches by 12 inches, spaced 36 inches centers throughout and extending from the bilge to the upper deck. In the way of the bridge house they were single, one leg of the frame being in one length from the bilge to the upper deck, the lower end of the leg butting and the other lapping the traverse floor timber. Cant frames, of the same siding and molding as the main frame, were built up at the ends of the vessel and well fitted to the deadwood. The bottom floor timbers were double 12 inches by 12 inches butted, and secured by an anchor stock piece the same width as the frame. The top timbers were single, except under the machinery, and were 12 inches by 12 inches in one length. The bottom timbers and heels of the frame were fastened together by two 1-inch screw bolts, each with plate washers under the head and nut. At the heels of the frames the bays were chocked and made watertight with a stop-water at each side of the chock, shutting off the bottom from the side spaces. Each anchor stock piece was fastened to a bottom floor timber by two 1 1/8-inch screw bolts each side of the center. Under the machinery the top floor timbers were doubled and the spaces between the top and bottom floor timbers were chocked in solid. The side ceiling was 10 inches by 12 inches, the three up and bottom strakes being scharfed 7 feet. The bilge ceiling consisted of four strakes 10 inches by 12 inches and one strake built up of two pieces 10 inches by 18 inches with 8-foot laps. All four strakes were edge-bolted and fastened to the floors. The first two strakes were edge bolted to the bilge log. [62]

Planking
The garboard strake was 8 inches by 16 inches edge-bolted to the keel, with 7/8-inch iron in alternate frame spaces. It was fastened to every frame with four 1-inch by 20-inch buttonhead bolts with the heads countersunk and cemented. The bottom and side planking was 5 inches thick, varying from 16 inches in width at the garboard to 12 inches at the bilge and from 12 inches to 10 inches at the sides Several strakes of 6-inch planking were provided at the bilge and wales. [63]

Iron Strapping
In addition to the longitudinal and traverse bulkheads and double bottom, the hull was further strengthened by iron strapping which extended from well forward of No. 1 hatch to abaft of No. 3 hatch. Diagonal iron straps, 1/2 inch by 4 inches, were let into the outside of the frames and inclined at 45 degrees each way. These were fitted so as to meet at the top butt in every other frame space. The diagonals were connected at the top butt by two 7/8-inch rivets and at each crossing by one 1 inch fitted bolt. They were also fastened to each frame timber by an inch by 10-inch counter-sunk head blunt bolt. The bottom was securely fastened at the bilge corner. [64]

Decks
At the main and upper decks were clamps and shelves built up as follows: The clamp at the main deck was 14 inches by 16 inches, the shelf consisting of four strakes each 10 inches by 12 inches; two strakes being locked 2 inches into the beams. The upper deck clamp was 12 inches by 14 inches, while the shaft strakes, of which there were four, were 8 inches by 12 inches. The upper deck beams were 12 inches by 14 inches, spaced about 30 inches centers and which possessed a 7-inch camber. They were doubled at the hatch ends and boiler openings. Half beams were landed on a fore-and-aft sill, 4 inches by 14 inches, and pulled up to the deck coamings by screw bolts. The main deck beams were 14 inches by 14 inches, spaced about 48 inches centers doubled at the hatch ends. The main deck ('tween deck) was laid solid with 4-inch by 8-inch planking and caulked. [65]

Tie Rods
Tie rods, 1 1/2 inches diameter, were fitted from the sides of the vessel to the hatch sills at the upper and main decks. Two were provided in way of each hatch. At the hatch end and at every fourth beam between hatches the tie rods extended clear across the vessel and were fitted with turnbuckles. [66]

Web Frames
Web frames were built in at the hatch ends and elsewhere spaced about 9 feet centers. They consisted of vertical pieces butting against the knee at the bilge corner and the upper deck and were fastened together so as to make solid works. Two of the distinctive features of this vessel, the central longitudinal bulkhead in conjunction with twin hatches and the construction of the bottom, were patented by the designer. [67]

Construction Program

Problems beleaguered the wooden steamship program throughout the fall of 1917 and continued with little improvement during 1918. For the necessary timber the EFC selected dense varieties indigenous yet believed to be plentiful to the region where the ships were built — white pine in the Maine shipyards, longleaf yellow pine in the South, and Douglas fir on the Pacific Coast. Total footage varied from model to model and increased with the many subsequent alterations that soon became commonplace during the program. The typical Ferris yellow pine ship required approximately 1,500,000 board feet and the Douglas fir about 1,700,000. Although as early as July 1917 massive orders for suitable timber for the construction of keels, frames, and hull planking had been placed with organizations such as the Southern Pine Growers Association, it was not until October, however, that orders for the first 433 ships were approved. Another month passed before construction contracts for 310 ships were let. Paperwork and bureaucracy

proliferated. Still, the EFC was predicting that 6,000,000 tons of shipping would be produced by the end of the following year, 255,000 of which was to be built of wood. [68]

By November organized chaos seemed to have befallen the program. Problems included difficulty in obtaining timbers of adequate size, overestimation by lumber dealers of their ability to deliver promptly, a scarcity of railroad cars, labor shortages at all levels, the inexperience of many shipbuilders, and the excessive sale by lumber mills to other buyers of choice timbers required by the EFC. Pine mills on the Atlantic and Gulf Coasts discovered that they could not deliver in quantity many of the timbers required by the Ferris model which called for some as large as 16 and 24 inches by 40 feet. The years of clear cutting of forests in the South, in fact, were having a telling effect on the size of timber now available. Pacific Coast lumbermen partially relieved the situation by forwarding several thousand carloads of Douglas fir to Gulf and Atlantic shipyards. Indeed, in a single month, Oregon produced a record setting 90 million board feet. Nevertheless, Ferris was soon obliged to modify his original design and reduced the need for larger timbers; however, the lumbermen then complained that, in the process, he added 100,000 board feet to the total amount required per vessel. Logistical problems in transporting timber resulted in the sidetracking of large quantities of timber. That which reached the constructors was green, but was employed nevertheless. As early as October 1917 the Committee on Public Information at Washington had publicly announced that wooden shipyards building ships for the government were desperately in need of white oak construction timbers or logs of good quality. Logs measuring 28 inches in diameter at the smaller end were being valued at from $50 to $60 per thousand board feet, measured in the log. Sticks, hewed or sawed, of this size, at $70 to $80 per thousand board feet, loaded on the cars under 200 miles from the shipyard were sought with an almost religious fervor. These prices, however, were noted as applying only to the South Atlantic and Gulf yards. [69]

Many steamship contractors lacked building sites with essential railroad connections and living facilities for employees, while their frequent absence of business experience coupled with undercapitalization further added to these burdens. The EFC compounded these circumstances in the beginning: it released hull designs months before machinery details, neglected the creation of installation yards to fit out the hulls, and failed to establish a priority system for the delivery of the large timbers critically needed by the EFC for the higher prices paid by both commercial buyers and the War Department. By December 1917, the EFC was obliged to place an embargo on the sale of timbers with ten-inch widths or larger and lengths of twenty feet or more. [70]

On March 18, 1918, an announcement was made that the first wooden Ferris type ship on the Atlantic Coast would be launched into the Passaic River at the Kearney plant of the Foundation Company at 3 p.m. the following day. The ship was to be christened by Miss Phyllis Hughes, daughter of the late U.S. Senator, William Hughes, who had been selected for the honor by

Hurley. The keel of the ship, to be named *Coyote*, had been laid on November 12, 1917. *Coyote* was the first hull in the program to hit the water, and though months of more work would be required before she could enter service, Admiral Pryor offered his congratulations to H.I. Crosby, Superintendent of Construction, for getting the hull in the water so soon. By late fall the ship had been delivered to the EFC, and by December 7,1918 had entered the service of the Potter Transpiration Co., Inc., of New York. She was soon employed in making voyages to the West Indies and in the coastwise trade. [71]

On May 1, 1918 the USSB's Planning and Statistics Division released a report expressing serious doubt as to the efficacy of wooden steamships for ocean service. It criticized their limited cargo capacity, uncertain life expectancy, and interference with the more necessary steel ship production. Indeed, that time not a single completed wooden cargo vessel had been delivered. Yet progress was being made. By September 1918, although loss of allied shipping for the previous month totaled 21,404,913 deadweight tons and exceeded gains brought by ship production by 3,362,088, an excess of building over losses per month occurred in August for the first time since December 1915. The United States had taken rank for the first time in history as the world's leading shipbuilder. [72]

On December 1, 1917 the first wooden bottom of the program to be launched on the Pacific Coast, the *North Bend*, a vessel of 240 feet in length and 4,000 deadweight tons, was launched after a record 120 days of construction, but a full eight months after America's entry into the war. Not until May 24, 1918, however, would she finally be outfitted, undergo sea trials, be readied for sea duty and delivered. [73]

Yet, there were continued production miracles. One such marvel was the building of the wooden steamship *Aberdeen* by the Grays Harbor Motorship Corporation of Aberdeen, Washington. It was later stated that the company had entered the project with "the view of demonstrating that the Grays Harbor Motorship Corporation had the most efficient shipbuilding organization in the entire world." The company had been let contracts to build four wooden steamships about July 1917, and had been ordered to deliver its first ship on January 15, 1918. *Aberdeen*, a steamship that would soon gain a reputation as having been constructed in quicker time than any vessel of similar tonnage in the world, "thus perpetuating the name of the greatest shipbuilding district on either continent." Preparatory to construction of the ship, the yard management, after conferring with the various foremen, had prepared a chart which would soon stand, according to company and USSB promotions later on, "as the greatest piece of outline work in the history of ship construction." [74] Ferris himself would later state:

> It represents the most remarkable construction schedule I have ever seen out of any yard, and the great thing about it is, it proves an

> organization for doing things you certainly ought to be proud of: There are any number of fellows who can estimate what ought to be done, but only once in a while you can find a fellow who can do what he estimated. [75]

The *Aberdeen* was adapted from the Ferris plan format and designed by M.R. Ward, General Manager and Designer for Grays Harbor Motorship Corporation, and became known as the "Ward" type (later referred to as Grays Harbor type), approved by the USSB. She was 290 feet over all, 49 feet abeam, and 28.2 molded depth, being 4,000 tons deadweight capacity, and equipped with twin engines of 700 horsepower each. [76] In building *Aberdeen*, every record in the construction of a ship was smashed. Three shifts, working 7 1/2 hours each, were employed in building *Aberdeen*. The following record stood as benchmarks for later constructors: laying of keel, 10 seconds; assembling, building, erecting and shoring 73 square frames, 29 hours, 26 minutes; ceiling, 151 hours; planking, 228 1/2 hours; from keel laying to launching, with superstructure 96 percent complete, and auxiliary engine installation 40 percent complete, 17 1/2 days. Her keel was laid at 8:00 a.m., September 9, 1918, and the bow-launching took place September 28, at 9:00 p.m. Engine installation required six days. On Sunday October 6, *Aberdeen* set off on her trial trip, laden with 200 passengers, out into the Pacific Ocean [77]

By October only 134 wooden steamships had been completed, and another 263 were less than half finished. [78] Then, on November 11, 1918, Germany surrendered. Not a single wooden ship built during the program had sailed into a European port during hostilities. Yet, owing to contractual agreements, vessels continued coming off the line even after the war ended. Contractors had completed and delivered 87 wooden and 9ninecomposite vessels ready for sea. Fifty-five wooden and seven composite ships had either carried cargoes or sailed in ballast for loading ports by November 11. Most were engaged in either Hawaiian or coastwise service and bore light and general cargo. The EFC had lost only three during 1918 — bad weather had wrecked the steamer *Blackford* near Arica, Chile, and the steamer *Coos Bay* off the coast of California. Lightning struck and burned the steamer *Dumaru* near Guam. But the ships kept coming off the ways. [79]

Despite criticisms during Congressional investigations, there were many examples of excellent field performance of the wooden and composite steamships available to counter the program's critics. One such example was that of the composite ship *Obak*, the fifth of a fleet of six composites of 3,500 deadweight tons, which had been reported completed in early 1919 by her builder, the Mobile Shipbuilding Company of Mobile, Alabama, and confirmed by a member of the EFC's office in New Orleans. Begun as Hull No. 314, and christened *Obak*, on her sea trial trip in the Gulf of Mexico, on March 27, she had averaged 12.01 knots, an excess of 2.01 knots an hour above the contract requirement. She had sailed out of the Mobile yard at 9:15 a.m. and

on reaching the Gulf, after the compass was adjusted, was put in a straight-away course and worked the required six hours without a hitch. From full speed ahead, she was brought to standstill in two minutes, which was one and a half minutes faster than any known on record to that date. Shift of the throttle was achieved in five seconds.[80]

Despite congressional indignation, ships continued to slide off the ways, although immediately after the Armistice, production slackened. Many vessels were soon integrated in the coastwise trade, and in transoceanic commerce. Up to December 1, 1918, a total of 101 wooden ships had been completed, 94 of which had entered active service. Of 85 of these, for which government tracking records were available, a total of 305 voyages had been made covering a total of 490,422 statute miles. The record revealed that 194 of these voyages were with cargo representing a freight movement of approximately 485,000 tons, a total mileage of 319,092 statute miles. These vessels had been active in the Atlantic and Pacific coastwise trade and had traveled to the Hawaiian and Philippine Islands, to South America, and to Africa. The movement of cargo, it was reported in the trade journal International Marine Engineering (February 1919), had been accomplished with substantially no loss to the shippers. Indeed, it was noted in one example cited that practically all canned goods reaching the Hawaiian Islands had come by wooden steamships.[81]

In December 1918 wooden and composite delivery figures totaled 17, nine for January 1919, seven for February, and nine for March. In mid-1919 the numbers increased - 16 for April, 26 for May, 37 for June, 22 during July, and 34 by August. By mid-1919, 174 ships had been placed into service, even as the government now began to consider selling off the fleet piecemeal. In September a record 145 ships, steel, wood, and composite, totaling 788,053 deadweight tons, were delivered, the majority of which, however, were steel. By late 1919 deliveries dropped sharply, falling to one or two a month in early 1920, and ceasing entirely by July of that year.[82]

The return of military personnel from Europe, the European relief program, and development of foreign trade routes by the United States in 1919 re-intensified national shipping needs. By early 1919 at least 26 wooden and composite ships were engaged in European commerce. Activity in Caribbean and South American waters increased, but at a slower rate. During the summer and fall of 1919, 167 wooden and composite ships traveled to and from Europe, and forty-nine carried cargoes along the East Coast. Shipping to all regions decreased dramatically in 1920 except for a slight rise in Caribbean traffic. Wooden and composite ships, despite criticism about them, continued to conduct more business with European and East Coast ports than others before the dark days of the massive "1920 tie-up." Indeed, optimism over the future of the American merchant marine was still sufficient enough to warrant the USSB to designate six wooden steamships for use in training merchant marine crews to be fitted out as cargo-carrying training cruisers. By March 1919, three of the vessels, the *Utoka*, *Alabat*, and *Brookdale*, had been

officially assigned to training stations. *Utoka*, a Ferris type ship, built by the Gilchrist Yard at Thomaston, Maine, was 281.5 feet in length, 46 feet abeam, and 23 foot depth in hold, and was to be fitted out at Portland, Maine with accommodations for 300 apprentices, and then assigned to the Atlantic Training Station at Boston, where *Alabat* was already being fitted. *Brookdale*, a Grays Harbor (or Ward) type, built at Aberdeen, Washington, was assigned to the Seattle Training Station. Unfortunately, optimism — and the training programs — was to be short lived. [83]

In March 1920 the last USSB steamships were launched, the *Boynton* and *Wonahbe*. The decline in world commerce and consequent depression in shipbuilding during the early 1920s resulted in a vast withdrawal of both wooden and steel vessels from active service. Technological advances further diminished the utility of the wartime fleet, both wood and steel, as oil burners succeeded coal burners, turbine and turboelectric drives replaced reciprocating engines, and the internal combustion engine supplanted steam. Sales prices plummeted from 1918-1919 levels; wooden steamships, which sold for $650,000 in 1919, brought only $100,000 in 1921.[84]

In 1920 the EFC was obliged to simply tie up many of the steel and most of the wooden ships in the 3,000 to 5,000 deadweight class. By early 1921 more than 400 steel and 264 wooden steamers were inactive in ports around the country. In 1920-1921, Rear Admiral William S. Benton, USSB Chairman, removed the majority of these vessels and moored them in the James about 35 miles northwest of Hampton Roads off Claremont, Virginia, and at City Point, Virginia, in order to curtail maintenance expenses. [85]

There now seemed to be no option left for the vessels other than auctioning off the fleet. The move to dispose of the wooden steamship fleet formally began on April 15,1920 when a special committee appointed by Admiral Benson, and chaired by Eugene Meyer, Jr., managing director of the War Finance Corporation, convened to make recommendations as to prices, terms, and conditions for the sale of the ships owned or still being constructed by the USSB. Then, on December 27, 1920 the USSB moved to dispose of nearly 300 wooden and composite ships totaling 994,235 deadweight tons. They were barely being kept afloat, pumped out by two tugs and an army of men at a cost of $50,000 a month. Efforts to sell off the fleet piecemeal came to naught. In 1920 only four vessels were sold to United States and foreign buyers. In 1921 only 22 more were sold. [86]

In the fall of 1922 the EFC offered the fleet for sale as a unit "as is and where is." Only four bids were submitted, the highest being $12 per deadweight ton. Not surprisingly, the government refused to accept the bid. A second call went out for bids. This time the high bid was $430,000 for the entire fleet. Congress protested that the bid was far too low, and the offer was rejected. Finally, in September 1922 a third bid was solicited and accepted. The fleet had been sold. [87]

USSB Steamship Movement to the Potomac River and the Western Marine Salvage Ship Reduction Program (1922-1932)

During its life, the United States Shipping Board (USSB) Emergency Fleet Corporation had completed 296 wooden and 26 composite steamships through the termination of the building program; 283 of the former and all of the latter actually carried cargoes. Assigned primarily to supplement basic United States sea commerce, they had transported a wide variety of commodities. Coal and lumber headed the list, while others included sugar, grain, fruit, hides, and fertilizers. The EFC sold a combined 293, lost 27, and transferred two of them to the Navy Department. A total of 293 ships were sold, 16 of which were to foreign buyers, and 43 to various firms and individuals in the United States. The greatest number 234 (also reported as 233), totaling 855,931 deadweight tons (or 614,713 gross tons), were sold for $862,000 to one George D. Perry and his silent partner, William F. Humphreys, who then transferred ownership of the fleet to what would briefly become the largest wooden shipbreaking firm in the United States, the Western Marine and Salvage Company (WM&SC) of Alexandria, Virginia, with headquarters in Portland, Oregon. [88] The largest portion of that fleet, 218 vessels, which was at temporary "primary anchorage" in the James River, near City Point, Virginia, was destined to eventually come to rest in the Potomac River on the muddy floor of Mallow's Bay, Maryland, and off Widewater, Virginia (see Photos 001, 002, and 003).

WM&SC, "with the consent of the War Department," was then allocated a "secondary temporary anchorage" for dismantling the hulls at Widewater, Virginia, on the Potomac River, a site that would be approved once the company assumed ownership of the ships and posted a $7,000 bond for every vessel moved to the new anchorage. From the Widewater anchorage it was planned the vessels would be moved, two at a time, to the shipyard of the Alexandria Shipbuilding Corporation (ASC) for reduction of all great metal components of each ship for scrap, and then back to the anchorage for further reduction. The ASC plant, located on the southern end of the city, had been erected in 40 days at the beginning of the war, and was then being leased to the Trent Amalgam Company. Following negotiations between the leasee and J. N. Barde, General Manager of WM&SC, an agreement was reached about October 11, 1922.[89]

Established well off the main shipping channel, it was believed that the initial fleet anchorage off Widewater would pose only a minimal hazard to navigation. Moreover, its rural location would generate few objections from local residents as the shoreline was but sparsely inhabited. Yet, the anchorage area was a location of some historic note, and of some commercial consequence to the Potomac fisheries industry, as WM&SC would soon discover. From well before 1862 to at least the 1880s, Maryland and Virginia had been served by a ferry running from Sandy Point to Widewater, linking the town of Clifton, Virginia with Southern Maryland. The waters off

Widewater were considered to be among the most bountiful commercial fishing areas of the entire Potomac, and had, for two centuries, yielded herring, shad, rockfish, and sturgeon. Indeed, by the 1880s the sturgeon industry was being serviced by a railroad terminal at Widewater, from which point Philadelphia-built fishing vessels were off loaded, and fish were transshipped. Sport fishing was also a rewarding pastime for many who took the trouble to travel to Widewater. Among those who did so was President Grover Cleveland who had made it one of his favorite retreats. In 1903 Professor Samuel Pierpont Langley, working under a War Department contract, had made history at Widewater when he flew his model of a "heavier-than-air plane" 3,000 feet in 90 seconds from the roof of his "houseboat laboratory."[90]

By October 1922, the first vessels destined for dismantling operations at Alexandria, the ships *Mojave* and *Alanthus*, had arrived at the old Virginia Shipbuilding Corporation wharf. Both vessels were well known. *Alanthus* had gained international fame for playing a key role in the rescue of the crew of the United States submarine *S-5*, sunk off Cape Henlopen, Delaware in September 1920. Unlike her sister ship, *Mojave* gained fame as a veritable "hoodoo" ship, robbed in Spain, and followed by misfortune thereafter throughout her short career.[91]

Much was expected from the dismantling and salvage process. From the fleet, which laid bow to stern would have formed a line 12 miles long, it was estimated that between 150,000 to 200,000 tons of scrap iron and steel would be recovered, along with 5,000 tons of brass and copper, 12,000,000 feet of cable wire, 2,500 miles of piping, 162 Ferris type 1,400 horsepower engines, 64 turbine engines, 226 brass condensers, 452 water tube boilers, 2,260 steam pumps, 9,000 tons of water tanks, 5,000 drill presses, anvils, etc., 1,800 steam winches, 600 tons of rope, 12,000 steam and air gauges, and 5,500 tons of anchor chain, and stored in rented warehouses at the shipyard. The hulls of the ships would be reconditioned and sold for $2,500 to $5,000 as barges. It was expected that as many as 2,500 workmen would be required to conduct the salvage managed by 75 supervisors. It was expected the work would take three years at a monthly expenditure of $80,000 per month. However, no more than 300 men would be engaged by the end of November, 1922.[92]

The project, however, suffered from an immediate setback when a fire, started in the engine room of *Alanthus* by a dropped cigarette, broke out and engulfed both vessels. Although the conflagration was later termed "one of the most stubborn Alexandria fire fighters have battled," the two ships were ultimately saved, pumped out, then stripped of their machinery, and towed down the river to Widewater to await final disposal.[93] On November 7, the next consignment of ships, *Anoka* and *Brentwood*, arrived under tow from the James River by the tug *Diligent.* Within two weeks two more, *Hoosac* and *Oyaka* would arrive to await reduction. [94]

By February 19, 1923, the dismantling operations were well underway, and by April 17 no fewer than 26 ships had been brought up to Alexandria. "Work of scrapping the government's 'wooden navy" reported the *Alexandria Gazette*, "is now being pushed at the plant here at the rate of about two ships each week." The process became routine. The hulls were systematically stripped of metal, engines, boilers, and valuable superstructure materials, usable timbers, and other fixtures valued at over $10,000 per ship. With the government netting little more than $3,300 per vessel, the company's potential profits were estimated at over $1,600,000.[95]

At 8:00 a.m., April 18, a report was received by Captain E.G. Huefe, Fire Marshal at the United States Marine Barracks post fire department, Quantico, Virginia, that a number of ships were afire at the WM&SC fleet anchorage off Widewater. Huefe and six marines armed with axes and accompanied by a photographer from the First Aviation Group, secured a motor boat and proceeded to the site of the conflagration. The fire proved to be directly in the midst of the WM&SC anchorage where they discovered at least ten ships at anchor, three of which were burning furiously, and a fourth just catching fire. Huefe and his men boarded one of the burning ships, and discovered that the entire fleet had been left to the care of a pair of watchmen (one of which he later claimed was simply a fisherman). The ships had all been lashed together in a group by steel cables, and the two watchmen were desperately engaged in attempting to unlash one of the burning vessels to prevent the fire from spreading to the remainder of the fleet. Unable to cut the heavy cables that had bound the ships together, their feeble efforts would have been doomed to failure without the timely arrival of the marines.[96]

Quickly Huefe, the coxswain of the motorboat, and another marine, all armed with axes, climbed aboard one of the burning ships and joined in the attack on the cables bonding the two center vessels together. After an hour's hard work, the cables were finally severed, just as the USS *Owl*, a former minesweeper that had been converted to a tug, arrived on the scene and successfully breasted the burning vessels away from the unburned ships. This feat having been accomplished, the Navy ship quickly passed fire hoses onboard Huefe's burning ship. The tug then proceeded to pump water into the ship from five of its own hoses, while playing additional streams of water upon two other burning vessels as well. Huefe would later report that the "prime factor in saving any of them was the arrival of the Navy tug."[97]

At about 10:30 a.m., agents of the WM&SC from Alexandria arrived on the scene by land, escorted by a Major Manney, Chief of Staff at Quantico, and one Lieutenant Geotage. Geotage and the agents had soon transferred to a small motor launch commanded by a gunnery sergeant named Thruman and sailed in amidst the fleet. They discovered that four ships were now completely ablaze. Quickly the party joined Huefe in his fight aboard one of the ships. Then, about noon, the fire tug *Diligent* from Alexandria also arrived and began to render assistance in getting water on the burning vessel, albeit with considerable difficulty as several fire hose lines

quickly burst when pressure was applied. Huefe later noted that "the only dependable stream they [*Diligent*] had was from the stand pipe on top of the pilot house."[98]

Soon the battle was being observed from above as a Navy DH-4 seaplane circled to record the disaster on film. By midday, believing the fire to be checked and the situation well in hand, Huefe and his men departed for Quantico, leaving the two tugs to bring the remainder of the conflagration under control. Unfortunately, the fire was far from over. Aided by the government tug *Shenandoah*, which arrived on the scene after Huefe's departure, the fight continued until 4:00 a.m., April 19, when the blaze finally be totally subdued and drowned.[99]

Reports by H.E. Whitaker, General Manager for the WM&SC at Alexandria, and Major E.W. Fales, U.S. Army Infantry Liaison Officer at Quantico, had soon reached the District Engineer's office in Washington, and they were anything but good. Five of the ten hulls at the Widewater anchorage, the ships *Okiya*, *Catawba*, *Aberdeen*, *Quidnic*, and *Gray Eagle*, had been burned to the water's edge, sunk, and finally come to rest partly heeled over on the bottom. The ship *Wasco* was scuttled in place to prevent destruction. Four more would follow, bringing the total to ten. Fortunately for the WM&SC, the ships had been sunk in the same general location in which they had been anchored before the fire, and none had floated into the main shipping channel. Indeed, although the vessels had sunk in the approximate middle of the river, they were still a half-mile away from the deepwater channel.[100]

An investigation by the WM&SC revealed that the fire had been caused by the explosion of a kerosene cook stove which had been accidentally overturned by one of the watchmen while preparing his breakfast, and that the use of the fire extinguisher at hand had proved entirely "insufficient to check the flame."[101] Despite it all, Whitaker found the event a mixed blessing by noting that, in any event, five of the hulls had been "saved by the splendid work of the government boats." But more important, no one had been injured.[102]

Sometime between April 19 and April 28, yet another disaster befell the WM&SC when a heavy gale started one (or possibly several) of the burnt hulks near Brent's Point and set it adrift. Whitaker reported the problem to Tyler by telephone and then set off to obtain a tug to return the hulk, or hulks, to the anchorage area and re-moor them securely. Tyler was deeply concerned over the recent events and informed the company "that unless immediate steps are taken to remedy the condition, I will recommend that legal action be taken" against WM&SC. The threat was serious because without a War Department permit, the right to the anchorage, which had only been approved on a *pro tem* basis, could be removed at any time until the department finally issued a standing permit.[103]

Nevertheless, on May 24, 1923 Major General Lansing H. Beach, Chief of Engineers, U.S. Army, recommended to the Secretary of War that WM&SC's application for anchoring at least another 200 ships at Widewater be accepted. He suggested that the privilege be supported by stringent regulations to insure that no menace to navigation on the Potomac be produced, or that the United States be exposed to any expense. He further recommended that the rules and regulations be adopted under the articles of Section 7 of the Rivers and Harbors Act of March 4, 1915, and submitted a review draft of the proposed regulations to the Office of the Secretary of War.[104]

The War Department acted promptly. Rules and regulations "solely applicable to this [Widewater] anchorage" were developed. Principal among these were: (1) all ships being brought into the Potomac were to be anchored together in groups of five; (2) all ships were to be provided with fire protection equipment; (3) a watchman was to be assigned to every unit of five vessels brought into the anchorage; (4) a tugboat was to be permanently assigned by WM&SC to the anchorage at all times; and (5) all expenses incurred in the dismantling, and board and lodging of government inspectors assigned to monitor company activities in the anchorage ground and the Alexandria dismantling operation be paid by the company. The logistical and management concerns were well founded for by mid-June 1923 it was predicted that a total of 215 vessels would soon be anchored off Widewater, a figure that would eventually be topped off in several months at 218 ships. By this time, however, it had become apparent that few if any of the hulls could be readily disposed of by sale for reconditioning as barge hulls. The hulls, it was determined would have to be disposed of by other means. Reduction by fire seemed the most direct manner of disposal.[105]

On June 8 the Chief of Engineers sent a draft of newly developed rules and regulations to WM&SC for comment. The company quickly complained that the new restrictions were "so burdensome that it would be ruinous to the company if it were forced throughout the entire period of operation to comply." Appeals for more lenient regulations were quickly dispatched to the Assistant Secretary of War and to influential members of the U.S. Congress, over the head of the Chief of Engineers, by the well-connected company executives.[106] On June 19, H.E. Whitaker submitted to the District Office of Engineers a modified plan for the anchoring of the fleet. He proposed placing the ships in single units with a minimum of 100 feet spacing between each, rather than in multiples of five lashed together, with the bow of each facing upstream "and properly anchored with a single bower anchor" in shallow water. The seacocks on each ship would then be opened to permit just enough water through the hull to sink the vessel and firmly hold it on the bottom to prevent movement by wind and tide. In so doing, he suggested, practically all obstruction to navigation would be removed as the ships would be out of the channel area and close to shore. Should a fire occur onboard any vessel, only that portion above the waterline would be burned and would not materially influence the cost of pumping it out and

removing it from the anchorage ground to some predetermined burning park nearby for final disposal. Thus, the requirement for watchmen, fire equipment, and an ever-present tug would be removed. Indeed, the cost of reclaiming a burned hull in this manner "would be very materially less" than that of a ship "as usually anchored so that the bond called for could be reduced to a small fraction of that required." Undoubtedly aware of the lobbying efforts of WM&SC at the highest levels of government, Whitaker also accompanied his plan with a polite request that the Office of Engineers issue a new set of rules and regulations, presumably to be modeled after his own suggestions.[107] On July 26, 1923 the government established, along with new rules and regulation, new metes and bounds for the Widewater Anchorage Grounds:

> THE ANCHORAGE GROUNDS (All azimuths refer to the true meridian)
> Under authority of the provisions of Section 7 of the River and Harbor Act approved March 4, 1915. . . . the following anchorage ground for vessels in the Potomac River off Widewater; Virginia, is hereby defined and established, and the following rules and regulations relating thereto are adopted.
> The area is a rectangle measuring 4,670 yards along its north and south or up and down stream sides which have bearings of 1740 measures 1,000 yards across its ends which have bearings 840. All four corners are marked by white spar anchorage buoys. The north-eastern corner of the area marked "A" on the map herewith is a point where Liverpool Point Wharf bears 67° and is 2,500 yards distant and where Smith Point Light bears 148°. The northeastern corner of the area marked "B" on the map is a point where Smith Point Light bears 840 and is 2,300 yards distant and where Liverpool Wharf bears 18°.
>
> THE RULES AND REGULATIONS
> 1. The District Engineer of the Engineer Department at Large, in charge of the locality, is hereby authorized to issue permits to anchor vessels which are not in condition to be navigated under their own power, in the anchorage area hereby defined and established, in accordance with these regulations and such additional conditions, to be specified in the permit, as in his opinion the maritime and commercial interests of the United States may require; and such vessels may be anchored in said anchorage area only in accordance with such a permit previously obtained. Such permits will not be granted until the applicant has furnished satisfactory surety bond or bonds in the amount of $35,000 for each five vessels or less, guaranteeing compliance with these rules and regulations and the conditions of the permit; the disposition of the vessels to the satisfaction of the said District Engineer so that it will not become a menace to navigation; and the reimbursement of all expenses which may have to be incurred by the United States in connections with the removal and disposition of the vessels. Each such bond shall be available for the removal of any and all of the vessels covered thereby and shall specifically identify the vessel or vessels by name. The substitution of new vessels for those which may be removed from time to time shall only be done upon

prior approval of the District Engineer and with the written consent of the surety. These permits will be valid only for such period not exceeding three years as the said District Engineer may specify therein, and may be revoked at any time.
2. The vessels which are not in condition to be navigated under their own power shall be placed in the anchorage area singly in the upstream and downstream position with the bow pointing upstream and anchored by one anchor of not less than 4,000 pounds weight with 1718" stud link chain controlled from the bow end of the vessel by a windlass in good working order Sea cocks and such other openings through the hull of each vessel shall be provided as the said District Engineer may require and shall be equipped and set as he may direct. When the vessel is properly anchored the said sea cocks and openings shall be opened and the hull allowed to fill until it rests firmly upon the river bottom. The said sea cocks and openings shall then remain open for the free ebb and flow of the tide until the vessel if finally removed from the anchorage ground.
3. At least one vessel at the upstream end and one vessel at the downstream end of the anchorage ground, shall be equipped with adequate fog signals, and have a man on watch at all times for the purpose of tending signals, lights, patrolling the sunken vessels and keeping off unauthorized persons.
4. All vessels shall be placed in the anchorage ground with a view to maintaining an orderly and uniform arrangement, working out from some central point. Open lanes not less than 70 yards should be left around each vessel.
5. All vessels shall bear the expense of any inspections or other operations by the United States which the said District Engineer may deem necessary to insure compliance with these regulations and the terms of the permit, including the salaries and board and lodging of an inspector or inspectors required at the anchorage ground and at the plant of any party preparing dismantled vessels for anchorage in said anchorage ground and shall whenever directed by the said District Engineer deposit with him such sum or sums of money as he may require as necessary to meet these expenses.
6. Nothing in these rules and regulations, nor in the permit to be issued by the District Engineer, shall be construed as relieving the owner or person in charge of any vessel from the penalties of the law for obstructing navigation or for constructing or interfering with range lights, or for not complying with the navigation laws in regards to lights, fog signals, or for otherwise violating law.[108]

On August 22, WM&SC submitted an application for a permit to anchor the first 60 in the designated anchorage area. In September, it was decided that a test be conducted on one of the five vessels that had been burned and sunk in April (although years later, it was reported that the number had been seven). The ships were to be raised and hauled close to shore, burned again, stripped of all loose metal (primarily fittings and bracings), then hauled upon the nearby beach

and burned once again. The scheme was submitted to the District Engineer for approval, and on September 6 a permit was issued for the experiment to proceed.

On September 21, the first disposal test was carried out in Brent's Marsh to establish ship reduction procedures. The sacrificial vessel, the *Aberdeen*, was raised, placed with its bow about 100 feet from the edge of Brent's Marsh in five to six feet of water, with its stern sticking out channelward approximately 200 feet and in eight feet of water. Once the burning was completed, a derrick boat commenced removing an estimated 200 tons of scrap metal consisting of strapping, bolts, and the like. With this weight removed, the vessel was pulled further up on the beach and again set afire for the last time. "If deemed necessary," the Army engineer who reported on the test later wrote, "the beached hull will be filled with dredge or other material to securely anchor the hull and prevent its getting back into deep water." It was later reported, however, that the second fire had been absolutely effective and that the hull had been "completely disposed of."[109]

The test was deemed a success, and it had been completed none too soon. By mid-October it was being reported that a total of 218 vessels were ready, or would soon be ready, to anchor at Widewater. On October 3, based upon the successful destruction of *Aberdeen*, a second permit was granted to the company to dispose of an additional ten hulls (which included those burned in the April fire) along Brent's Marsh "to fully ascertain the problems in the burning and beaching" process on a large scale, preparatory to contemplated mass disposal operations. It was anticipated that the hulls would be placed side by side no more than fifty feet apart, as close to the beach as possible, burned, and hauled upon the beach as far ashore as possible. After the second burning they would be filled with dredge spoil or other materials at the discretion of the District Engineer.[110]

A week later the second hull, that of the *Gray Eagle*, was raised, burned, beached, and burned again. The destruction of the third hull, the *Blythedale*, proved less than successful. The ship sank while afloat and afire, and the tests were temporarily called off.[111] But now, even more significant problems were threatening. Although the company had taken precautions to address the possibility of protests by local inhabitants, little note had been made regarding those who earned their livelihoods by working the waters at Widewater, and the bounty of the Potomac for their incomes. On October 5, 1923, Secretary of Commerce Herbert Hoover received a letter dated September 29, 1923, from Fredericksburg attorney Alvin T. Embrey. Embrey had been employed by a body of concerned Potomac River fishermen to represent them and to officially protest the activities of the WM&SC which, they claimed, were impacting their abilities to conduct their work. Duplicates of the letter had also been sent to the Secretary of the Interior, and the Secretary of the Navy. McDonald Lee, Virginia Commissioner of Fisheries, was also

contacted and requested to intervene on behalf of the fishermen. The letters to the various cabinet members and officials were succinct and to the point:

> Dear Mr. Secretary:
>
> On behalf of numerous fishermen along the Potomac River; on both the Maryland and Virginia shores . . . I desire to file a protest against the practice of some salvage company which has purchased a number of wooden hull boats from the Government and make their anchorage in about sixteen feet of water in the Potomac River between Quantico and Arkendale, that is the point opposite the United States Marine Post and the mouth of Aquia creek.
>
> It seems that this salvage company takes these boats to Alexandria for dismantling the machinery and then returns the hulls to this anchoring ground and then sets them afire. This 'flat 'on which these boats are anchored is the best fishing ground for gill nets for shad and herring on the Potomac River between its mouth and Washington.
>
> When these boats are burned large portions of the hull, with nails and bolts in them, fall off and as soon as they strike the water the fire is put out and they sink. The hulls burn to the water's edge and sink, and . . . their propellers and ribs inside are often on them and these sink. This has a double effect; first the wreckage catches the nets and cause them to be cut to pieces; second - the charred wood, being otherwise clean water on the fishing ground, has a tendency to drive away the fish.
>
> In addition to this, the presence of these hulls on this flat is a menace to navigation endangering the sailing vessels that cross these flats coming from the mouth of Aquia Creek and going up to Stone Landing and Coal Landing.

Other complaints and demands for removal of the fleet and stoppage of the burning followed.[112] On December 5, 1923 a modification of the rules and regulations was submitted by District Engineer O'Connor specifically "to better serve the fishing industry."[113] The second major effort to reduce ship hulls began in April 1924 when WM&SC purchased a 566-acre tract surrounding Mallows Bay, in which reduction operations could be conducted without hazard to fisheries operations or to navigation, and in relative seclusion. To facilitate these efforts, four great marine railways were erected at Sandy Point, where the vessels were hauled out, and burned near the beach in five to eight feet of water. Two wharves were planned for construction at Sandy Point to provide logistical assistance for transshipment of scrap removed from the hulls. However, only a single wharf was constructed, but was condemned by Army Engineers for failing to meet specifications and for being built without benefit of a federal permit. The Sandy Point shipbreaking effort proved as unproductive as the Brent's Marsh episode, as only five vessels were pulled out, burned, and covered by dredge spoil inland or adjacent to the shore by April 1925.

WM&SC continued, albeit slowly, to burn hulls down off Widewater. On July 3, 1925 the ships *Colona*, *Saris*, and *Wonatabe* were released, meaning that they had been burned down. Then, on July 24, after more than a year's delay, the company was finally granted a permit by the War Department to move the hulls by lot across the Potomac at the end of the company's three year anchorage permit at Widewater, and "to ground, burn and beach in Mallow's Bay, Potomac River, about two hundred hulls" (see Photo 004). The provisions for the permit were significant in that a new methodology had been specified to protect the river from the recurrent problems of hulls periodically floating away and creating navigational hazards. Noted in paragraph 18 of the permit, it was stated:

> When all hulls which it is intended to permanently ground in Mallows Bay have been placed in the grounding area [in the bay], the hulls on the riverside shall be filled with dredge material and a bank of dredged material thrown up against their riverward sides and in the gaps between the hulls.[114]

The permit for anchorage at Widewater, which would expire on December 31, 1928, was equally significant in that it was the first time that the name Mallows, instead of Marlow's, was employed to define the geographic area of the bay. As the completion of salvage operation at Alexandria had long since passed, disputes erupted between the government and WM&SC over the company's financial capabilities and bond moneys required to insure the final disposal of many scores of ship hulls at Widewater. Prompted by government action and potential fines, on November 7, 1925 WM&SC workers bound together a total of 31 ships with a great steel cable, and prepared for the greatest ship conflagration to that date in American history. Oil soaked waste was spread around the decks of the line of ships in Mallows Bay to insure that the fire would take hold. At 5 a.m., just before sunup, with federal representatives, inspectors, salvors, and the press hovering about in a squadron of tugs and motorboats, and a lone plane circling overhead, the coup de grace was administered. On a given signal, ten men raced about the flotilla touching lit torches to the oil soaked materials. "As the torch was applied," noted one observer from the *Washington Post*, "a horde of squealing rats plunged into the water." From upriver at the Quantico Marine Barracks, which had not been forewarned of the event, the flames appeared "like the red ball of the sun rising in the east." The U.S. Marines were alarmed, and believing that a disaster was underway down the river, instantly turned out to fight the fire, only to be turned back after discovering the actual nature of the conflagration.[115]

The utilization of Mallows Bay as both an anchorage and burning ground was not without impact upon the local fishing industry. Although documentary evidence is slight, it would appear that some correlation between the demise of the Monroe sturgeon fishing operations and caviar processing plant at Liverpool Point in 1926, the final beaching of the remaining vessels of the Monroe sturgeon fishing fleet, *Black Bottom*, *W.S. Child*, and *Edythe*, and the sudden occupation

of the entire reach of Mallows Bay by the wooden Emergency Fleet hulls was probably not coincidental.[116]

Despite the enormous success of the November conflagration, progress at Widewater was slow as was the removal of hulls into Mallows Bay. On July 13, 1926, four more vessels, *Afrania*, *Bushong*, *Bushrod*, and *Dertona*, were released from bond. Indeed, progress at reducing the hull population appeared to have been so slow that it would not be until the summer of 1927 that bonds for replacements were warranted. On June 23, 1927 a bond was produced for anchoring the ship *Quemahoning* at the Widewater anchorage, and a permit issued on July11. On August 2 a bond was produced for the *Calala*, *Amoron*, and *Balliett*, for which a permit was authorized on August 13. On August 6, *Bon Secour*, *Cabura*, and *Horado* (the longest USSB steamship at 298.6 feet as well as having the largest gross tonnage at 3,354 tons and largest net tonnage at 2,033) were released.[117]

Company efforts accelerated in 1928. On March 17, the ships *Ahala*, *Angelina*, *Arado*, *Brompton*, *Forster*, *Fort Sill*, *Kokomo*, *Latoka*, and *Moosabee* were released. On June 15 fifteen more vessels followed: *Aiken*, *Bell Brook*, *Bobring*, *Boilston*, *Braeburn*, *Bromela*, *Cheron*, *Coconino*, *Flavel*, *Grayling*, *Itanca*, *Laforge*, *Musketo*, *Neeolah*, and the venerable *North Bend.* On October 12, twenty-eight vessels were released: *Aculdo*, *Adway*, *Alabat*, *Alpaco*, *Aspenhill*, *Bancroft*, *Bayou Teche*, *Blue Eagle*, *Bologan*, *Bonifay*, *Clodia*, *Conewago*, *Coulter, Datis*, *Dungeness*, *Fort Riley*, *Fort Stevens*, *Kanakee*, *Katonah*, *Kimta*, *Moraine*, *Munra (*one of the two smallest USSB steamships constructed at 266.6 feet), *Panga*, *Quinault*, *Wayuoan*, and *Wenakee*. Four days before Christmas, on December 21, an additional eleven ships were released: *Abbeville*, *Ardenia*, *Astoria*, *Barrington*, *Boone*, *Boxley*, *Capine*, *Fernandian*, *Mahnet*, *Owatama*, and *Toka*.[118] Releases would continue into 1929 (see Photo 005). On April 27, another eighteen vessels would be released after burning and their charred hulls hauled into Mallows Bay, like all those that had gone before. These were: *Alcis*, *Andra*, *Arundel*, *Baladan*, *Banica*, *Battahatchee*, *Bockonoff*, *Dalgada*, *Darrah*, *Eyota*, *Hoosac*, *Kickapoo*, *Marshfield*, *Tuwetanka*, *Wakan*, *Wihaha*, and *Woyaca*.[119]

On August 1, 1929 a written permit was issued by the District Engineer for WM&SC to anchor 25 more vessels at the Widewater Anchorage Grounds, in addition to those covered by other bonds, or to replace those which had been removed. On August 9 the company fielded sureties in the penal sum of $175,000 covering the 25 ships. These vessels were: *Makanda*, *Catawba*, *Bloomington*, *Wasco*, *Chibiabos*, *Quidnic*, *Okiya*, *Blythedale*, *Nemassa*, *Bulana*, *Sewickley*, *Barabos*, *Alapaha*, *Fonduco*, *Anthera, Baxley*, *Esopus*, *Casmalia*, *Buhisan*, *Yawah*, *Deva*, *Mahaska*, *Waneyanda*, *Nashotah*, and *Falmouth*. (Of these, it might be recalled, *Wasco*, *Okiya*, *Catawb*a, and *Quidnic*, were already among those scuttled or burned to the water's edge in the fire of April 18, 1923 and still lay on the bottom).[120]

By mid-summer 1930, at least four of the above mentioned vessels, *Chibiabos*, *Bloomington*, *Mahasaka*, and *Deva* had been removed from the anchorage grounds at Widewater, hauled to the Maryland shore, burned, and then totally destroyed. In accordance with the conditions of the bond, (namely that the principal, WM&SC, would, from time to time, remove certain vessels from the anchorage and substitute new vessels for those removed, under the conditions of the August 1, 1929 permit which served to cover such removals and substitutions once notification had been submitted in writing), the company sought to replace them with *Quemahoning*, *Calala*, *Balliett*, and *Amoron*.[121]

On August 11, 1929 the Army Corps of Engineers conducted a comprehensive survey and mapping of the Mallows Bay anchorage, from Sandy Point to Liverpool Point, identifying 152 Emergency Fleet vessels by name and a corresponding identity number, their positions, dates of release, landmark features, property boundaries, netting lines, grounding areas, U.S.C. & G. Monument Site, light and range stations, geological features, soundings, and even two non-related schooner wreck sites.[122]

On July 23, 1930, Fleishhacker and Tyson formally notified the District Engineer of the replacements. (*Bloomington* was officially released on January 7, 1930, "as it has been pulled to a position as required by the permit.") By August 1930 the *Bonnafon* and *Bellota*, which had been, along with *Wahkiakum*, *Acrema*, and *Asotin*, filed under bond covered by sureties on November 27, 1929, were released and replaced by the *Alta* and *Caloch*, a move which was approved on September 4, 1930.[123] By August 28, 1930, the *Bagosa*, which had been moved from the anchorage grounds along with *Oraton*, *Dancey*, and *Guilford* under permit issued October 23, 1929, was removed. She was replaced by *Yakima*, a move approved on September 19, 1930. At the same time, a request was made that *Waneyanda*, which had been released by this time, be replaced by *Congaree*, a vessel previously named in a permit dated September 3, 1927 and bonded September 17, 1927. Approval was granted on September 19, 1930.[124]

On September 15, 1930, WM&SC requested that two vessels, *Cresap* and *Kangi*, be added to eight vessels, *Bedminster*, *Berea*, *Aowa*, *Alanthus* (which had been damaged during the fire at Alexandria in October 1922), *Kasota*, *Swampscott*, *Mono*, and *Alfalkey*, for which a penal sum amounting to $70,000 had been posted under a bond dated April 19, 1930. The two vessels had been previously named in a permit dated September 3, 1927 and bond dated September 17, 1927. Consent was given on October 4, 1930.[125]

Another permit was granted to WM&SC by the War Department on January 3, 1931 wherein it was recited that application had been made "for authority to extend the area in Mallow's Bay, Potomac River, now used for grounding, burning and beaching wooden hulls, two hundred feet

channelward." The permit further stated "that if the structures or work herein authorized is not completed on or before [date not filled in] day of December 31, 1931, this permit, if not previously or specifically extended, shall cease and be null and void." Yet, company operations, now notably hindered by the decline in the market price of scrap metal and the general economic malaise triggered by the onset of the Great Depression, were diminishing in production. By March 1931, "when to all appearances," the company finally "abandoned the project, leaving a watchman in charge of the personal property at Sandy Point farm and to keep anybody from removing any of the equipment on the beach," where it would remain until August 1932.[126]

The company's operations, declared WM&SC executives, had been completed. A total of 169 ships had been brought into Mallows Bay to end their days, and the company declared its mission at an end, although, the job was actually far from finished. "All of the hulls," reported Humphrey in June 1931, "have been burned and beached within the allotted area of Mallows Bay described in the permits issued by the District Engineer covering the burning and beaching of the hulls." The District Engineer did not agree with WM&SC's declaration that they had met all of the criteria necessary for the release of all bonds and thus refused to release them.[127]

As in the past, the company appealed to higher authority. Although he was no longer officially an officer of WM&SC, William F. Humphrey attempted to use his connections at the highest levels of the U.S. Army in behalf of the company. On June 17, 1931, he met in Washington with Major General Douglas MacArthur, Commander of the United States Army, and briefly informed him that "the District Engineer refuses to recommend the release of the bonds filed by the company" until WM&SC raised and moved the four sunken hulls accidentally lost in April 1923, and, in accordance with the permit issued on July 24, 1925, built a levee "around the hulls grounded in the area set apart for that purpose [in Mallows Bay]" to prevent them from floating free and posing hazards to navigation. The company stockholders, of course, requested relief since hundreds of thousands of dollars had been tied up in the bonds. After briefly sketching the story of WM&SC's salvage operations on the wooden fleet, and the difficult position the District Engineer's demands had put the company in, Humphrey departed for Chicago with a promise to brief the general more thoroughly by letter.[128]

As a consequence of the communications between Humphrey and MacArthur, a special field investigation of Mallows Bay and the Widewater Anchorage Grounds was conducted by the Office of Engineers, which confirmed the District Engineer's view that four vessels sunk at Widewater constituted "a dangerous hazard to navigation, the continuance of which cannot be permitted." In a letter to Humphrey, dated July 1, 1931, Major General Lytle Brown, Chief of Engineers, informed the attorney that while the four wrecks were not near the deep water channel, "they are in the open river area of ample depth for most of the vessels navigating the

river, and may, at any time, lead to a marine disaster with loss of life."[129] As for the issue of the levee, the general was willing to bend, or at least relinquish judgment to a higher authority.

> While the vessels grounded in Mallows Bay constitute a decidedly objectionable local condition, it may be questionable that the interests of local navigation make it essential that these wrecks be enclosed within a levee, and I suggest that you make formal application to the Secretary of War for relief from the requirement of this condition of your permit.[130]

Humphrey proposed that the War Department remove the hulls and that WM&SC contribute $10,000 to the expenses.[131] Yet, owing to increased expenses, plummeting profit, and the onset of the Great Depression the company had already abandoned work on the hulks. At Mallows Bay the company had ceased all work by June, although the permit would not expire until December. Yet, in the vacuum created by WM&SC's cessation of activity, the wrecks now quickly became the target for scores of local entrepreneurs, mostly unemployed men who began to pick over the beached hulks for whatever scrap metal they could remove and sell. Their endeavors were soon being conducted on a remarkably large scale. In July, when a party of Sea Scouts, on a cruise of the Potomac, entered the bay, the scout leader, Fred Tilp, recorded in his journal:

> About 20 boats here are loading scrap iron being removed from the burned wooden ships ashore. Thousands of snowy white egrets nest in these old hulks. In a small bight on the south shore we find a bugeye being painted for use as a scrap-metal carrier to Washington.[132]

By December 31, 1931, when the permit for work in the bay expired, it was not renewed. On January 2, 1932 WM&SC was officially notified "that this part of the stipulated work [the levee construction] was not considered necessary for the protection of navigation and they were relieved of the requirements of paragraph 18 of the permit." Moreover, the issue of the company's responsibility for the removal of four ships sunk at Widewater was now conveniently overlooked. On January 20, 1932, the Office of Engineers, U.S. Army, filed its final report stating that "all work required under the permit as granted and modified" had been completed.[133]

On November 20, 1932 WM&SC conveyed by deed of sale the Sandy Point Farm tract to the Potomac Realty Company, Limited, a San Francisco based corporation (whose offices and officers were the same as WM&SC), leaving the latter the job of removing the company machinery and equipment left behind at Sandy Point Farm, most of which was eventually sold to the Boston Iron and Metals Company.[134] In December 1932 WM&SC was officially dissolved.

Almost as soon as WM&SC ceased operations at Mallows Bay, later court testimony revealed, "the public and the residents in the neighborhood began the removal of metal from the burned and sunken hulls without interference [even] while the watchman was there." Indeed, it was then, "when, to all appearances, the wrecking business of the Western [Marine and Salvage] Company was at an end, that the people living in the neighborhood took this view they there saw and began to gather the junk remaining in the burned, submerged hulks, and sold it to junk dealers in and around Washington." [135]

Some would later claim that when WM&SC abandoned operations, "they told the residents that any material left on these abandoned hulks could be salvaged if they so desired." Soon, between 50 and 75 residents of Charles County had become actively engaged in picking over the hulls for marketable scrap metal. Local salvors, such as Preston Dent, who owned a barge, began to work the wrecks even though the price of scrap was now so low that "it was barely worth getting." For Dent, who made at least two documented trips to Washington with barge loads of seventy to eight-five tons of scrap each, which he sold for $6 a ton, the profit, considering the labor involved, was marginal. But for many others, unemployed as a result of the depression, the scrap provided at least a subsistence income.[136]

Within a short time an unorganized system evolved at Mallows Bay involving labor, middlemen, haulers, and sellers. Lorenzo D. Crouse was one typical entrepreneur. By September 1932 Crouse, who had worked for WM&SC the previous year, began his own salvage operation removing lead, brass, copper, and scrap iron. Like most, he recovered and sold small lots of scrap, usually marketing the material to a middle-man named Sinclair, in parcels of 30 tons each. Sinclair, who bought scrap from scores of salvors like Crouse, in turn sold the combined lots to one Harry Steinbraker. Although some individuals sold directly to Steinbraker, it appears that this system was not unlike that employed in the fisheries and oystering industry.[137]

In mid-1934, with increased Japanese interests in American scrap metal beginning to drive prices up again, scrap salvors and dealers at Mallows Bay began to contend for control over the wrecks. One of the first to observe the market conditions and the possibilities for increased profit from the burned, gutted, and submerged hulls lying in Mallows Bay was Steinbraker. Yet, he was not alone in his assessments. In early July 1934, one Irwin Bowie, a resident of the nearby town of Ironsides, in Charles County, sought the assistance of a La Plata, Maryland attorney named J. Read Bailey to determine whether the wrecks "at Sandy Point, in the Western Section of this County, are still the property of the Navy or War department." Bowie noted that some parties unknown had acquired the property adjacent to the abandoned hulks and had refused to give permission for anyone to board them. Undoubtedly one of the many small salvors who had been working the wrecks, Bowie was determined to find out if the hulls still belonged to the government or some private individual or concern. Bailey, in turn, queried Congressman Stephen

W. Gambrill for assistance in resolving the question. Gambrill turned the query over to the Office of Engineers.[138]

On July 16, 1934, Acting Chief of Engineers, Brigadier General G. B. Pillsbury, replied to Gambrill's query with a brief resume of the work of WM&SC based upon the War Department's files. "Completion of the work under the permit was reported on May 23, 1932. The War Department has no interest in the boats in question and their present ownership is not known to this office." The attention that the general gave to the query was, perhaps, indicative of his interest in providing an answer. If the former owner had relinquished its rights to the property, Pillsbury suggested, Bowie should contact the Attorney General of Virginia "regarding the ownership of such abandoned property under the laws of that state." That the hulls lay in the Potomac River, within yards of the Maryland shoreline, and were clearly in Maryland waters seems to have passed right over his head.[139]

Maneuvering for control over the wrecks, however, intensified. As the price of scrap continued to climb, Steinbraker was the first to move aggressively. Tracing the current owners of Sandy Point Farm through land transfer records in La Plata Court House, he "called the Potomac Realty Company on the West Coast on telephone" to secure salvage rights to the wrecks. The call resulted in the stockholders of the WM&SC, by agreement dated December 1, 1934, assigning, releasing, and quitclaiming unto the Potomac Realty Company, Limited (mainly themselves), all the "right, title or interest which they or any of them may have in and to all lead, copper, brass and/or other metals of whatsoever kind and nature located in or around each of the 169 vessels or hulls ...situated in Mallow's Bay, near Sandy Point, Maryland." By agreement made on December 3, 1934, nearly two years after the transfer of the Sandy Point tract to the Potomac Realty Company, Limited by deed of assignment to Steinbraker, recorded in Charles County, the company transferred

> . . . all the right, title, and interest of the said the Potomac Realty Company, Ltd., in and to all lead, copper; brass and other metal of whatever nature owned by it, or to which it has title in and around the hundred and sixty-nine (169) vessels, which said vessels were formerly owned by the Western Marine & Salvage Company, the said vessels being located in Mallow's Bay, near Sandy Point, in Charles County.[140]

The same metals were assigned "as is, where is, if is, without any warranty of title whatsoever or otherwise." The price to be paid was two dollars per ton f.o.b. railroad cars, with a deposit of $500 to be applied on the last payments due the purchaser. A bond of $10,000 was guaranteed non-interference with navigation.[141]

Steinbraker moved quickly to secure his holdings, and soon "a large number of workers" were "steadily engaged" in removing metals from the hulls. To recover large quantities of metal from this remote setting required a considerable manpower base, which was to be readily had in the depressed economy of Southern Maryland, as well as adequate support and living space for the workers. In June 1934 a derelict four-masted schooner, the *Ida S. Dow*, was permanently moored on the southwest edge of the basin to serve as a dormitory for workers and "for officials of the salvage firm," presumably those employed by Steinbraker. (According to a popular story published by historian Fred Tilp, the ship would later serve as a temporary residence for prostitutes who provided their services to salvagers. Tilp noted that the vices of salvors were indeed well served during the Prohibition era when no less than 26 whiskey stills were reported aboard the hulks in the bay. In fact, he reported, as late as 1976, Treasury agents raided a whiskey still on one abandoned steamer in the bay.) The author of this report, however, has found no evidence to substantiate such claims).[142]

The *Ida S. Dow* possessed a short and tragic career. Built in 1918 at Thomaston, Maine by the Atlantic Coast Company, the merchant schooner, at 225 feet in length, and 1,411 tons, was one of the last four-masters to be constructed. On November 30, 1931, she had been severely damaged in a collision with the German steamship *Hermen Frasch*, and had to be towed stern first into Hampton Roads, Virginia. The big schooner was thereafter hulked at Newport News and drawn up to await the wreckers. In the spring of 1934, however, she was granted a new lease on life when she was acquired by salvors, presumably Steinbraker, towed up the Chesapeake, and anchored in Mallows Bay.[143]

Steinbraker's legal efforts notwithstanding, the Mallows Bay hulks continued to be the subject of salvage by numerous county residents acting in their own behalf, all of who conducted their work openly and without permission from him. Steinbraker moved to halt the depredations of what he now construed to be his property. On December 22, 1934, he filed a bill of complaint against one of the salvors, Lorenzo D. Crouse, in the Circuit Court of Charles County, Maryland, charging that Crouse, "his agents, servants and employees, disregarding the interests of "the plaintiff' in and to the lead, copper, brass and other materials contained in said vessels . . . have entered upon and seized said vessels and are at present engaged in shipping and selling such metals to parties unknown" to the plaintiff. As a result of "such depredations" the "value and interest" of Steinbraker's "holding in said vessels and metal is being permanently injured." The bill prayed for an injunction and an order was passed to that effect. Then the case was appealed and again heard in court. The court was quick to observe that although Crouse was the only person named as a defendant, "this suit is really directed against numerous residents of Charles County, variously estimated by witnesses at from fifty to seventy-five, who had been engaged in the same business, on the same wreckage, as the defendant."[144] After citing several precedents regarding abandonments, lost and found properties the court further observed:

> These wrecked hulls were not located on the properly of the Western Marine and Salvage Company; they were in navigable waters, occupied by permission of the War Department, which expressly stated that the permit was subject to any other rights of the State or its citizens, public or personal. The vessels were located on land belonging to the State, to which the Federal Government disclaimed any intention of asserting title. The interest of that Government extends only to control of the water over the land, not to the soil.[145]

The "Wild-cat" Period (1932- 1942)

In the end, on January 15, 1936 the court ruled that the Mallows Bay wrecks were open to salvage by anyone.[146] Now, as the local salvage operations on the hulls in Mallows Bay continued unabated, large numbers of unemployed workers descended upon the little embayment in an effort to strip out a living (see Photo 006). Domestic living facilities, however, were Spartan. By September 1, 1936, the *Ida S. Dow* had become unsuitable for service as a dormitory ship (or perhaps was being denied to the scores of independent salvors by Steinbraker), but was incapable of being towed away. She was therefore hauled several hundred yards to the southern line of the hull containment area, filled with mud, left to sink in place, and abandoned. According to Tilp, the legion of wreckers, who were now working on the hulks or beach combing the shoreline for scrap, began taking up residence in five "Potomac Arks," inexpensive houseboats, easily constructed, and occasionally mounted on pilings, which provided convenient and cheap lodging.[147]

Salvors fortunate enough to have vessels began to work upon the more easily accessible hulks, principally those located along the outer line of wrecks nearest the edge of the Potomac channel. Occasionally, dynamite was employed to help break up ships to loosen banding straps, drift pins and bolts. The work on the outer line was carried out owing to easy access as most of the wrecks were tightly clustered together and defied approach by watercraft (and still do). Concentration on the removal of metal from these wrecks soon began to produce a most unexpected byproduct. As the metal was removed, the ships became lighter, more buoyant, and inclined to float. Yet, as late as October 4, 1935, when the Army Corps of Engineers conducted one of their periodic inspections, all had appeared in order in Mallows Bay. On the Virginia shore it was another matter.[148]

During this period, and for the first time, the lightening of ships by the removal of tons of iron fittings began to cause some grounded hulls to refloat and drift away. It is also during this period that barges, flats and other vessels are first recorded as operating in the embayment, and in

moving salvaged scrap to Washington and Baltimore. In July 1932, it was reported that as many as a score of boats were in the embayment at one time loading scrap, and in Liverpool Creek a small bugeye was being outfitted specifically for scrap hauling. Many of these same boats and barges would themselves eventually be abandoned in Mallows Bay.

On several occasions, the hulls beached at Brent's Marsh had been reported to be moving. "Two or three times," reported Major W.D. Luplow, the District Engineer, "they have been found to have drifted various distances up to several miles out into the ship channel." But the moves were usually addressed right away. On February 8, 1937, one hull drifted from Brent's Marsh and was found fifteen miles downstream in the ship channel. It was, fortunately, recovered before causing any damage to navigation and returned to its former resting place. Then, on April 26, during an abnormally high tide, two vessels moved out of Mallows Bay. One of the ships was quickly relocated by the District Engineer near Maryland Point. The other had been blown ashore in the mouth of Chopawamsic Creek. The vessel in the channel near Maryland Point was dragged to shoal water on the Virginia shore near old Chatterton's Landing and temporarily secured. The hull at Chopawamsic, however, had grounded itself so firmly that it could not be moved "with ordinary methods."[149]

In an effort to rectify the situation, Major Luplow submitted to the Chief of Engineers, on May 8, 1937, a request for allotment and authority to dredge at Mallows Bay and to use the spoil to erect a dike such as called for in the permit issued to WM&SC in 1925. The dike would be erected over each of the riverward hulls in the bay, thereby anchoring them and adequately confining the interior vessels. Some seven isolated hulls along the Virginia shoreline should, he recommended, also be filled with dredge material in order to prevent further movement from that quarter. He estimated that to return the hulls at Chopawamsic and Chatterton's Landing to their former positions in Mallows Bay and to construct levees by depositing dredge spoil over the wrecks would cost $9,500. "It is considered, in view of the work," he wrote, "that this can be done most expeditiously and economically with Government plant and hired labor."[150]

Another inspection was called for. On May 19 Inspector G.D. Rittenhouse personally investigated the condition of the hulls beached in Mallows Bay, at Brent's Marsh, and off the Quantico Flying School in Chopawamsic Creek. The inspector readily observed that all of the hulls on the outside line at Mallows Bay had been "fairly well cleaned of scrap iron and are much lighter than at the inspection of October 4, 1935." Two of the hulls had moved from the area and several others had shifted their positions in the bay.[151]

In Mallows Bay it was noted, the situation was becoming serious (see Photos 006 and 007). Hull No. 117 (*Yakima*) had moved about thirty feet channelward. An unnumbered hull lying between hulls No. 34 (*Casmalia*) and No. 157 (another post-August 29, 1929 addition) had moved out of

position and was discovered lying on a north-south axis, but had been made fast to another unidentified hull upstream of No. 157 by a 3/4-inch cable. Yet salvage was continuing on many of the hulls despite the hazards. Indeed, during his visit the inspector had observed from fifteen to thirty men gathering iron which, for the most part, was being sold to one A.M. Scott, a buyer for a dealer named Jake Levin of 1310 11th Street, S.E., Washington, D.C. Part of it, however, was being bought directly by one G.H. Morgan, "who lives on the Wilson property near Mallows."[152]

During his inspection, it was noted that the salvors were using dynamite and that several charges had been set off on hull No. 125 (*Congaree*), which lay in the second line of ships in the bay. Observing the lightened condition of the outer line, the inspector had asked "to keep the men from salvaging from the outside line of hulls" and "intimated that if this was not done all salvaging in the area would be discontinued by this office." "The conditions at Mallows Bay," the inspector wrote in his final report of findings,

> . . . are considered dangerous and a distinct menace to navigation on the Potomac River The main ship channel at this point is approximately, 1,000 feet from the hulls and in the event of high water and high tides, such as experienced the latter part of April, very little time would be consumed by a hull floating out of the Bay into the channel. Recent observation proves that the hulls now have the necessary buoyancy to break loose on high water and it is possible that this contingency should be remedied as soon as possible. I believe the most permanent and least costly method of securing the hulls is to put several hundred yards of mud in each of the outside hulls, about 35 in number. This would cover the remaining scrap iron and effectively stop salvage in these hulls.[153]

Even as the engineers reviewed the serious nature of the threat to navigation by the wrecks, on May 26, 1937 three hulls were reported floating out of the grounding area, one of which was definitely obstructing navigation, and the other two menacing the shipping lanes. Fortunately, an Army Engineers "plant" was scheduled in the area for a week. The local engineer, one Bullock, quickly recommended the hulls be returned to Mallows Bay, and that the dike, using fill earth in and between the outer ring of hulls, mentioned so many times in the past, be built. It was simply the most economical procedure possible. A total of $4,600 was officially requested for placing errant hulks back in Mallows Bay and preventing future escapes from the embayment. It was then recommended that the proposed allotment be approved to remove the main hazard to navigation by "construction of a dike over and between the outer row of these hulks and that this office be authorized to perform the work with Government plant and hired labor." The project

proved to be but a temporary expedient for, although sand and gravel were piled upon and between the ships, many were soon washed clean by the Potomac waters and Tidewater weather. In the meantime, on February 26, 1941 the Anglo-California Bank of San Francisco sold a non-waterfront section of the Sandy Point Farm to Hugh and Grace Murdock. On March 6 the remainder of the tract, that which embraced the waterfront of Mallows Bay, was sold to Walter R. and Blanche Wilson.[154]

The Bethlehem Steel Corporation Ship Reduction Program (1942- 1945)

On September 1, 1939 Germany invaded Poland and the United States began its steep slide towards war. The price of scrap metal again skyrocketed, and the Mallows Bay hulks once more became of considerable importance when, on June 28, 1940, the Metals Reserve Company (MRC) was established by the federal government to organize and manage the stockpiling of strategic metals. Then, on December 7, 1941, Japan attacked the United States Pacific Fleet at Pearl Harbor, Hawaii, guaranteeing America's participation in World War II. Within months of America's entry into the conflict, the War Production Board (WPB), which was formed to coordinate national production for the war effort, engaged in a nationwide salvage effort to recover scrap metal. On July 16, 1942 the WPB's special Salvage Program Office forwarded to the MRC a project directive regarding the recovery of strategic metals from the Mallows Bay fleet. On October 10, 1942 Mallows Bay again appears as a special project of consideration on a list of the same produced by the Salvage Section of the MRC. The hulls, it was then estimated, were capable of yielding as much as 20,000 tons of scrap.[155]

Within two weeks, a U.S. government-sponsored project to salvage the scrap lying buried in the hulls of over an estimated 100 ships lying in Mallows Bay was launched. On October 19, 1942 the WPB instructed the MRC to initiate the project. Anticipating the WPB's directive, the MRC had apparently already begun negotiations sometime earlier with the Bethlehem Steel Company "with reference to the recovery of the said metals." The negotiations resulted in the forming of a contract providing that the MRC would take steps "as it may deem necessary to acquire title and that Bethlehem will do all things that are necessary to recover the maximum amount of metals from the vessels in the water and also in the vicinity thereof." Upon allocation by the WPB, Bethlehem was to transport the metal to its plant at Sparrows Point, Maryland. The MPC would then sell the recovered metals to Bethlehem Steel at Office of Price Administration (OPA) prices. In turn, the MPC would reimburse Bethlehem for the price of the work. Settlement would be effected upon completion of the work with the provision that "if the amount of the metal recovered is in excess of the cost of the work Bethlehem will remit such excess to the Metals Reserve. While, on the other hand, if the cost of the work is in excess of the price of the metal recovered, Metals Reserve will reimburse Bethlehem for such amount."[156]

On October 21, 1942 G.W. Nichols, Vice President of the MRC, recommended that the Board of Directors authorize the acceptance of the proposed contract "heretofore executed on behalf of Bethlehem Steel Company." The contract (MR C-1 SSP- 167 and MR DC SSP- 167) was duly authorized and forwarded to the company (albeit with amendments).[157] Bethlehem moved quickly. The property surrounding Mallows Bay, which had belonged to the Wilson family had been sold on December 31, 1942 to Frank O. and Mildred Morgan, and the steel company's first action, presumably, would have been to lease the waterfront areas from the new owners.[158] Then the company's efforts focused upon the construction of a pair of cofferdams and locks, or gates, at the outlet of Mallows Creek. Two earthen coffer dams were eventually constructed, one at the outlet of the creek, and a second several hundred yards upstream. The outer cofferdam was reinforced with concrete and steel and could be closed off by gates. The inner coffer wall was bulkheaded with timber, but it is uncertain whether a gate had been erected capable of sealing it off or not. On the outer gate berm a small pump house was erected, and surrounding the facility, several small houses, storage sheds, and the like were also built. Dredging within the newly created basin, and on the approach to it, to create a straight-line channel into the basin, was also deemed necessary to facilitate salvage.

The methodology of the salvage work is only presumptive, based upon the surviving remnants of the facility and the vessel remains therein. It appears, however, that the modus operandi was to float one or several of the hulls into the newly created basin, close the gate, pump the basin dry, or nearly so, and burn the hulls down in a controlled environment, remove the metals, open the gates and re-flood the basin to begin the cycle anew. The project appears to have met with difficulties early on. Sometime in the first half of May 1943, during construction, a costly breakthrough of one of the dams occurred, which made additional expenditures necessary for repairs and a revision of the building design. Engineers from the MRC felt that a portion of the mishap was due to "the lack of attention by Bethlehem in supervising the engineering details of the construction."[159]

By December 31, 1943, Bethlehem's agreement "to do all things necessary to recover the maximum amount of metal from certain vessels requisitioned at the request of the War Production Board" had cost the company $360,000, but had yielded "a very small recovery of metal." Within two months company expenditures on the project had become substantial enough for Bethlehem to request that it be reimbursed in the amount of $200,000 as partial payment.[160] On March 10 MRC Assistant Vice President H.W. Cornell, Jr., reported that Bethlehem had finally agreed to bear the expenditures incurred despite the fact that they were receiving no compensation. In view of the company's large expenditures, he recommended that, pending the completion of an audit, the MRC settle with Bethlehem to January 1, 1944. The Board of Directors readily approved. Not until May 1944, however, had an agreement been reached regarding the costs incurred by the dam breakthrough. An arbitrary figure agreed upon by both

Bethlehem and the MRC was placed at $15,000.[161] Despite the difficulties, Bethlehem persisted in its operations. In May 1944 the MRC requested that the company salvage the hulk of the *Bodkin*, ex-U.S.S. *Nokomis*, under an amendment to the existing contract. The company was instructed to move the ship to Mallows Bay but to remove only that metal that could be re-melted.[162]

Bodkin had been built by Pusey and Jones, of Wilmington, Delaware and launched in May 1914 as the yacht *Nokomis II*. She had been purchased by the War Shipping Administration from Horace E. Dodge, of Detroit, Michigan on June 1, 1917 and renamed Burke. Taken into service by the U.S. Navy, she was again renamed *Nokomis* on November 19, 1917, and commissioned at Philadelphia on December 3, 1917 as a submarine chaser (SP-609). *Nokomis* was a fast, powerful, and sleek vessel. Her main engines had been steam triple expansion built by the Wood River Iron Works. Her main boilers were a pair of Babcock & Wilcox watertube type. She possessed a shaft horsepower of 2,000, which drove her twin propellers, and produced a maximum speed of 16 knots. *Nokomis* had a displacement of 1,265 tons, and was 243 feet in length, 31 feet 10 inches abeam, and 12 feet 10 inches draft. She was a composite steamer of steel construction but with wood planking, two decks, and traverse framing. Armed with four 3-inch guns, she was manned by 191 officers and crew. Fitted out at Philadelphia, she had sailed on her first mission to Bermuda with a French submarine chaser in tow. She departed Bermuda for Brest, France on January 8, 1918, stopping en route at the Azores and Lexicoes, Portugal. Operating with the U.S. Patrol Squadron for the remainder of WWI, she helped protect American troop transports approaching the coast of France. Terminating this duty in 1919, *Nokomis* returned to the United States in August. Reclassified *PY-6* in 1920, the yacht decommissioned at New York on February 25, 1921. Although outfitted as a tender for the Naval Governor of Santo Domingo in July 1921, she did not assume this duty, but conducted surveys in Mexican and Caribbean waters under direction of the Hydrographic Office. Returning to Norfolk on September 24, 1934, *Nokomis* again decommissioned on February 15, 1938 and was struck from the Navy Register on May 25, 1938. Renamed *Bodkin* on June 1, 1943, she was loaned to the Coast Guard (then operating as part of the U.S. Navy) but her condition at the time was termed very poor. Nevertheless, she underwent conversion work at the Coast Guard Yard at Curtis Creek, Maryland for service as a submarine chaser, and was to have been assigned to EASTSEAFRON and stationed at New York, NY. After more than $150,000 in conversion costs, however, work was suspended due to the decline in German submarine activity on the East Coast. *Bodkin* would never see service again. She was scrapped at Mallows Bay for on June 22, 1944. Bethlehem agreed to carry out the final ship breaking operation on the bay (see Photos 008 and 009).[163]

By the fall of 1944 the market for scrap metal had slowed markedly, and the government no longer saw the necessity of subsidizing the movement of iron and steel scrap. Thus, on

September 22, 1944, Cornell recommended that all work under the contract between the MRC and Bethlehem Steel Company "be terminated as expeditiously as possible, except the work on the hull SS '*Bodkin*'." The recommendation was immediately approved.[164] By November 6, 1944 the dismantling of Bethlehem's Mallows Bay facility was well underway and capital equipment was already being moved to Sparrows Point, Maryland. Much, however, was left behind. A steam hoist with a 40-horsepower boiler, for instance, originally acquired for $1,000 specifically for the project, which had been mounted on a scow owned by the McClean Contracting Company (one of Bethlehem's subcontractors), was now valued at barely $250 if dismantled and moved. McClean offered $600 cash for the hoist if it remained attached to the scow. Bethlehem, with the MRC's approval, accepted with the provision that the money be credited to the proceeds from such sales to the project.[165]

On November lithe MRC authorized Bethlehem to dispose of all items which had cost $500 or less without further approval from the MRC. All items costing over $500 would require prior consent before being sold. All disposals would be in accordance with regulations of the War Production Board. Any additional expenditure necessary to close the project would have to be submitted to the MRC. The appraisal and estimation of the sale value of the equipment was placed at $9,087 and the estimated sale value given as $6,605. Two bids were received for equipment "as is, where is": the first was submitted by the McClean Construction Company with a bid of $4,750; the second and successful bid, was submitted by the Boston Iron and Metal Company of $7,200.[166]

Post Bethlehem Operations at Mallows Bay (1946-)

The period following World War II was marked by substantial alterations in the terrestrial landscape, the migration or intentional movement of numerous USSB hulks in and about the embayment, and the utilization of the grounding area and Burning Basin as dumping grounds for numerous abandoned vessels of many types and periods. At least one hull that had migrated from the main grounding area was eventually towed to Sandy Point and abandoned sometime between 1943 and 1952, and remains there to the present. Two more unidentified vessels drifted from the embayment and were returned to locales in the southwest frontier but outside of the grounding area. Efforts to prevent movement may be found at several sites which are attached to the shore or other vessels by steel cables. Many of the USSB hulks, filled with sediments to prevent movement, rapidly evolved into "flower pot" wrecks, with their own unique and developing mini-ecosystems (see Photo 010). The exposed areas of nine USSB vessels in Mallows Bay that had been hauled up on or near the shore and to a lesser extent as many as a score of vessels in other sectors of the embayment, were covered by lush vegetation. Through accretion, the unidentified hulk at Sandy Point was partially covered by soils from the shoreline and detritus from the river.

In the years that followed the termination of the Bethlehem operations at Mallows Bay, several unsuccessful and controversial efforts were launched to remove the hulks lying with and adjacent to its waters (see Photo 011). Study followed study. On July 2, 1970, after one such effort at securing permission to remove the hulks, quietly promoted by Potomac Electric Power Company to provide barge access to the shore requisite for building a nuclear power plant at nearby Douglas Point, the Secretary of the Maryland Department of Natural Resources wrote to the U.S. House of Representative Public Work's Committee on Government Operations that the removal of the hulls would serve no public interest and that the State of Maryland had no plans to contribute the "local interest" matching funds required by Section 116 of the 1968 River and Harbor Act.[167]

For the first time, the issue of the ecological status of Mallows Bay was brought to center stage. The official committee report, published in 1970, painted a vivid picture of the bay at that time.

> The hulks have been filled with gravel and pilings have been driven around the periphery of Mallows Bay to keep them from floating out into the navigation channel. Nevertheless, from time to time in heavy storms several of them have floated loose. Others seem to have sunk without trace. The Corps of Engineers has identified 99 hulks as still being aground in Mallows Bay, one near Sandy Point, 9 across the river at Wide Water; which is south of Quantico, Virginia, and one on the Virginia shore opposite Maryland Point. Many of the old hulks are now overgrown with bushes. Seen from the air some of the hulks look like huge flowerpots. Only the outlines are visible. Over the years, trees have taken root in the earth inside the hulls, and these strange islands are not at all unattractive. Herons and egrets make their homes there. The American bald eagle nests in the area. The adjacent part of the estuary is spawning ground for striped bass. Until recently Mallows Bay was a great place for fishing, and will be again if the sewage pollution originating at Washington and its suburbs is ever cleaned up.[168]

Testimony in support of the uniqueness of the mini-ecosystem in Mallows Bay and the impact the removal of the hulks might have upon it was to have a significant impact in the committee's decisions. Mrs. Hal Margargle, Environmental Chairman of the League of Women Voters of Charles County, and Chairman of the Conservation Committee of the Audubon Naturalist Society of the Central Atlantic States, testified before the committee: "The burned-out remains of the World War I troop ships now in the bay have been there for so long - nearly half a century - that it is inconceivable that they are not an integral part of the ecosystem."[169] Although by an enactment of the U.S. Congress [Section 116, River and Harbors Act of 1968] the hulks were to

have been moved from Mallows Bay, environmental considerations, political scandal, and funding problems prohibited the removal program.

In 1970, during hearings in Congress, the USSB population on the Potomac was reported at 99 vessels in Mallows Bay, one at Sandy Point, and ten near Widewater. No address was made to the vessel opposite Maryland Point, or at old Chatterton's Landing. A disparity between the U.S. Army Corps of Engineers' estimate of 99 vessels for the 1970 USSB population in Mallows Bay and the 88 wooden vessels and one composite documented during the 1986-1994 Mallows Bay survey may be accounted for in only two ways. As no vessels were scrapped after the Bethlehem Steel Corporation regime, the vessels either drifted off or sank in place. Comparison of dispositions of Mallows Bay for the periods 1943 to 1998 indicate that a number of vessels appear to have been locked in by surrounding hulks and would have been unable to be towed out during salvage work by Bethlehem Steel, or floated free from the grounding area on their own owing to natural causes. Although it is conceivable that they may have been entirely reduced in place, it is not likely given the methodology employed by Bethlehem Steel. It is thus possible that these hulks have settled so deeply into the bottom that they are no longer discernible from the surface, or by non-intrusive investigation. Five of these vessels are determined to be WD *Bonfay, Neeolah, Fort Stevens, Astoria*, and *Boynton*. The remaining vessels may also include the *Saris*, *Colona*, *Laforge*, *Conewago*, *Bushong*, *Bushrod*, *Boilston*, *Wonahbe*, and *Fort Riley*. Although none of the latter could have been moved from the area, three of these are undoubtedly the same as several hulks that are still visible wrecks in the same sector but are as yet unidentified.

As the embayment continues to evolve, the derelicts do so as well, moving about, some sinking ever deeper into the muds that have anchored them. And nature's forces continue to be asserted. During Hurricane Isabelle in 2004 a number of vessels shifted position. One ship, *Benzonia* (18CH515), was virtually lifted from its resting place and laid back down again, its artifact-laden lower hull fully exposed, atop another steamship hull, *Caribou* (18CH531) and the hulk of a wooden salvage barge (18CH589). During a more recent storm, one of the USSB vessels lying off Widewater, possibly *Aberdeen*, was moved 500 yards downriver to a new resting place. Today an estimated 70 percent of the vessels that were visible in Mallows in 1998 now rest just below mean low water even as they are once more becoming subject to the stress of human action.

In 2001 Maryland launched a landmark program called GreenPrint, designated to save the most ecological and irreplaceable natural resources in the State. With $3 million committed by the State and $3 million in Federal funds, several tracts of land, including the Wilson Farm Tract at Mallows Bay, incorporating much of the land adjacent were purchased from PEPCO to prevent commercial gravel mining and urban development. These tracts were to be jointly administered

by the Maryland Department of Natural Resources and the U.S. Bureau of Land Management. Soon afterwards management of the tract was turned over to the stewardship of Charles County. In the summer of 2011, through the efforts of the local parks and recreation office, direct small boat access was opened to once remote Mallows Bay and to the scores of historic marine and terrestrial sites therein. Public visitation to the once nearly unapproachable sites is now increasing through promotion of the adjacent park, even as the wrecks themselves become tourist attractions.

USSB Steamship Movements and Vessel Population Growth

The record of USSB hulls and other vessels within the Mallows Bay study area is one of dynamic movement and migration. From the first usage of Mallows Bay and Sandy Point by the Western Marine and Salvage Company (WM&SC) in March 1925 to the present time, the ship remains in the primary study area have been subjected to both natural and human factors causing the almost ceaseless movement of many hulls within and beyond the embayment.

The record of movement is of paramount importance to the identification of the study area shipwreck population extant today. Documentation of the motions of individual vessels over time is attainable through a thorough examination of the archival, cartographic, photographic, and archeological record. The development of the profile of the sequential movement of hulls was carried out by the creation of site overlays of the Shomette survey data redrafted from U.S. Army Engineers site plans, U.S. Department of Agriculture aerial photographs, and other photographs produced between 1929 and 1998 (see Photos 005, 006, 007, 008, 009, and 011).

The most significant map is the 1929 Army Engineers chart, which identifies by name 154 USSB hulls at Mallows Bay and Sandy Point (see Photo 005). The 11 August 1929 Army Engineers map may be considered the "Rosetta Stone" of Mallows Bay since each USSB hull, shown in its grounding location and assigned an identification number by the U.S. War Department, was listed on the map by name and assigned number. All but two hulls are situated with their bows facing east. Two of the vessel population, *Obak* and *Botsford*, believed to have served as dormitory ships at Sandy Point, were the only vessels of the 154 USSB population not lying directly in the Mallows Bay grounding area. Two unidentified schooner wrecks, however, were also indicated, one on the south shore of Liverpool Cove, and the second lying squarely in the entrance to the cove. The geographic parameters of the grounding and burning area authorized by the War Department by permit dated 24 July 1925 and reissued 21 December 1928 are indicated on the map as are depth soundings, property boundaries (Western Marine and Salvage Company, Wilson, Wright, and Baker), four marine railways and miscellaneous buildings at Sandy Point. Range markers, and USCG monuments are also shown. All vessels and other

features are to scale, an important consideration in efforts to identify corresponding vessels by name and number from later aerial photographs.

Through an analysis of the vessel numbers indicated in the 1929 chart, and the rough linear tiers in which the hulls were assembled, it appears likely that the vessels were moved into the embayment in numerically sequential clusters, first into the lower embayment grounding area (Nos. 1-9), then into the upper central area (Nos. 18-28), and into the upper sector (Nos. 33-60), and finally into the lowest quadrant (Nos. 130-152). Smaller clusters and individual vessels were employed to occupy the gaps between until the embayment was entirely filled. As all of the vessels, having had their engines, boilers and propulsion systems removed at Alexandria, Virginia, were without a means of autonomous movement, they were undoubtedly hauled into the embayment by means of tugs and other vessels known to have been employed by WM&SC.

By 1929, four years after the first vessels had been hauled into Mallows Bay; most of the grounded vessels had already begun to migrate, actions which were undoubtedly precipitated, as in later years, by unusually high tides or storms which broke up the integrity of linear groupings. The arrangements of hulls side by side in the tightly packed bay generally facilitated the ready mobility of scrap salvors from one ship to another without the necessity of small boats, and promulgated a more efficient reduction of superstructures during episodic mass burnings. The most successful and dramatic such burning occurred on 7 November 1927 when 31 hulls, lined up side by side, were set afire as a single unit and efficiently burned to their waterlines by only ten men.

The numbered and clustered units and tiers, which are evident in the 1929 map, were subsequently altered by man and nature, and today retain only a vestigial resemblance of their original form. However, both the clustering and tier formats contributed appreciably to tracking the migration of most vessels as they moved about the embayment overtime, as well as the identification of hulls introduced later on into the general wreck population, drawn from both the cartographic and photographic record, show not only the positions, identities, and designated U.S. War Department numbers of vessels in Mallows Bay during five significant moments in time — 1929, 1936, 1943, 1952, and 1998 — but also the probable cluster units and tiers as they moved overtime.

Movement

The causal factors for the movement of vessels in the study area and beyond are both natural and man-made. The natural forces of wind and water, and the natural buoyancy of wooden hulls lightened by salvage operations, account for the movement of many wrecks. Despite regulatory directives issued by the War Department during the management regime of WM&SC, and the

employment of nets around ships being reduced (to prevent the drift of debris), it appears that efforts to stem the movements of wooden hulls from both the Widewater Anchorage and Mallows Bay, caused by storms and powerful tides, was often unsuccessful.

The most influential factor causing the movement of vessels was the current. Although the prevailing water flow was roughly parallel with the angle of the grounding area's western border, the embayment itself and the ships therein were sheltered from northerly and southerly winds by steep bluffs on all sides. The northern extremity of the embayment, however, was situated below a modest indentation in the shoreline below Sandy Point, and was thus subjected to a slightly greater current flow as the river passed by and was inducted into the declivity. This has caused significant erosion of the shoreline bluff at this point which served to contribute to an increase in current velocity. Not surprisingly, the most dynamic movement of hulls caused by water flow and weather was in this northwest extremity of the embayment.

The second most prominent naturally induced movement of vessels occurred along the westernmost line of vessels in the embayment. Vessels lying in this area were often imperfectly grounded, with bows wedged tightly into the bay bottom, but sterns only loosely wedged, owing to as much as a five foot slope of the bottom in less than 100 yards. In 1929, the stern of no fewer than 21 ships projected well near the western limits of the grounding and burning area, eight of which were dramatic projections near the edge of the main river channel and served to obstruct water flow. During the post-WM&SC period (1932-1942), when "wildcat" scrap salvors employed dynamite and other means to loosen metal from the hulks, a number of vessels on the outer perimeter were sufficiently lightened that they occasionally floated free from the bottom sediments in which their hulls had become lodged. Between 1929 and 1936, a total of four hulls are indicated to be absent from the original population. It is presumed the hulls drifted off or, less likely, were entirely reduced by scrap salvors. The ships *Obak* and *Botsford* cannot be accounted for, but may be among eight unidentified USSB hulls that appear to be newly arrived during this same period. Of these latter vessels, it is likely that some are unnumbered vessels brought up from the War Department USSB Emergency Fleet grounding area at Clarendon, Virginia, on the James River, the original mothball anchorage area for the fleet.

The third most prominent migration occurred in the embayment along the eastern tiers during the period 1952-1988 when at least eight hulls were driven onto or adjacent to the beach along the northern. It is not clear whether the cause of the movements of these eight hulls was natural or human induced. The impact of the stranding of one hull, which resulted in the termination of normal current flow through the northwest entrance to the embayment and the partial burial of the hull beneath a sandbar, may have altered the overall hydrology of the river along the western tier and in the embayment itself, with unpredictable consequences.

Several well documented incidents of movement of hulls from Mallows Bay and Widewater study areas are known. The first occurred on 8 February 1937 when a hull, one of seven which had been reduced at Brent's Marsh and sunk in the shoals in 1922 and 1923, was lifted by unusually high tides and drifted 15 miles downriver before being returned to the Brent's Marsh area. On 26 April 1937, two vessels left Mallows Bay on another unusually high tide. One of the vessels, discovered floating in the shipping channel off Maryland Point, was hauled onto a shoal on the Virginia shore, where it remains today. The second vessel was blown across the river, upstream, to a small channel cut below Chopawamsic Creek, Virginia, and could not be removed. From time to time, as evidenced by the appearance of unnamed USSB hulls, usually in the northwestern extremity of the embayment, vessels continued to move about or disappeared altogether, presumably having drifted off. Occasionally, they would be returned through government efforts, and deposited in places of convenience rather than in their former positions. Between 1947 and 1952 one hull, believed to have been the USSB hulk stranded at Chopawamsic in 1937, was deposited at Sandy Point and secured to the shore by steel cables attached to trees inland to prevent it from drifting away again.

Not all movement of hulls was natural. Managed movement of many vessels was a necessity during the various efforts to salvage scrap metal from the USSB fleet. The migration of most vessels during the WM&SC regime prior to 1929 cannot be documented from the extant record and is still problematical. It would appear that the movement of entire vessels, per se, by freelance scrap salvors prior to World War II, was most likely not undertaken, although the lightening of hulks by them caused several to drift away during high waters or in storms. Between 1943 and 1947, primarily as a result of the efforts of the Bethlehem Steel Corporation, from 56 to 59 vessels, and possibly more, were removed from the main Mallows Bay grounding area and presumably entirely reduced in the Burning Basin. To facilitate the movement of these vessels into the basin, several channels were dredged, between the basin entrance and the river.

Archival and archeological evidence of concerted and repeated efforts to prohibit the drifting of vessels from the earliest period of the WM&SC regime through the 1960s indicates the adoption of the following methods: (1) the stationing of personnel upon or near the fleet as monitors; (2) the erection of nets around areas specifically designated for the burning down of hulls; (3) the reinforced securing of maverick vessels to trees or to other more securely stabilized vessels by steel cable; (4) the filling of hulls with sands, gravel or sediments to weight them down in place; (5) the construction of a levee by filling the exposed western outermost tier of hulls and the spaces between them with soils to create a solid barrier at Mallows Bay; (6) the erection of a line of pilings around the entirety of Mallows Bay; (7) the removal of all hulls in Mallows Bay to another location.

Despite the abovementioned efforts, comparison of map data between 1929 and 1936 indicates that virtually all of the Mallows Bay USSB vessel population experienced some degree of movement. Despite such movements and reduction operations by scrap salvors, the total 1929 USSB population in the embayment had grown by 1936 to 158 vessels. Between 1936 and 1943, stabilization had occurred and the Bethlehem Steel Company began the removal of hulls. During the period 1943-1952 general stability of the vessel population is evident with old modest migration of vessels. During this period 48 identified and one unidentified vessels are no longer evident in Mallows Bay. Three unidentified USSB vessels appear elsewhere in the bay, while one more appears at Sandy Point, and another in Liverpool Cove. The extant USSB vessel population in 1952 included 86 identifiable vessels, and ten unidentified in Mallows Bay, one unidentified at Sandy Point, and one unidentified in Liverpool Cove. During the period 1952-1998 the majority of vessels in the embayment maintained their positions. The most significant movement, however, occurred as half a dozen vessels moved onto the beach, or almost parallel with it. A total of ten identifiable and two unidentified USSB vessels are no longer evident in the embayment (although as many as six may lie entirely submerged and undetected). The Sandy Point and Liverpool Cove USSB hulks remained in place.

On 11 August 1929 the identified grounded USSB vessel population in the Mallows Bay-Sandy Point-Widewater triangle totaled 161 USSB ships (152 at Mallows, two at Sandy Point, and seven off Brent's Marsh). On 1 January 1998, a total of 87 USSB vessels may be accounted for (66 identified, six probable identities, and 15 unidentified at Mallows, one unidentified at Sandy Point, one unidentified in Liverpool Cove, and one unidentified at Chatterton's Landing, Virginia). Seven wrecks off Brent's Marsh, are known by name but have yet to be individually identified. At least one possible buried hull at Sandy Point, briefly encountered in 1994 but not systematically verified as a vessel site, should be added as a potential land/marine site. And finally, the possibility of six more vessel sites lying entirely undetected in Mallows Bay must also be considered.

Vessel Population Growth

That vessels were lost or abandoned in the study area prior to the regime of WM&SC is apparent from both the archival and archeological record. That unidentified USSB vessels were admitted to the study area during the regime of WM&SC is also well evidenced. However, the physical record, enhanced by the photographic record, provides additional data regarding the admission of vessels specifically to the Sandy Point-Liverpool Point-Mallows Bay triangle from 1936 to the present.

During the work of WM&SC in Mallows Bay, from 1925 to 1931, and during the "Wild-cat" scrap operations from 1932 to 1942, a number of non-USSB vessels were abandoned or lost in

the main, study area. In 1926, the sturgeon fisheries operations of Morgan Monroe, based at Liverpool Point, were closed. Possibly as a result of the occupation of Mallows Bay by WM&SC, the company's small fishing fleet, comprised of the sturgeon fishing skiffs *Black Bottom*, *W.S. Child*, and *Edythe*, was abandoned in the area. Between 1929 and 1936 a large wooden industrial barge was abandoned in the northernmost sector of the embayment, presumably by either WM&SC or independent salvors. The four-masted schooner *Ida S. Dow*, which was anchored off the southern sector of the embayment by wildcat salvors in 1934 to serve as a dormitory for wreckers, was moved to an anchorage in its southernmost reach and was grounded and abandoned at a third, but nearby position, in late 1936 or early 1937.

By 1998, erosion of a shoreline revealed two barges, side by side that were probably were abandoned between 1937 and 1942. By June 1943, after the arrival of the Bethlehem Steel Company, four more barges are indicated in aerial photos. In 1944 two smallboat wrecks are indicated lying immediately to the north of an unidentified USSB hulk in Liverpool Cove but both small wrecks were no longer present by 1994 when archeological survey of the area failed to find any evidence of them. During this period, the ex-Navy patrol boat *Nokomis* was brought into Mallows Bay for scrapping, but its ultimate disposition is unknown. By June 1952, an additional four barge wrecks appeared in the Mallows Bay.

Between 1952 and 1998 many more vessels were introduced to the wreck population of the study area. A wooden barge, possibly removed from the northern end of Mallows Bay after June 1952, was in evidence at Sandy Point. A houseboat mounted on stilts and a wooden search and rescue vessel were abandoned near the approach to the Burning Basin gate. Between 1971 and 1979 the car ferry *Accomac* was abandoned near the main channel leading from the Potomac River to the Burning Basin. The menhaden fishing boat *Mermentau*, which had been serving as a floating private residence, was driven ashore in a storm upon Liverpool Point ca. 1982 [Reed Scott, p.c.]. This vessel was largely reduced to skeletal remains ca. 1996 by the Maryland Derelict Boat Removal Program. Inside the Burning Basin, a wooden barge, which may have been introduced prior to 1952, most likely during the latter days of the Bethlehem Steel operations, and two smallboat wrecks believed to be of historic or architectural importance also appear.

LANDSCAPE ALTERNATION

The various regimes of shipbreaking in and about Mallows Bay intentionally incorporated numerous alterations of the terrestrial and marine environment to further the goal of the wholesale reduction of the USSB fleet in the most profitable manner. As a consequence of these efforts, and the very act of grounding hundreds of great ships in the shallows of the embayment, the environment itself was notably modified. The alterations of the landscape, in many cases, are still evident in the archeological record. The impact of these changes and the presence of the ship

hulls continue to serve as a catalyst for the transformation of the local ecosystem. These mutations have been directly influenced by the presence of the fleet remains, and in turn have asserted a marked impact upon the maritime archeological resources themselves.

Prior to the admission of the USSB fleet, Mallows Bay served as a commercial fishing ground. Indeed, the two bases for the Monroe fisheries of the late 19th and early 20th century period were erected on the two extremities of the embayment, at Sandy Point and Liverpool Point. It was perhaps no coincidence that the arrival of the USSB fleet corresponded with the termination of the Monroe sturgeon fisheries and the closure of the Monroe caviar processing operations, and most certainly assured the end of the bay as a fishing ground. By the close of World War II, Mallows Bay had become an environmental disaster. The last stand of the Potomac snowy egret had been filled with the detritus of salvage, the spawning and feeding grounds of myriad species had been significantly altered, and the shipwreck population that remained occasionally posed as hazards to navigation. By the late 1960s, however, natural forces began to reassert themselves causing the embayment to transform again. These changes may be examined in the archeological record for each significant period of evolution from 1923 to the present.

By 1924, less than a year after WM&SC began to utilize Mallows Bay on a regular basis, the company established its initial reduction operations center on the Maryland side of the Potomac within the confined of an area authorized by the U.S. War Department. The first burning area was erected near the north end of the bay, along the western edge of the authorized reduction zone. A square section of waterway, 500 feet to a side, totaling 250,000 feet and in waters from 7.5 to 13 feet in depth, was designated as the burning area. A net was erected around the whole, when ships were burned down, to prevent the escape of any debris that might drift away during reduction. It is presumed that the square was cornered by pilings or stakes on which the nets were attached, although float nets may have also been employed. Eventually, a log boom was erected around the burning area [Beach to Moore, 10 June 1924, OCE]. The burning of hulls most certainly must have resulted in the first major deposition of miscellaneous debris upon the bay floor. Much of this debris still lies on and beneath the bottom.

At the outset of the work in Mallows Bay, it appears that vessels were removed from the Widewater Anchorage site individually or in small numbers to the new burning area for reduction. This process changed over time, and massed ship conflagrations, presumably preceded by mass groundings in the embayment, temporarily became the order of the day. The admission of 152 or more vessels into the shoals of the bay most certainly altered the marine environment. As all of the vessels were towed, and many dragged into extremely shoal waters, severe scarring of the bottom of the bay was a most certain byproduct. The densely packed ship hulls physically occupied perhaps as much as 85 percent of the bay, and crowded out life forms that had employed the area as habitats and for feeding and breeding. Debris collapsing from degenerating

hulls covered the bottom and most surface areas. Because many heavy metals, byproducts of mining operations in Western Maryland, like elsewhere in the Potomac, carried downriver by the river's waters, had settled on the bottom only to be covered by later sediments but prior to the arrival of the fleet, the scarring actions undoubtedly served to re-pollute the river.

A significant alteration of the terrestrial landscape related to the historic marine environment during the WM&SC regime was carried out at Sandy Point, where the company constructed four marine railways, a wharf, and several small structures. By 1924 the marine railways were reportedly in use: "The hulls are now hauled out on skidways at Sandy Point, Md., and burned on the beach in five to eight feet of water," reported one Army Engineer in May (Beach to Moore, 10 June 1924, OCE). Company equipment was also housed at Sandy Point, and may have been enclosed in fenced yards. The 1929 Army Engineers plan of Sandy Point indicate four marine railways had been erected, spaced apart at 30-foot intervals. Each railway was 250 feet in length, and 15 feet in width, and projected from the shore into the nearshore waters on a SSW angle. The actual construction specifications and materials used are unknown. If these dimensional specifications are correct, however, it would have been impossible to haul more than two vessels out at a time since the overhang on each side of the centerline of a railway to the intersect with the midway of the overhang of an adjacent railway would have been 22 feet 6 inches. The standard Ferris type steamship had a beam of 46.3 inches, which, when halved, would have been 7 feet 6 inches too wide on each side to permit another vessel of the same size being hauled onto the adjacent way. The marine railways failed to meet the expectations of WM&SC. By March 1925 it was reported that due "to inequalities of the bottom on which the skidways were placed and the inability to secure an even pull from the pulling units," the arrangement had proved a disappointment, and was soon abandoned. Only five hulls had been removed (O'Connor to Chief of Engineers, 8 May 1925, OCE; Bacon to Pistole, 1 October 1925, OCE).

Another alteration to the marine landscape was the levee concept designed to prevent ships from drifting from the grounding area. Although begun during the WM&SC regime, this undertaking was never carried to completion, and was, in fact, resurrected from time to time by the Army Corps of Engineers during the wildcat period. As part of its arrangement with the War Department, WM&SC had agreed ca. 1931, and probably earlier, to erect a levee around the entire grounding area to prevent hulks from drifting away, but failed to undertake the action. In 1937, the War Department explored a plan to dredge at Mallows Bay and to employ the spoil to erect a dike over each of the westernmost hulls in the bay, thereby anchoring them securely in place thereby confining the greatest number of vessels on the interior. Moreover, the seven hulls off Brent's Marsh were to also be filled with spoil to prevent their movement. The project was to be carried out by the hydraulic dredge boats *Talcott* and *Dalecarla* and the clam dredge boat *Atlas* (Shomette 1994: 92). A photograph of the *Ida S. Dow*, taken during this period, shows a barge laden with spoil alongside.

One of the most dramatic alterations of the terrestrial and marine landscape at Mallows Bay were undertaken during the Bethlehem Steel Corporation regime. Bethlehem entered into an agreement with the US. Government in late 1942 to remove an estimated 20,000 tons of metal believed to remain in the hulks. To undertake this effort, the company excavated a massive basin estimated to be 250 by 900 feet in size at the outlet of Marlow's Creek. The basin's south wall was constructed of earth and corrugated iron, and an entrance was built of concrete. The basin was to be used as an enclosure into which hulks could be brought and, after the gates were sealed and the water pumped out, burned down entirely. Sometime prior to 6 March 1943, a costly breakthrough of the protective walls of the basin occurred, handicapping reduction operations undertaken therein, possibly causing the company to redirect scrapping operations on at least one vessel to nearby Liverpool Cove.

The visible archeological record of alterations of the terrestrial landscape undertaken during the Bethlehem Steel Corporation regime is primarily centered around the Burning Basin. The basin itself is the largest single archeological entity of the entire area. As a major intentional alteration of the marine environment, both excavated and constructed, it represents a maritime archeological site of central importance to the overall history of Mallows Bay as it provided the means for conducting the greatest organized shipbreaking operation in American history prior to World War II, an industrial archeological site of national importance. The basin itself was found to have suffered considerable degradation, both natural and man-made, since the end of the Bethlehem Steel Corporation period. Extensive filling of the basin by sediments has reduced the estimated wartime depth of approximately nine feet to between four and five feet.

The last major intentional landscape changes was carried out between 1952 and 1986. These changes were undertaken by the U.S. Army Corps of Engineers in an effort to control the drifting of hulks from the embayment. By 1970 it was reported in Congressional hearings that the hulks had been filled with gravel and that a line of pilings had been driven around the periphery of Mallows Bay. By 1981, the piling line had fallen into disrepair. The Corps of Engineers then developed new plans for removal of the hulls by dredging 11 channels into the embayment (122,000 cubic yards), cutting up the hulks in situ and hauling the debris away by barge. An alternate plan called for a new piling line, consisting of 270 pilings (15 feet on center), to be constructed around the perimeter of the bay. The first plan was dropped. The record concerning the second-has not been found (Shomette 1994: 105-8). However, a line of pilings along the southern border of the grounding area was in place by 1986, and constitutes the last known intentional alteration to the landscape in this sector.

CONCLUSIONS

The Mallows Bay - Widewater Historic and Archeological District, incorporating a section of the Potomac River formed by the waters within the Sandy Point-Liverpool Point-Widewater triangle, contain the largest known concentration historic shipwrecks and maritime shipbreaking facilities in one discrete locale in North America, and possibly the Western Hemisphere. The historical maritime and industrial archeological resources discovered through archival and archeological research to date therein are formidable indeed. On and near the Maryland shores of the river, they include the documented remains of 124 vessels and 8 individual vessel debris sites dating from the 18th through the late 20th centuries; structures inserted into the marine environment such as navigational aids and wharfage, cribbing, and small craft reception facilities; industrial ship reduction/wrecking, and 6 non-vessel sites related to the USSB shipbreaking activities all lying along the Charles County shoreline. On the opposite side of the river, off Brent's Marsh, near Widewater, Virginia, lay at ten more USSB steamship shipwrecks. The archeological remains associated with the Mallows Bay - Widewater area including the USSB steamships and ship breaking operations are significant at the national level and it qualifies for listing on the National Register of Historic Places based on Criteria A, C, and D.

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[5] *In the Anacostia Watershed*, Vol. VI, No. 1 (Winter 1993), p. 3.

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Photo Log/Index of Photos

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: unknown
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency fleet in the Potomac River awaiting disposal by the Western Marine Salvage Company (courtesy of Library of Congress Prints and Photographs Division Washington, D.C. File number LC-DIG-npcc-13484) Photo 001.
1 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: unknown
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency fleet in the Potomac River awaiting disposal by the Western Marine Salvage Company (courtesy of Library of Congress Prints and Photographs Division Washington, D.C. File number LC-DIG-npcc-13485) Photo 002.
2 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: unknown
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency fleet in the Potomac River awaiting disposal by the Western Marine Salvage Company (courtesy of Library of Congress Prints and Photographs Division Washington, D.C. File number LC-DIG-npcc-13476) Photo 003.
3 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown

Date Photographed: 7 November 1925
Description of Photograph(s) and number: Burning of the World War I U.S. Shipping Board Emergency Fleet at Mallows Bay in 1925 (courtesy of the National Archives and Records Administration (NARA), Washington, D.C.) Photo 004.
4 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: 11 August 1929
Description of Photograph(s) and number: Disposition and identities of World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 11 August 1929 (courtesy of Donald Shomette. Adapted from "Potomac River at Mallows Bay survey of grounding area August 11, 1929," File No. B60-172 Engineers Office, Washington D.C. U.S. Army Corps of Engineers file copy, Baltimore District, U.S. Army Corps of Engineers Archives) Photo 005.
5 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: 6 March 1936
Description of Photograph(s) and number: Disposition and identities of World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 6 March 1936 (courtesy of Donald Shomette. Adapted from U.S. Army Corps of Engineers map) Photo 006.
6 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: May 1937
Description of Photograph(s) and number: War Department map of Mallows Bay-Widewater area showing drifting of grounded USSB hulls from Mallows Bay, MD and the disposition of burned and sunken USSB hulls off Widewater, VA from May 1937. (courtesy of Record of the Chielf of Engineers, RG 77, 1923-1942, Potomac River, Serials 81-140, Box 1401, Folder 7175, Part II. National Archives and Records Administration, Washington , D.C.) Photo 007.
7 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: May 1937
Description of Photograph(s) and number: Aerial photo with inked overlay map showing the disposition and identification of grounded vessels in Mallows Bay by numbers assigned to them in 1929. Map produced in May 1937 by Army Corps of Engineers. (courtesy of Record of the Chief of Engineers, RG 77, 1923-1942, Potomac River, Serial 810140, Box 1402, Folder 7175, Part II, National Archives and Records Administration, Washington , D.C.) Photo 008.
8 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: 3 June 1943
Description of Photograph(s) and number: Disposition and identities of World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 3 June 1943 (courtesy of Donald Shomette. Adapted from U.S. Army Corps of Engineers map) Photo 009.
9 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: February 1948
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency Fleet at Mallows Bay in February 1948 (courtesy of *Washington Post*, February 1948, Library of Congress, Washington , D.C.) Photo 010.
10 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: 19 June 1952

Description of Photograph(s) and number: Disposition and identities of World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 19 June 1953 (courtesy of Donald Shomette. Adapted from U.S. Army Corps of Engineers map) Photo 011.
11 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: Dr. James Delgado
Date Photographed: 10 May 2013
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 10 May 2013 (courtesy of Dr. James Delgado, NOAA's Office of National Marine Sanctuaries Maritime Heritage Program, Silver Spring, MD) Photo 012.
12 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: Dr. James Delgado
Date Photographed: 10 May 2013
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 10 May 2013 (courtesy of Dr. James Delgado, NOAA's Office of National Marine Sanctuaries Maritime Heritage Program, Silver Spring, MD) Photo 013.
13 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: Dr. James Delgado
Date Photographed: 10 May 2013
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 10 May 2013 (courtesy of Dr. James Delgado, NOAA's Office of National Marine Sanctuaries Maritime Heritage Program, Silver Spring, MD) Photo 014.
14 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: Dr. James Delgado

Date Photographed: 10 May 2013
Description of Photograph(s) and number: World War I U.S. Shipping Board Emergency Fleet at Mallows Bay 10 May 2013 (courtesy of Dr. James Delgado, NOAA's Office of National Marine Sanctuaries Maritime Heritage Program, Silver Spring, MD) Photo 015.
15 of 16.

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: unknown
Date Photographed: circa 2013
Description of Photograph(s) and number: aerial photo of World War I U.S. Shipping Board Emergency Fleet at Mallows Bay circa 2013 (courtesy of MundoCani, http://www.imgur.com/gallery/YHPtl) Photo 016.
16 of 16.

Map

Name of Property: Mallows Bay-Widewater Historic and Archeological District
City or Vicinity: Nanjemoy
County: Charles State: MD
Photographer: not applicable
Date Photographed: not applicable
Description of Photograph(s) and number: Map of Mallows Bay-Widewater Historic and Archeological District. Image: Map 001
Map 1 of 1

See Next Page for Map 001

wooden ship project claiming that he intended to build "a bridge of wooden ships from New York to Liverpool, over which the victorious army of American people and the sutlers' wagons were going over to succor Europe." [27]

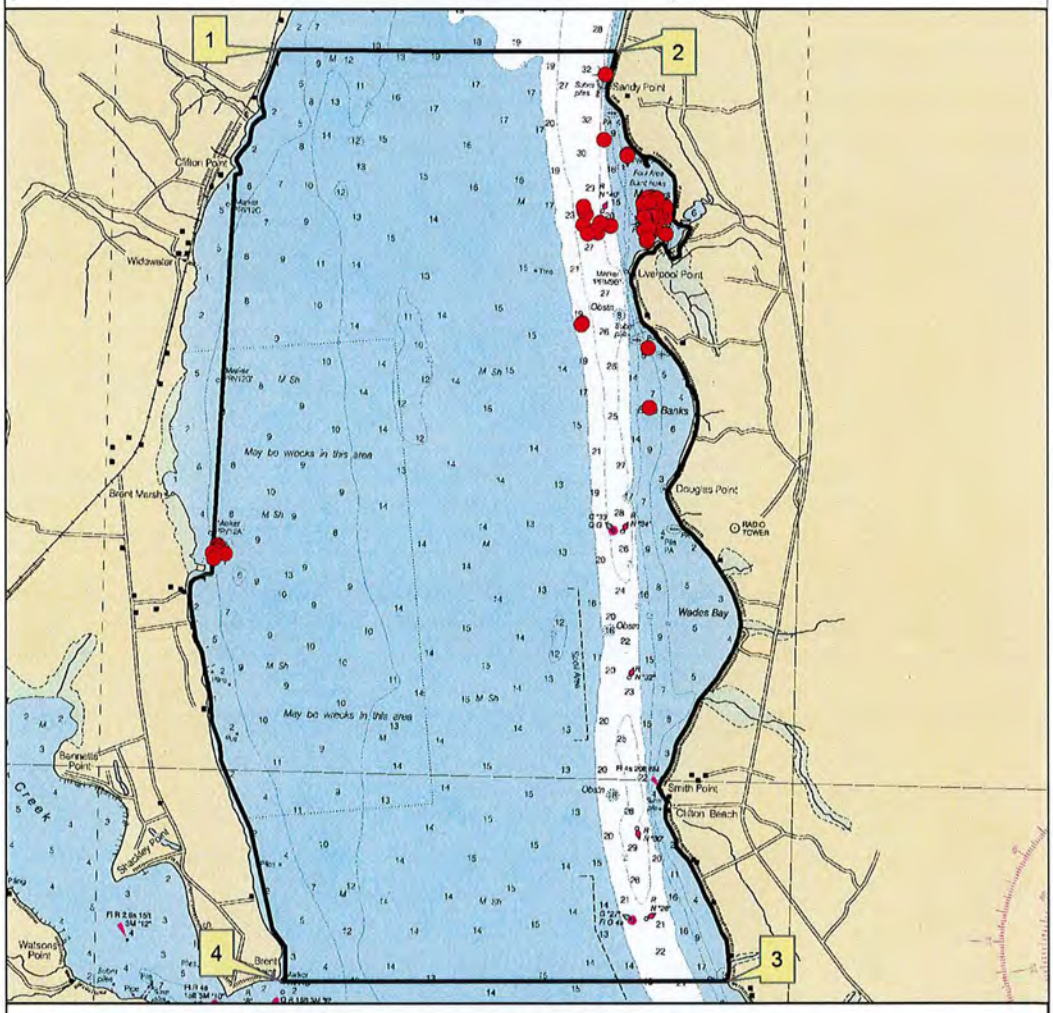
Together with an ongoing and extraordinary boom in steel shipbuilding, Eustis's concept soon fired a remarkable revival in wooden shipbuilding. EFC planners concluded that the country owned abundant timber reserves and at least a nucleus of wooden shipwrights, although wooden shipbuilding was largely extinct except in certain areas along the east and west coasts. Still, well over forty wooden shipbuilding yards were soon building ocean-going vessels of various types and the plans of the USSB to build an emergency fleet of hundreds of medium-sized boats to aid in carrying foodstuffs, munitions, and men through the war zone to the Allies meant an immediate expansion of the wooden shipbuilding industry. This project was endorsed by the President and at his request Major General George W. Goethals was placed in charge of the enterprise as General Manager of the EFC. [28]

Before entering upon this project, however, the United States Shipping Board conducted a thorough investigation of the lumber interests and of the smaller machine and boiler shops and steel plants throughout the nation to determine the feasibility of securing the necessary materials and propelling and auxiliary machinery for these vessels. As a result, they were able to advise the President and the Council of National Defense that under proper organization it would be probable, without disturbing the steel making or the steel shipbuilding industries, to produce in the neighborhood of 200,000 tons of such shipping each month, beginning at about seven or eight months after the work was initiated. [29]

Goethals, a national hero for his role in the construction of the Panama Canal, was a strong advocate of steel ship construction. Although having early on endorsed the wooden ship concept in a lukewarm manner, he now berated it, and on May 25, 1917 issued a public declaration of disapproval. Denman defended the program vigorously. The President, who had been empowered by the passage of the Urgent Deficiencies Act of June 15, 1917, with broad powers to construct, requisition, and operate merchant ships, supported the EFC's direction and the wooden ship program moved forward, albeit in a watered down version. The Denman-Goethals Controversy, however, refused to die, and in July the President asked for and received both their resignations. Edward N. Hurley replaced Denman as Chairman of the Shipping Board, and Rear Admiral Washington Lee Capps, Chief Constructor for the Navy Department, succeeded Goethals as General Manager. [30]

The EFC's initial plans for the wooden steamship program were seemingly comprehensive and provided for the building of vessels of 3,500 tons deadweight or more carrying capacity and capable of about 10 knots sea speed, for which propelling machinery of about 1,500 horse-power

Map 1 of 1: Mallows Bay - Widewater Historical and Archaeological National Register District NOAA Chart 12288



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3. 4,252,380 N 30,2879 E / 38.397933 N 77.257294 W
4. 4,252,380 N 298,201 E / 38.396890 N 77.310835 W

● Mallows Bay - Widewater Sites

Mallows Bay - Widewater NR District

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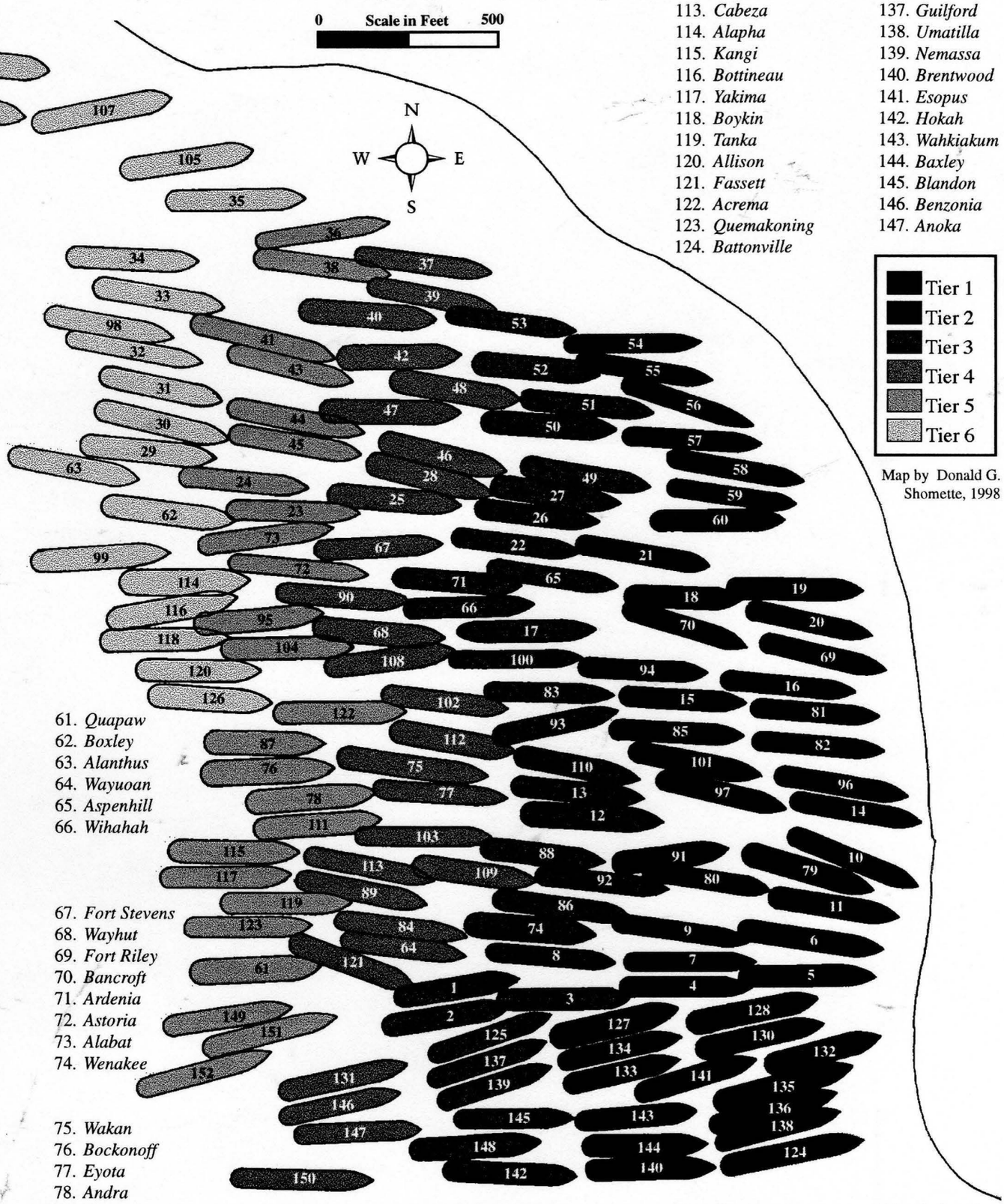
0 1 2 3 Km


USTS UTOKA
UNITED STATES SHIPPING BOARD

Disposition of USSB Steamship Hulks in Mallows Bay 11 August 1929



Map by Donald G. Shomette, 1998

NAME KEY

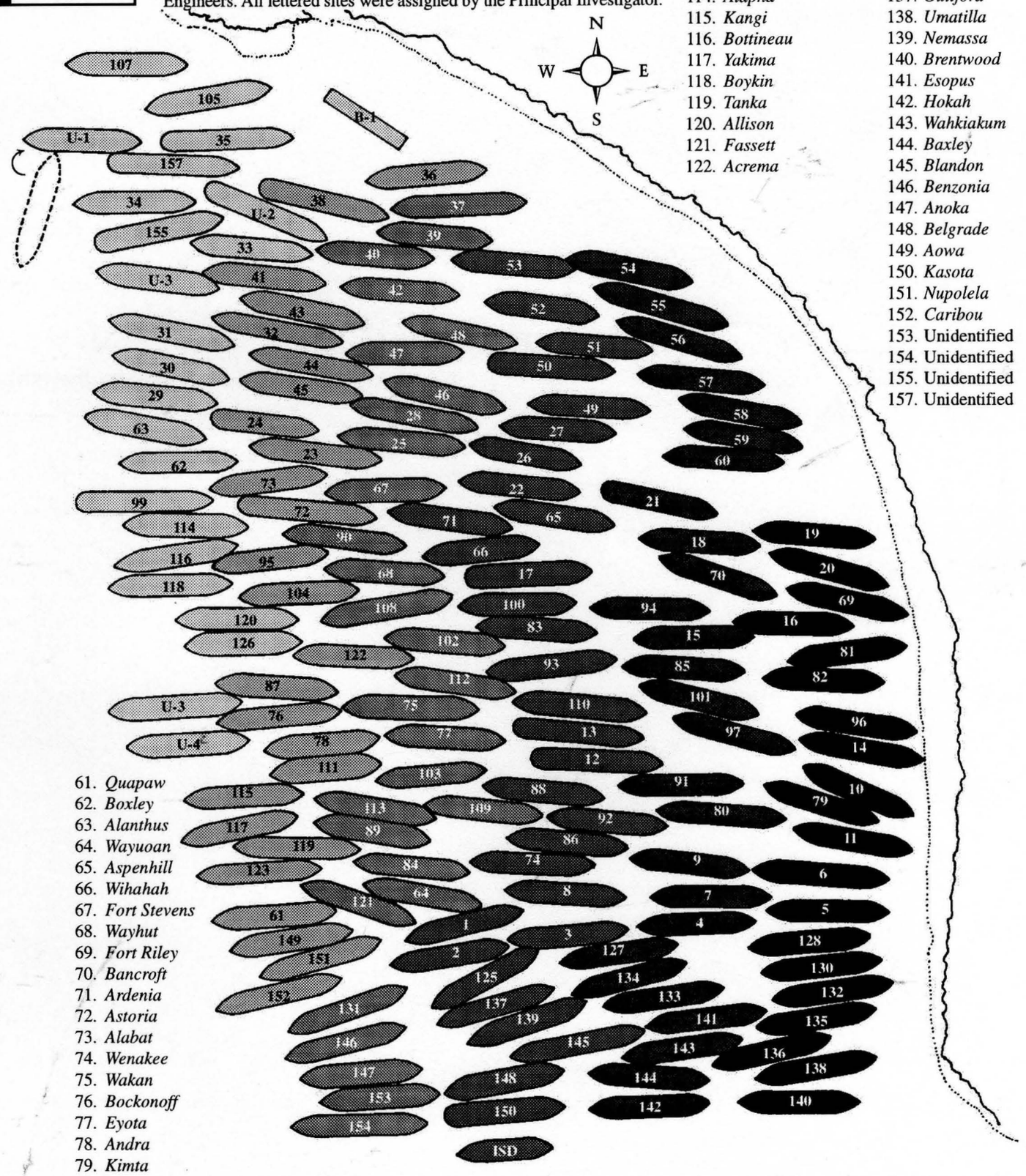
1. *Grayling*
2. *Itanca*
3. *Ahala*
4. *Kokomo*
5. *Fort Sill*
6. *Horado*
7. *Bon Secour*
8. *Brompton*
9. *Darrah*
10. *Cabura*
11. *Clodia*
12. *Marshfield*
13. *Kickapoo*
14. *Mahnet*
15. *Abbeville*
16. *Boone*
17. *Baladan*
18. *Kanakee*
19. *Saris*
20. *Coloma*
21. *Coconino*
22. *Aiken*
23. *Bonifay*
24. *Flavel*
25. *Neeolah*
26. *Arado*
27. *Angelina*
28. *Musketo*
29. *Bobring*
30. *Bromela*
31. *Owatama*
32. *Calala*
33. *Yawah*
34. *Casmalia*
35. *Blue Eagle*
36. *Adway*
37. *Bologan*
38. *Moraine*
39. *Aculdo*
40. *Bayou Teche*
41. *Panga*
42. *Cumberland*
43. *Alpaco*
44. *Datis*
45. *Bellbrook*
46. *Cheron*
47. *Dungeness*
48. *Braeburn*
49. *Latoka*
50. *North Bend*
51. *Laforge*
52. *Conewago*
53. *Moosabee*
54. *Bushong*
55. *Dertona*
56. *Bushrod*
57. *Boilston*
58. *Afrania*
59. *Wonahbe*
60. *Forster*
61. *Quapaw*
62. *Boxley*
63. *Alanthus*
64. *Wayuoan*
65. *Aspenhill*
66. *Wihahah*
67. *Fort Stevens*
68. *Wayhut*
69. *Fort Riley*
70. *Bancroft*
71. *Ardenia*
72. *Astoria*
73. *Alabat*
74. *Wenakee*
75. *Wakan*
76. *Bockonoff*
77. *Eyota*
78. *Andra*
79. *Kimta*
80. *Munra*
81. *Quinault*
82. *Katonah*
83. *Capines*
84. *Battahatchee*
85. *Coulter*
86. *Arundel*
87. *Hoosac*
88. *Alcis*
89. *Banicia*
90. *Woyaca*
91. *Afalkey*
92. *Utoka*
93. *Medford*
94. *Fernandina*
95. *Boynton*
96. *Toka*
97. *Barrington*
98. *Buckhorn*
99. *Mono*
100. *Swampscott*
101. *Lonoke*
102. *Sewickley*
103. *Alta*
104. *Buhisan*
105. *Tuwetanka*
106. *Borad*
107. *Dalgada*
108. *Alector*
109. *Lewiston*
110. *Keota*
111. *Folsom*
112. *Bedminster*
113. *Cabeza*
114. *Alapha*
115. *Kangi*
116. *Bottineau*
117. *Yakima*
118. *Boykin*
119. *Tanka*
120. *Allison*
121. *Fassett*
122. *Acrema*
123. *Quemakoning*
124. *Battonville*
125. *Congaree*
126. *Namecki*
127. *Berea*
128. *Amoron*
129. *Balino*
130. *Falmouth*
131. *Anthera*
132. *Barabos*
133. *Pascagoula*
134. *Dancey*
135. *Oraton*
136. *Bulana*
137. *Guilford*
138. *Umatilla*
139. *Nemassa*
140. *Brentwood*
141. *Esopus*
142. *Hokah*
143. *Wahkiakum*
144. *Baxley*
145. *Blandon*
146. *Benzonia*
147. *Anoka*
148. *Belgrade*
149. *Aowa*
150. *Kasota*
151. *Nupolela*
152. *Caribou*

Note: *Obak* and *Botsford* are at Sandy Point

Disposition of USSB Steamships and Other Hulks in Mallows Bay 6 March 1936

0 Scale in Feet 500

Note: All numbers shown were assigned by the Army Corps of Engineers. All lettered sites were assigned by the Principal Investigator.



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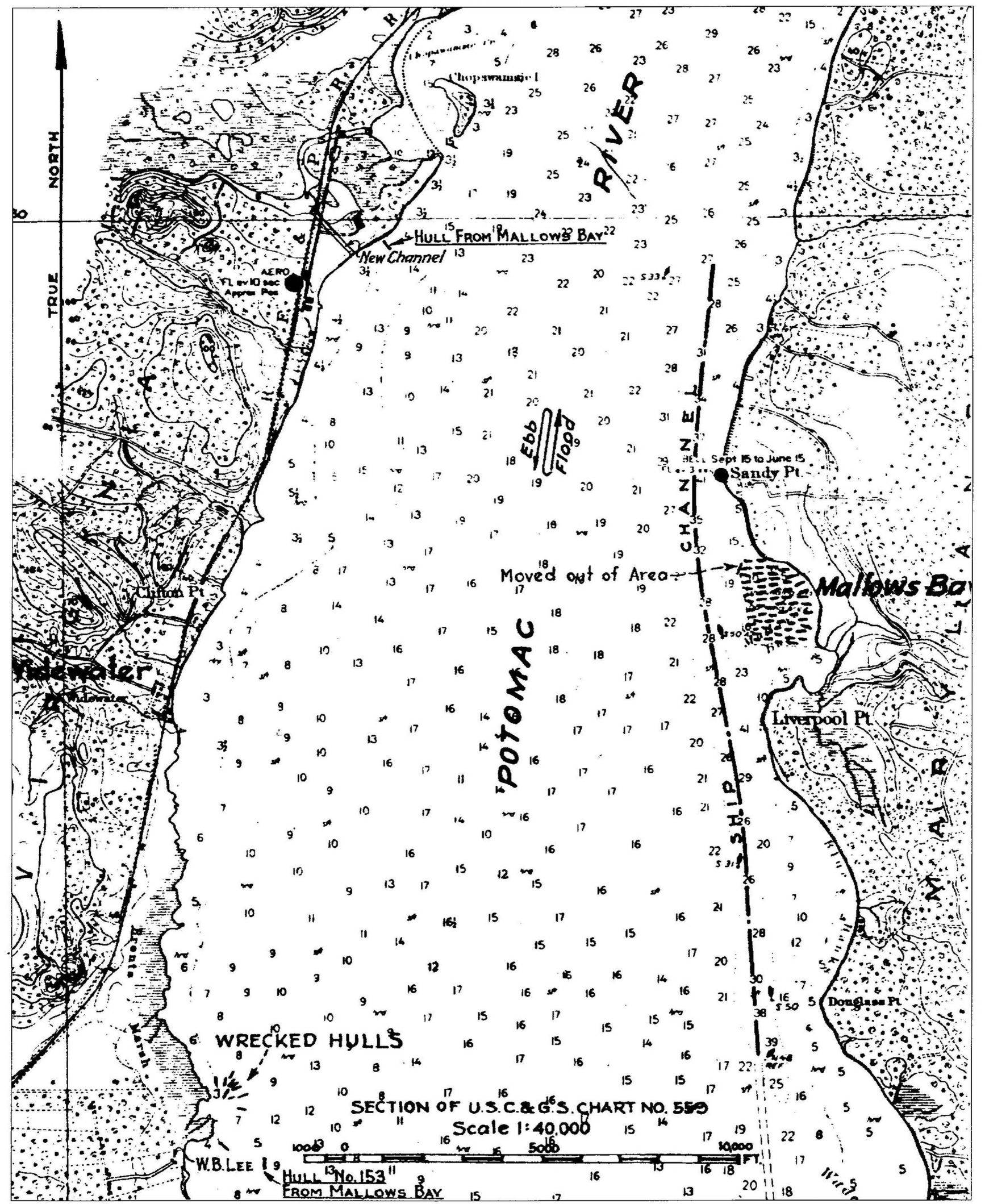
149. *Aowa*
150. *Kasota*
151. *Nupolela*
152. *Caribou*
153. Unidentified
154. Unidentified
155. Unidentified
157. Unidentified

B-1. Barge
ISD. *Ida S. Dow*
U-1. Unidentified
U-2. Unidentified
U-3. Unidentified
U-4. Unidentified

Map by
Donald G. Shomette,
1998


NORTH
TRUE
RIVER
POTOMAC
Chopawamsic I
HULL FROM MALLOWS BAY
New Channel
AERO
Fl. 6v 10 sec
Approx Pos
Ebb
Flood
CHANNEL
Sept 15 to June 15
Sandy Pt.
Moved out of Area
Mallows Bay
Clifton Pt.
Widewater
Liverpool Pt.
SHIP
Douglass Pt.
WRECKED HULLS
W.B. LEE
HULL No. 153
FROM MALLOWS BAY
SECTION OF U.S.C.& G.S. CHART NO. 559
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10,000
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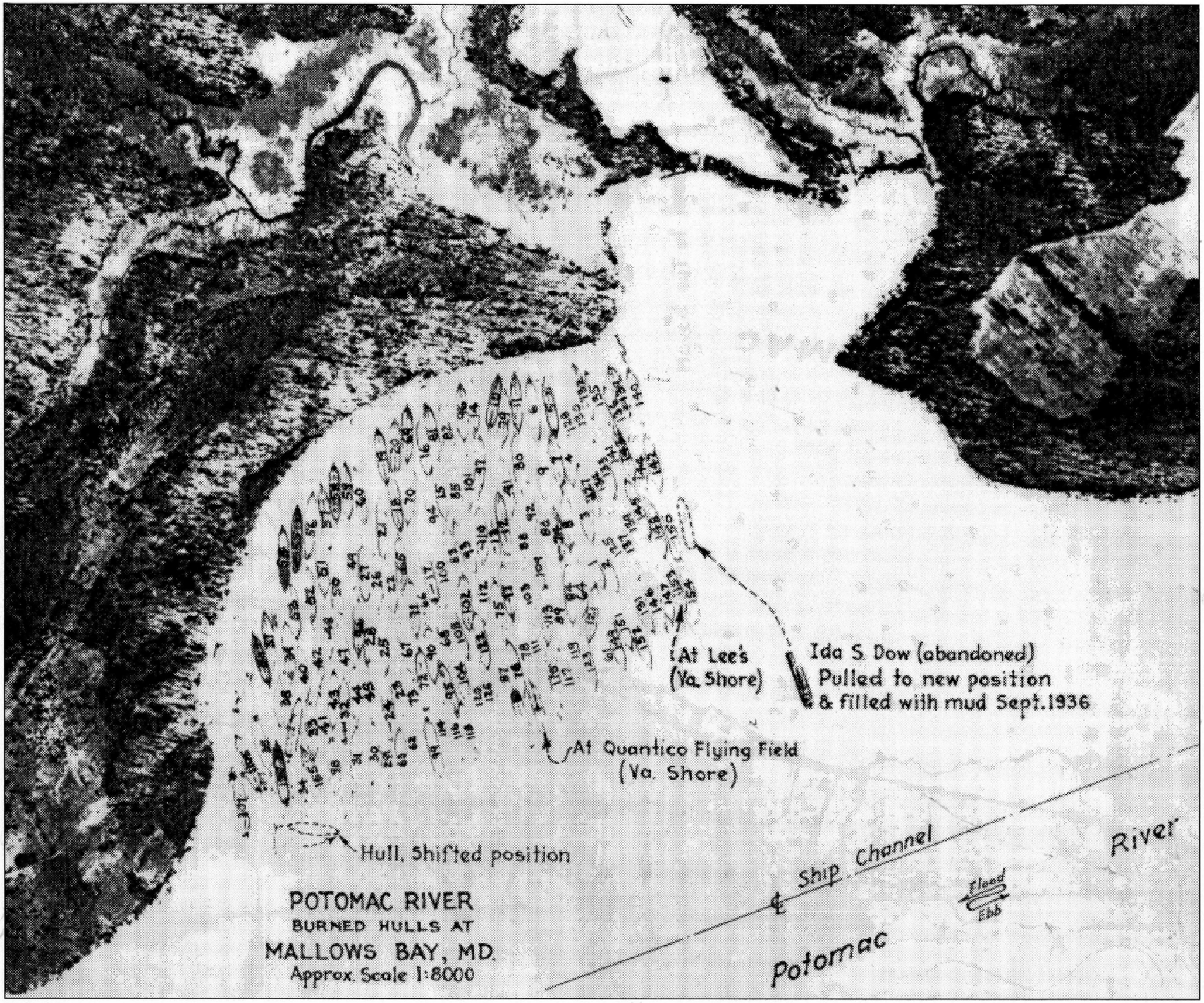
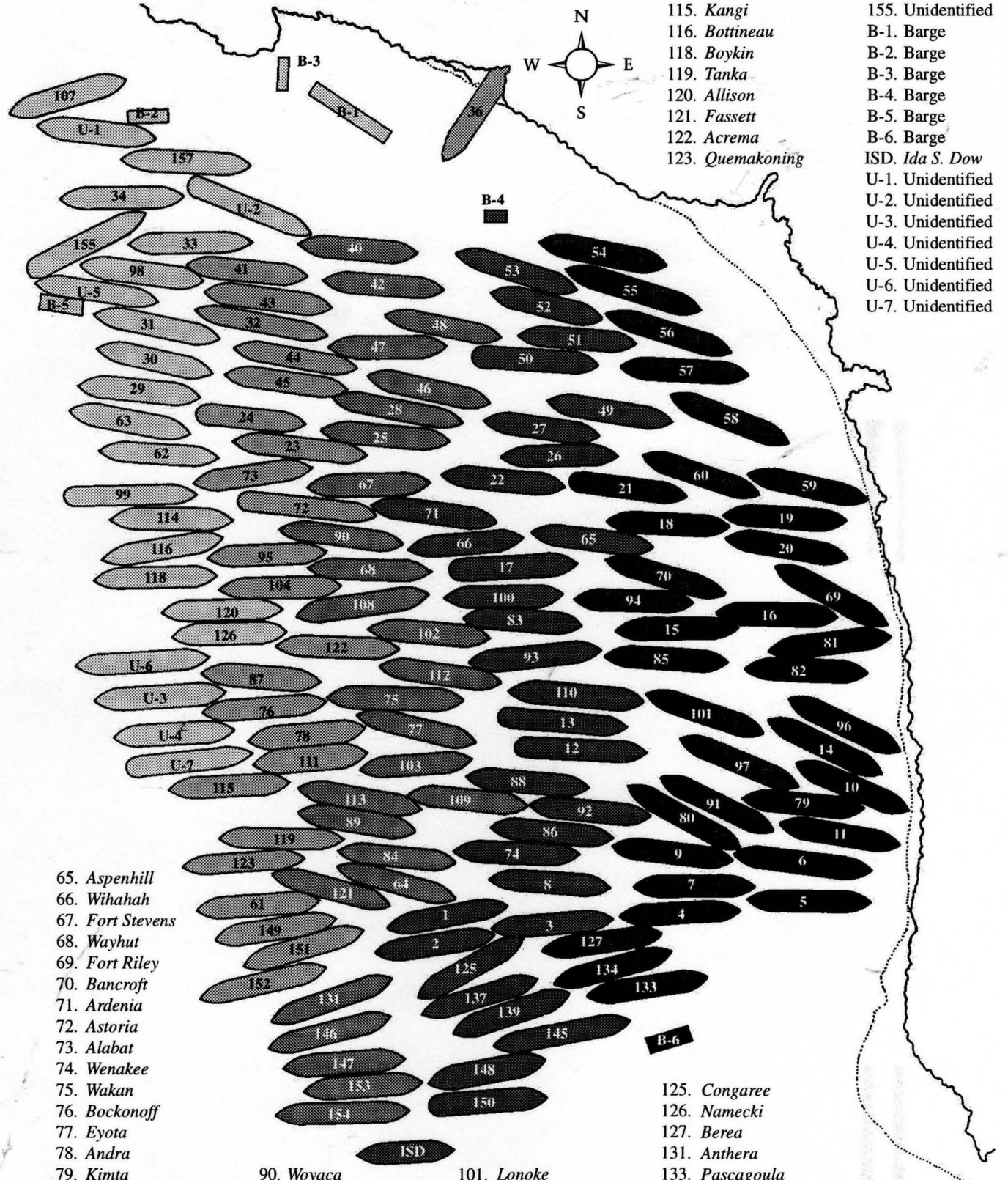

At Lee's
(Va. Shore)
Ida S. Dow (abandoned)
Pulled to new position
& filled with mud Sept. 1936
At Quantico Flying Field
(Va. Shore)
Hull, shifted position
POTOMAC RIVER
BURNED HULLS AT
MALLOWS BAY, MD.
Approx. Scale 1:8000
℄ Ship Channel
Potomac River
Flood Ebb

Disposition of USSB Steamships and Other Hulks in Mallows Bay 3 June 1943

0 Scale in Feet 500

Note: All numbers shown were assigned by the Army Corps of Engineers. All lettered sites were assigned by the Principal Investigator.



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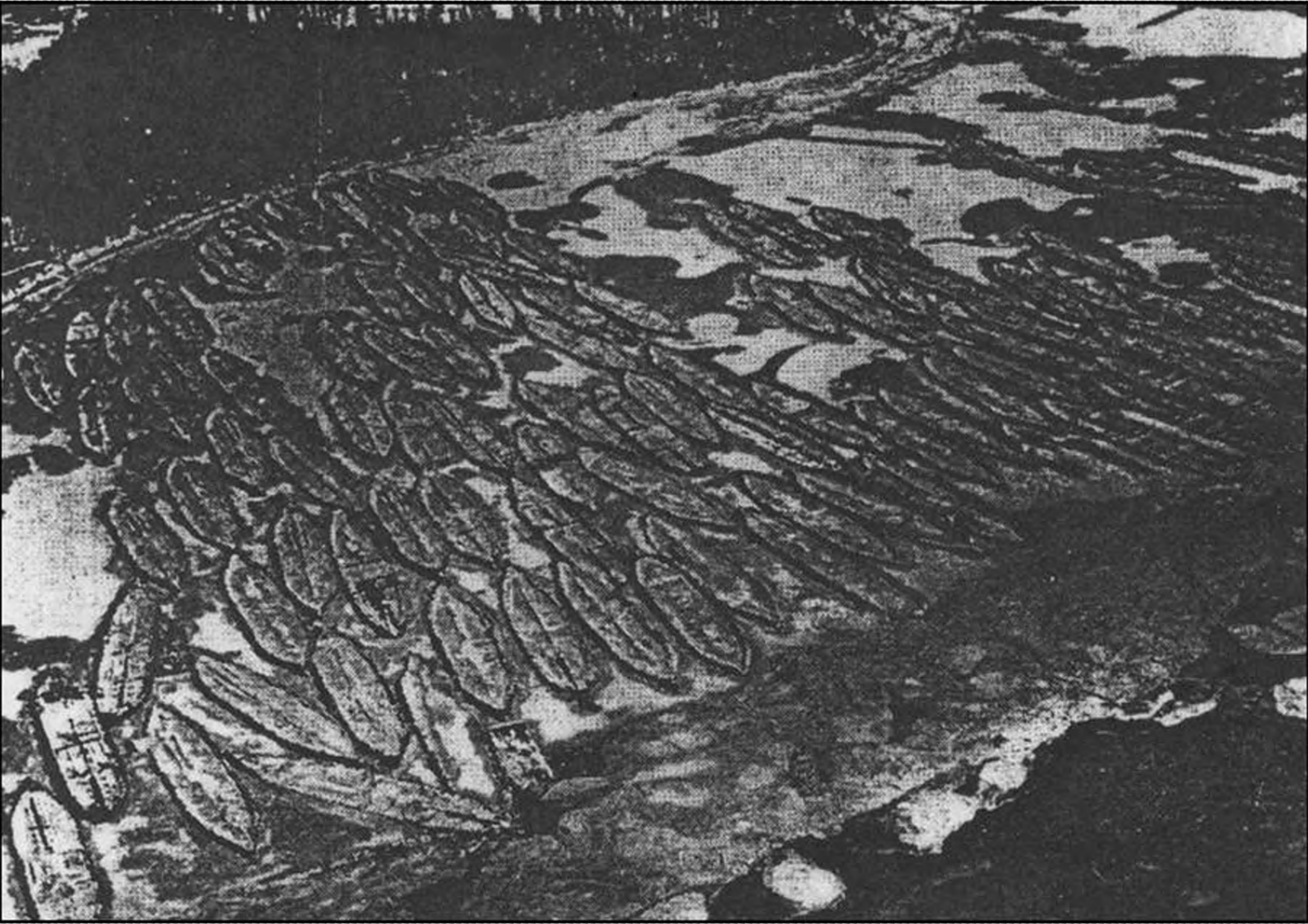
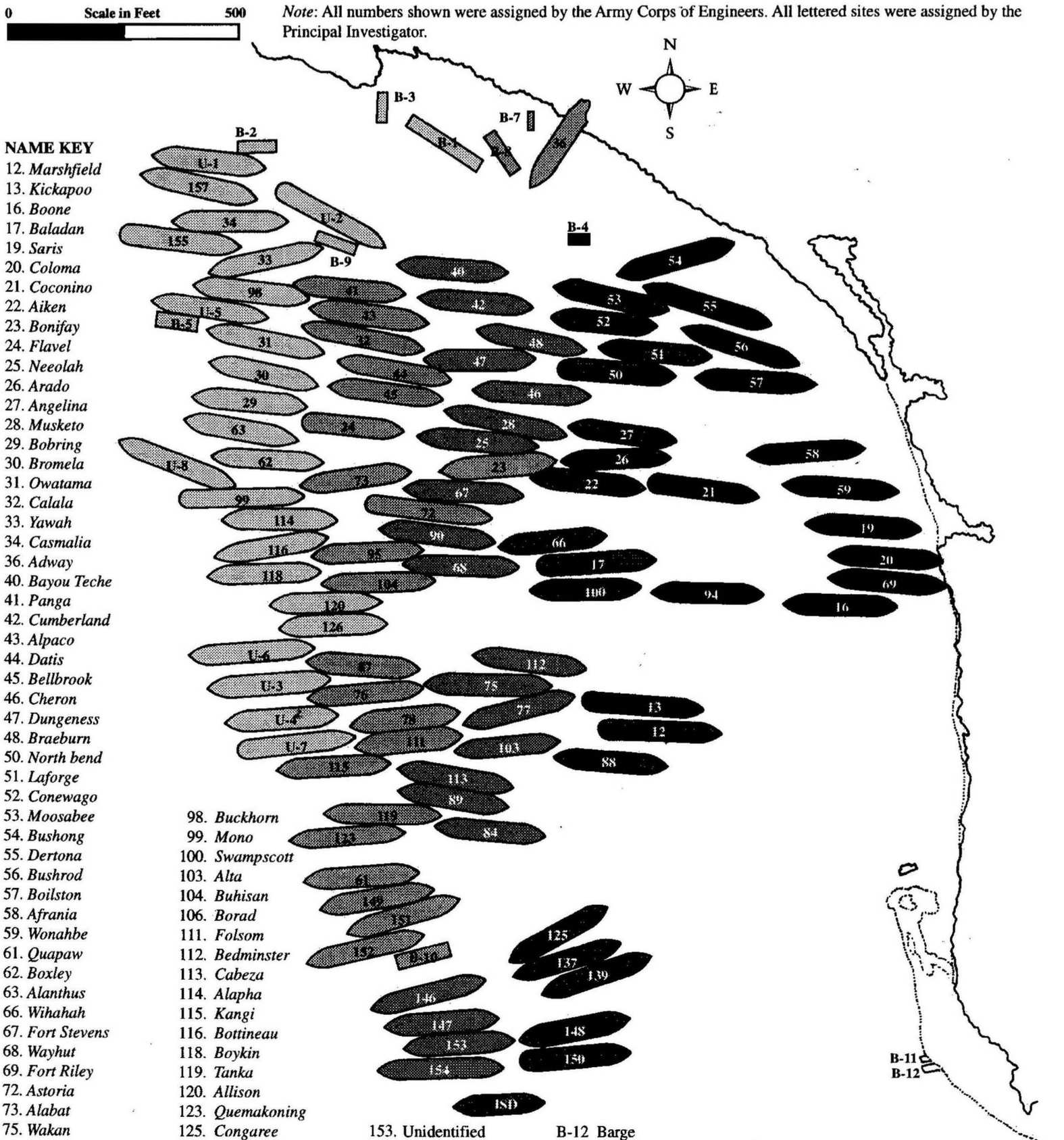
16. *Boone*
17. *Baladan*
18. *Kanakee*
19. *Saris*
20. *Coloma*
21. *Coconino*
22. *Aiken*
23. *Bonifay*
24. *Flavel*
25. *Neeolah*
26. *Arado*
27. *Angelina*
28. *Musketo*
29. *Bobring*
30. *Bromela*
31. *Owatama*
32. *Calala*
33. *Yawah*
34. *Casmalia*
36. *Adway*
40. *Bayou Teche*
41. *Panga*
42. *Cumberland*
43. *Alpaco*
44. *Datis*
45. *Bellbrook*
46. *Cheron*
47. *Dungeness*
48. *Braeburn*
49. *Latoka*
50. *North Bend*
51. *Laforge*
52. *Conewago*
53. *Moosabee*
54. *Bushong*
55. *Dertona*
56. *Bushrod*
57. *Boilston*
58. *Afrania*
59. *Wonahbe*
60. *Forster*
61. *Quapaw*
62. *Boxley*
63. *Alanthus*
64. *Wayuoan*
65. *Aspenhill*
66. *Wihahah*
67. *Fort Stevens*
68. *Wayhut*
69. *Fort Riley*
70. *Bancroft*
71. *Ardenia*
72. *Astoria*
73. *Alabat*
74. *Wenakee*
75. *Wakan*
76. *Bockonoff*
77. *Eyota*
78. *Andra*
79. *Kimta*
80. *Munra*
81. *Quinault*
82. *Katonah*
83. *Capines*
84. *Battahatchee*
85. *Coulter*
86. *Arundel*
87. *Hoosac*
88. *Alcis*
89. *Banicia*
90. *Woyaca*
91. *Afalkey*
92. *Utoka*
93. *Medford*
94. *Fernandina*
95. *Boynton*
96. *Toka*
97. *Barrington*
98. *Buckhorn*
99. *Mono*
100. *Swampscott*
101. *Lonoke*
102. *Sewickley*
103. *Alta*
104. *Buhisan*
106. *Borad*
107. *Delgada*
108. *Alector*
109. *Lewiston*
110. *Keota*
111. *Folsom*
112. *Bedminster*
113. *Cabeza*
114. *Alapha*
115. *Kangi*
116. *Bottineau*
118. *Boykin*
119. *Tanka*
120. *Allison*
121. *Fassett*
122. *Acrema*
123. *Quemakoning*
125. *Congaree*
126. *Namecki*
127. *Berea*
131. *Anthera*
133. *Pascagoula*
137. *Guilford*
139. *Nemassa*
145. *Blandon*
146. *Benzonia*
147. *Anoka*
148. *Belgrade*
149. *Aowa*
150. *Kasota*
151. *Nupolela*
152. *Caribou*
153. Unidentified
154. Unidentified
155. Unidentified
B-1. Barge
B-2. Barge
B-3. Barge
B-4. Barge
B-5. Barge
B-6. Barge
ISD. *Ida S. Dow*
U-1. Unidentified
U-2. Unidentified
U-3. Unidentified
U-4. Unidentified
U-5. Unidentified
U-6. Unidentified
U-7. Unidentified

Map by
Donald G. Shomette,
1998



Disposition of USSB Steamships and Other Hulks in Mallows Bay 19 June 1952



Note: All numbers shown were assigned by the Army Corps of Engineers. All lettered sites were assigned by the Principal Investigator.

NAME KEY

12. *Marshfield*
13. *Kickapoo*
16. *Boone*
17. *Baladan*
19. *Saris*
20. *Coloma*
21. *Coconino*
22. *Aiken*
23. *Bonifay*
24. *Flavel*
25. *Neeolah*
26. *Arado*
27. *Angelina*
28. *Musketo*
29. *Bobring*
30. *Bromela*
31. *Owatama*
32. *Calala*
33. *Yawah*
34. *Casmalia*
36. *Adway*
40. *Bayou Teche*
41. *Panga*
42. *Cumberland*
43. *Alpaco*
44. *Datis*
45. *Bellbrook*
46. *Cheron*
47. *Dungeness*
48. *Braeburn*
50. *North bend*
51. *Laforge*
52. *Conewago*
53. *Moosabee*
54. *Bushong*
55. *Dertona*
56. *Bushrod*
57. *Boilston*
58. *Afrania*
59. *Wonahbe*
61. *Quapaw*
62. *Boxley*
63. *Alanthus*
66. *Wihahah*
67. *Fort Stevens*
68. *Wayhut*
69. *Fort Riley*
72. *Astoria*
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75. *Wakan*
76. *Bockonoff*
77. *Eyota*
78. *Andra*
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104. *Buhisan*
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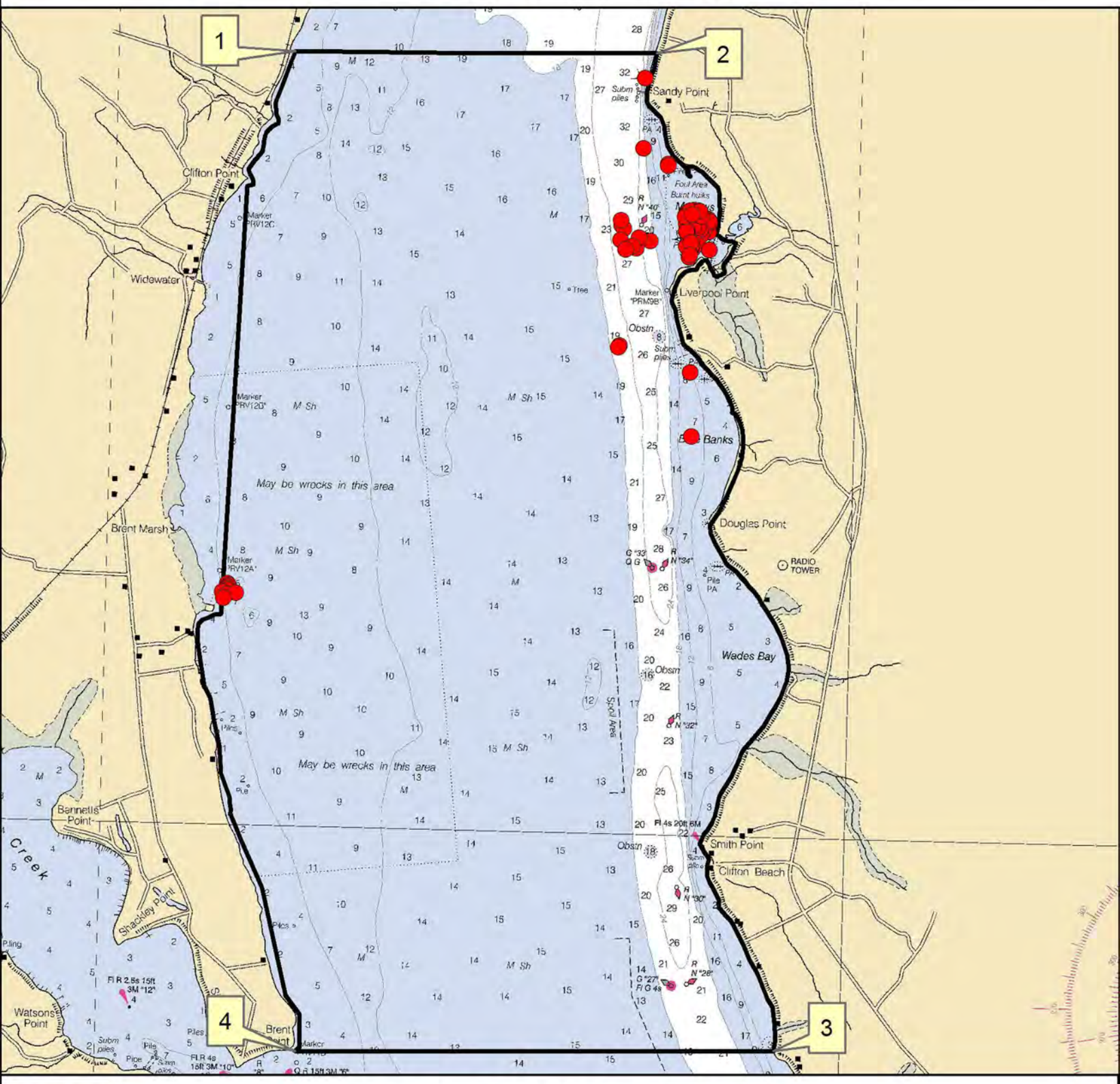
111. *Folsom*
112. *Bedminster*
113. *Cabeza*
114. *Alapha*
115. *Kangi*
116. *Bottineau*
118. *Boykin*
119. *Tanka*
120. *Allison*
123. *Quemakoning*
125. *Congaree*
126. *Namecki*
137. *Guilford*
139. *Nemassa*
146. *Benzonia*
147. *Anoka*
148. *Belgrade*
149. *Aowa*
150. *Kasota*
151. *Nupolela*
152. *Caribou*
153. Unidentified
154. Unidentified
B-1. Barge
B-2. Barge
B-3. Barge
B-4. Barge
B-5. Barge
B-7. Barge
B-9. Barge
B10. Barge
B-11 Barge
B-12 Barge
ISD. *Ida S. Dow*
U-1. Unidentified
U-2. Unidentified
U-3. Unidentified
U-4. Unidentified
U-5. Unidentified
U-6. Unidentified
U-7. Unidentified
U-8. Unidentified

Map by
Donald G. Shomette,
1998

Map 1 of 1: Mallows Bay - Widewater Historical and Archaeological National Register District NOAA Chart 12288



1. 4,262,158 N 298,204 E / 38.484933 N 77.313604 W
2. 4,262,139 N 301,738 E / 38.485539 N 77.273109 W
3. 4,252,380 N 30,2879 E / 38.397933 N 77.257294 W
4. 4,252,380 N 298,201 E / 38.396890 N 77.310835 W

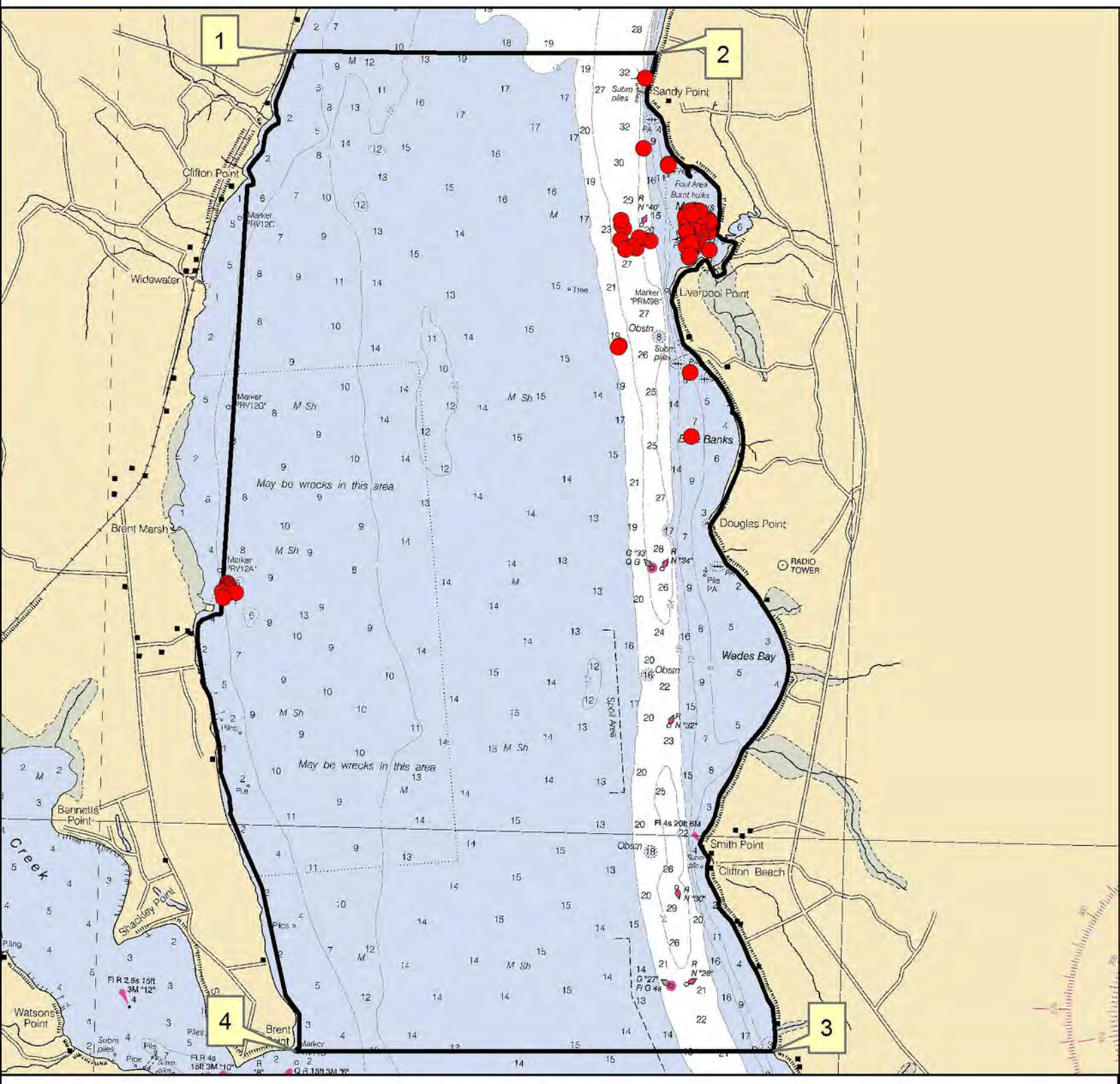
Mallows Bay - Widewater Sites

Mallows Bay - Widewater NR District

N

0 1 2 3 Km

Map 1 of 1: Mallows Bay - Widewater Historical and Archaeological National Register District NOAA Chart 12288



1. 4,262,158 N 298,204 E / 38.484933 N 77.313604 W
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4. 4,252,380 N 298,201 E / 38.396890 N 77.310835 W

Mallows Bay - Widewater Sites

Mallows Bay - Widewater NR District

N

0 1 2 3 Km

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Mallows Bay--Widewater Historic and Archeological District

MULTIPLE NAME:

STATE & COUNTY: MARYLAND, Charles

DATE RECEIVED: 3/13/15 DATE OF PENDING LIST: 4/08/15
DATE OF 16TH DAY: 4/23/15 DATE OF 45TH DAY: 4/28/15
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 15000173

REASONS FOR REVIEW:

APPEAL:	N	DATA PROBLEM:	N	LANDSCAPE:	N	LESS THAN 50 YEARS:	N
OTHER:	N	PDIL:	N	PERIOD:	N	PROGRAM UNAPPROVED:	N
REQUEST:	Y	SAMPLE:	N	SLR DRAFT:	N	NATIONAL:	Y

COMMENT WAIVER: N

✓ ACCEPT ___ RETURN ___ REJECT 4/24/2015 DATE

ABSTRACT/SUMMARY COMMENTS:

RECOM./CRITERIA Accept A, C & D

REVIEWER Patrick Andrus DISCIPLINE Historian

TELEPHONE _____ DATE 4/24/2015

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.

MDP Sustain Attain
Maryland Department of Planning
Maryland Historical Trust

September 2, 2014

Mr. Michael A. Gaines, Sr.
Assistant Secretary, Real Estate
Maryland Department of General Services
301 West Preston Street
Baltimore, Maryland 21201

RE: MALLOWS BAY-WIDEWATER HISTORIC AND ARCHEOLOGICAL DISTRICT
Charles County, Maryland

Dear Assistant Secretary Gaines :

The Mallows Bay-Widewater Historic and Archeological District will be considered by the Governor's Consulting Committee for nomination to the National Register of Historic Places on Tuesday, October 7, 2014. The National Register is the official list of historic properties recognized by the Federal Government as worthy of preservation for their significance in American history, architecture, archaeology, engineering, and culture. In Maryland, the nomination process is administered by the Maryland Historical Trust. Enclosed you will find a copy of the criteria under which properties are evaluated for listing. The meeting will be held at the People's Resource Center, 100 Community Place, Crownsville, Maryland, beginning at 10:00 a.m. You are welcome to attend this meeting.

Listing in the National Register results in the following for historic properties.

1. Consideration in planning for Federal, federally or state funded, licensed and assisted projects. Federal and state legislation requires that Federal agencies allow the Advisory Council on Historic Preservation and state agencies, including the Maryland Historical Trust, opportunity to comment on all projects affecting historic properties listed in the National Register. For further information please refer to Section 36, Code of Federal Regulations, Part 800 and Annotated Code of Maryland, State Finance and Procurement Article, Section 5A-323 et seq. or call the Office of Preservation Services of the Maryland Historical Trust at (410) 514-7630.

2. Eligibility for Federal tax provisions. If a property is listed in the National Register, certain Federal tax provisions may apply. The Tax Reform Act of 1986 revises the historic preservation tax incentives authorized by Congress in the Tax Reform Act of 1976, the Revenue Act of 1978, the Tax Treatment Extension Act of 1980, the Economic Recovery Tax Act of 1981, and the Tax Reform Act of 1984, and as of January 1, 1987, provides for a 20 percent investment tax credit with a full adjustment to basis for rehabilitating historic commercial, industrial, and rental residential buildings. The former 15 percent and 20 percent Investment Tax Credits (ITCs) for rehabilitation of

older commercial buildings are combined into a single 10 percent ITC for commercial or industrial buildings built before 1936.

The Tax Treatment Extension Act of 1980 provides Federal tax deductions for charitable contributions for conservation purposes of partial interests in historically important land areas or structures. Whether these provisions are advantageous to a property owner is dependent upon the particular circumstances of the property and the owner. Because tax aspects outlined above are complex, individuals should consult legal counsel or the appropriate local Internal Revenue Service office for assistance in determining the tax consequences of the above provisions. For further information on certification requirements, please refer to 36 CFR 67 or the Office of Preservation Services of the Maryland Historical Trust at (410) 514-7630.

3. Eligibility for a Maryland income tax benefit for the rehabilitation of historic property. For further information on the Heritage Preservation Tax Credit, contact the Office of Preservation Services of the Maryland Historical Trust at (410) 514-7628.

4. Consideration of historic values in the decision to issue a surface coal mining permit where coal is located. In accord with the Surface Mining Control and Reclamation Act of 1977, there must be consideration of historic values in the decision to issue a surface coal mining permit where coal is located. For further information, please refer to 30 CFR 700 et seq.

5. Eligibility to apply for federal and state grants and state low interest loans for historic preservation projects. To determine the present status of such grants and loans, contact the Office of Preservation Services of the Maryland Historical Trust at (410) 514-7632.

Owners of private properties nominated to the National Register have an opportunity to concur in or object to listing in accord with the National Historic Preservation Act and 36 CFR 60. Any owner or partial owner of private property who chooses to object to listing may submit to the State Historic Preservation Officer a notarized statement certifying that the party is the sole or partial owner of the private property and objects to the listing. Each owner or partial owner of private property has one vote regardless of what portion of the property that party owns. If a majority of private property owners object, a property will not be listed; however, the State Historic Preservation Officer shall submit the nomination to the Keeper of the National Register of Historic Places for a determination of eligibility of the property for listing in the National Register. If the property is determined to be eligible for listing, although not formally listed, Federal agencies will be required to allow the Advisory Council on Historic Preservation and state agencies, including the Maryland Historical Trust, an opportunity to comment before the agency may fund, license, or assist a project which will affect the property. If you choose to object to the listing of your property, the notarized objection must be submitted to J. Rodney Little, State Historic Preservation Officer, ATTN: Peter Kurtze, Maryland Historical Trust, 100 Community Place, Crownsville, Maryland 21032-2023 by the date of the meeting given above.

Listing in the National Register does NOT mean that the Federal Government or the State of Maryland wants to acquire the property, place restrictions on the property, or dictate the color or materials used on individual buildings. Local ordinances or laws establishing restrictive zoning, special design review committees, or review of exterior alterations are not a part of the National Register program. Listing also does NOT require the owner to preserve or maintain the property or seek approval of the Federal Government or the State of Maryland to alter the property. Unless the owner applies for and accepts special

Federal or state tax, licensing, or funding benefits, the owner can do anything with his property he wishes so long as it is permitted by state or local law.

If you wish to comment on whether the property should be nominated to the National Register, please send your comments to J. Rodney Little, State Historic Preservation Officer, ATTN: Peter E. Kurtze, before the Governor's Consulting Committee considers the nomination. Copies of the nomination, regulations and information on the National Register and Federal and State tax provisions are available from the Trust. If you have questions about this nomination, please contact Peter E. Kurtze, Administrator of Evaluation and Registration, Maryland Historical Trust at (410) 514-7649.

Sincerely,

J. Rodney Little
Director-State Historic
Preservation Officer

JRL/jmg
cc: Hon. Candice Quinn Kelly
Ms. Cathy Hardy
Mr. Donald G. Shomette

November 3, 2014

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032-2023

STATE CLEARINGHOUSE RECOMMENDATION

State Application Identifier: MD20140916-0765
Applicant: Maryland Historical Trust
Project Description: HISTORIC NOMINATION - Mallows Bay, Widewater Historical and Archaeological District
Project Location: County(ies) of Charles
Approving Authority: U.S. Department of the Interior DOI/NPS
CFDA Number: 15.914
Recommendation: Consistent Including General Comment(s)

Dear Mr. Little:

In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.01.04-.06, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter constitutes the State process review and recommendation. This recommendation is valid for a period of three years from the date of this letter.

Review comments were requested from the Maryland Department(s) of Natural Resources, Transportation; Charles County; and the Maryland Department of Planning.

Charles County stated, "we have placed this on the Charles County Historic Preservation Commission's agenda for their November 12, 2014 meeting. We should have comments at that time."

The Maryland Department(s) of Natural Resources, and Transportation; and the Maryland Department of Planning found this project to be consistent with their plans, programs, and objectives.

The Department of Transportation stated that "as far as can be determined at this time, the subject has no unacceptable impacts on plans or programs."

The State Application Identifier Number must be placed on any correspondence pertaining to this project. The State Clearinghouse must be kept informed if the approving authority cannot accommodate the recommendation.

Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at myra.barnes@maryland.gov.

Also please complete the attached form and return it to the State Clearinghouse as soon as the status of the project is known. ***Any substitutions of this form must include the State Application Identifier Number.*** **This will ensure that our files are complete.**

Thank you for your cooperation with the MIRC process.

Sincerely,

Linda C. Janey

Linda C. Janey, J.D., Assistant Secretary

LCJ:MB
Enclosure(s)

cc: Greg Golden - DNR Tina Quinichette - MDOT Steven Ball - CHAS Peter Conrad - MDPL

14-0765_CRRCLS.doc

Charles County Government
DEPARTMENT OF PLANNING & GROWTH MANAGEMENT

December 30th, 2014

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032-2023

Dear Mr. Little,

The Charles County Historic Preservation Commission reviewed the National Register Historic Nomination materials for Mallows Bay, Widewater Historical and Archaeological District at the Commission's regularly scheduled meeting on December 10th, 2014. It is the opinion of the Commission that the historic nomination paperwork is very thorough and well-written.

Therefore, it is my pleasure to convey that the Historic Preservation Commission of Charles County unanimously supports the Historic Nomination of Mallows Bay, Widewater Historical and Archaeological District. The Commission looks forward to following this project through the process.

Thank you for your efforts in preparing the National Register nomination.

Sincerely,

Franklin A. Robinson, Jr., Chairman

cc: Bob Rosenbush, State Clearinghouse (Project #: MD20140916-0765)

MDP
Maryland Department of Planning
Maryland Historical Trust

Sustainable Attainable

March 4, 2015

Mr. J. Paul Loether, Chief
National Register of Historic Places
National Park Service
1201 I (eye) St., NW
Mail Stop 2280
Washington, DC 20005

RE: MALLOWS BAY
Charles County, Maryland

Dear Mr. Loether: Paul

Enclosed is documentation for nominating Mallows Bay, Charles County, Maryland to the National Register of Historic Places. The state review board and the owners concur in my recommendation for listing. Should you have questions in this matter, please contact Peter Kurtze at (410) 514-7649.

Sincerely,

Elizabeth Hughes

Elizabeth Hughes
Acting Director-State Historic
Preservation Officer

cc: State Clearinghouse #MD20140916-0765
Enclosures: NR form and 145 continuation sheets
1 USGS map
16 - 5x7 b/w prints
1-DVD

Correspondence: letter, Little to Gaines, 2 September 2014
letter, Janey to Little, 3 November 2014
letter, Robinson to Little, 30 December 2014