

**“A Symbol of American Ingenuity:”
Assessing the Significance
of U.S.S. *Monitor***

**Historical Context Study
for the Civil War Ironclad Warship U.S.S. *Monitor***



**“A Symbol of American Ingenuity:”
Assessing the Significance
of U.S.S. *Monitor***

**Historical Context Study
for the Civil War Ironclad Warship U.S.S. *Monitor***

By

JAMES P. DELGADO
United States Department of the Interior
National Park Service

Prepared for
United States Department of Commerce
National Oceanic and Atmospheric Administration
Marine and Estuarine Management Division
Washington, D.C.

Washington, D.C.
National Park Service
1988

Acknowledgements

This Historical Context Study was prepared under the provisions of an interagency agreement between the National Park Service and the National Oceanic and Atmospheric Administration. The preparation of this study is one part of that cooperative effort and formed the basis for the determination by the Secretary of the Interior that U.S.S. *Monitor* was of exemplary national significance and hence worthy of designation as a National Historic Landmark. *Monitor* is the first shipwreck to be designated a National Historic Landmark in the United States.

The preparation of this study would not have been possible were it not for the assistance, guidance, and support of several individuals. I am most grateful to Capt. Ernest Peterkin, Dr. Philip K. Lundeberg, Edwin C. Bearss, Dr. William N. Still, Jr., Edward M. Miller, Gordon P. Watts, Jr., Earl J. Hess, Dr. Robert J. Chandler, Larry Murphy, Dr. John Haskell Kemble, Dr. Benjamin Franklin Gilbert, Kevin Foster, Dr. William S. Dudley, Dr. Richard A. Gould, Dina Hill, Dr. Paul A. Johnston, Dana M. Wegner, Carol Olsen, Dr. John O. Sands, Daniel J. Lenihan, Dr. Harold Langley, Joy Waldron Murphy, J. Candace Clifford, Edward Miller, and the staffs of the National Archives, National Maritime Museum, National Museum of American History, Henry E. Huntington Library, Program in Maritime History and Underwater Research at East Carolina University, Library of Congress, Naval Historical Center, the Mariners' Museum, and the United States Naval Academy.

Table of Contents

Acknowledgements	i
Table of Contents	iii
List of Illustrations	iv
On the Significance of U.S.S. <i>Monitor</i>	1
<i>Monitor</i> and the Development of the Ironclad Warship	2
<i>Monitor's</i> Role in the American Civil War	5
Public Response to <i>Monitor</i> and the Monitors	7
<i>Monitor</i> as a Representative Work of John Ericsson	9
<i>Monitor</i> as Prototype	11
<i>Monitor's</i> Potential to Yield Information	11
Footnotes	13
Appendices	
I. National Register of Historic Places Nomination, 1974	17
II. National Historic Landmark Study, 1986	29

List of Illustrations

<i>Monitor</i> unveiled in <i>Harper's Weekly</i>	2
<i>Monitor</i> lectures Europe on Naval Architecture	3
"The Age of Iron"	4
"The <i>Monitor</i> and <i>Merrimac</i> "	6
Popular Songs and Sheet Music	8
"Iron Clad Paint" Advertisement	9
Monument to John Ericsson	10
Provenience System of the <i>Monitor</i>	12

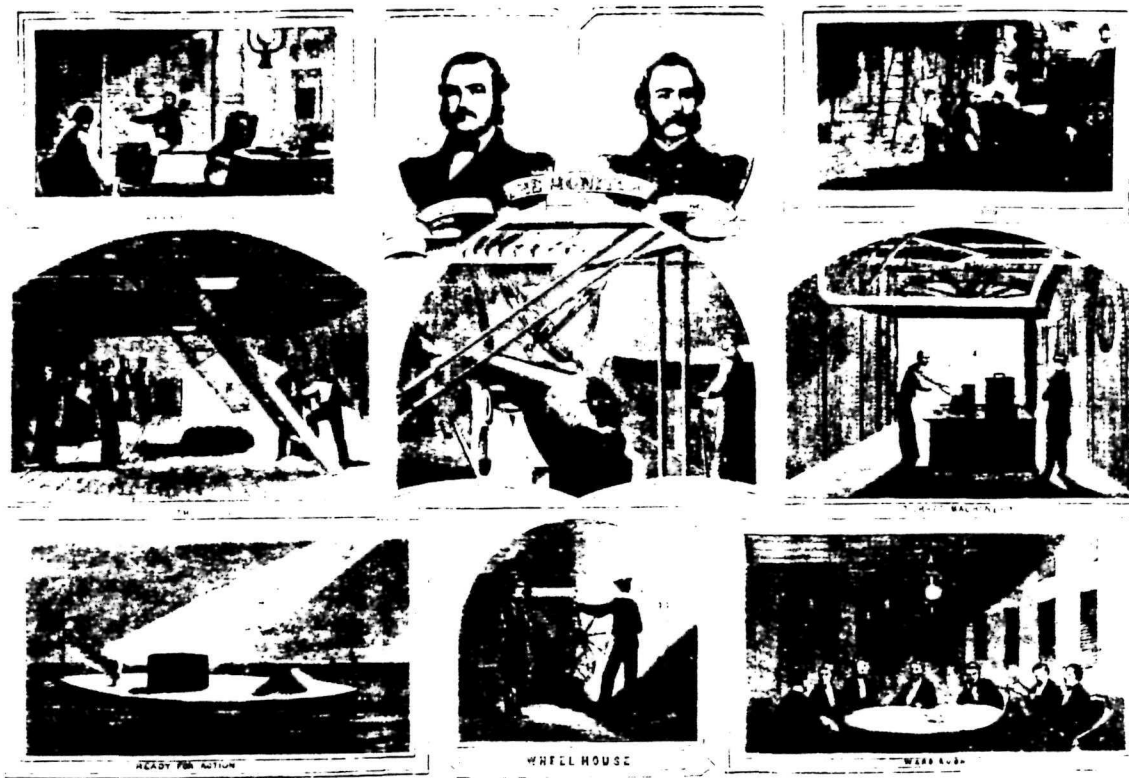
On the Significance of U.S.S. *Monitor*

The significance of U.S.S. *Monitor* in American history is interwoven with perceptions. Hence it has become another one of the myths out of which Americans' conception of their history has been constructed, along with others as the Liberty Bell, George Washington, Thomas Edison, Abraham Lincoln, and the Wright brothers.¹¹¹ The importance of *Monitor* to American history has often been discussed both by the popular media and by scholarly forums. In 1978, a conference in Raleigh, North Carolina, chaired by Dr. Larry E. Tise, then Director of the North Carolina Division of Archives and History, debated *Monitor's* "meaning and future." *Monitor*, according to Dr. Tise, like *Mayflower*, U.S.S. *Constitution* ("Old Ironsides"), and U.S.S. *Maine*, "... became and remains a part of the American mind, its bare mention conjuring up images of what we are as a people, of our experience as a people, and of some of the major events and motifs in our history."¹²¹ Tise, moreover, termed *Monitor* "one of the most meaningful objects in American history... so heavily laden with values that transcend the mundane and the common..."¹³¹ Federal official Charles M. McKinney, also speaking at the conference, noted in a sweeping comment on *Monitor's* significance that the vessel was important "not just as a ship that changed the course of naval warfare, but as a symbol of a people, their ingenuity, their capabilities, and most importantly, their recognition of those Americans who contributed to the technological success we enjoy today."¹⁴¹ While much pontification over the importance of *Monitor* to the American people and their past has ensued, quantification and qualification of significance has not: "the question of the *Monitor's* intrinsic value either as a symbol or as an artifact has largely been dismissed as so obvious that it was not in need of further discussion."¹⁵¹ The significance of *Monitor* was heavily debated at the Raleigh conference on *Monitor's* meaning; Larry Tise finally noted that the importance of the vessel needed to be further discussed since questions concerning her value had "become more common and often the subject of sharp disagreement."¹⁶¹ Dr. Tise correctly noted that "much of the value of the *Monitor* is based on legend, an incredible history, and very good public relations on the part of people associated with the *Monitor*, from [John] Ericsson right down to the present."¹⁷¹

However, the significance of U.S.S. *Monitor* can be qualified and quantified utilizing the criteria of the National Register of Historic Places. *Monitor* meets all four criteria for National Register listing; a) she was associated with broad patterns and events in American history, namely the development of the United States Navy in the 19th century, the rise of industrial facilities in the United States, and the American Civil War; b) she was associated with an individual significant in American history, Swedish-American inventor and engineer, John Ericsson; c) she embodies the distinctive characteristics as a prototype for a type of warships used by the United States Navy and other naval powers well into the 20th century; and finally d) her remains are likely to yield information important to American history since archaeological examination will provide a more detailed understanding of the vessel and more importantly provide a means for assessing the American mind-set through anthropologically generated research questions which probe human interaction with new technology and how modern industrial societies prepare for war.

It is argued here that the significance of U.S.S. *Monitor* relates primarily to her mythic qualities. Myths are real or fictional stories, recurring themes, or character types that appeal to the consciousness of a people, by embodying their cultural ideas or by giving expression to deep, commonly felt emotions. U.S.S. *Monitor's* impact on the American consciousness was profound, instilling a "*Monitor* mania" that continues to this day. *Monitor's* impact is reflected in the popular culture of her era; cartoons, poems, and other forms of social expression of the 1860s are replete with *Monitor* references. A hero-cult was attached to the vessel's designer and officers, and *Monitor* instilled a sense of American technological know-how and might.

Naval historian Dr. Philip K. Lundeberg has noted that in "appraising the historical significance of... *Monitor*, the modern observer is confronted with a wide range of technological comparisons—partly with other mid-19th century ironclads—that makes such an undertaking a deliberate search for adequate perspective."¹⁸¹ Assessing *Monitor's* significance to broad patterns of American history requires contextual setting and perspective. *Monitor's* role in the development of the ironclad warship, the Civil War, and public reaction to the war and new technology are investigated in the narrative which follows.



THE "MONITOR" AS SHE IS—INTERIOR AND EXTERIOR—FROM THE "HARPER'S WEEKLY" (See Page 37)

Monitor was "unveiled" to the public in an illustrated two page spread in Harper's Weekly of April 12, 1862, little more than a month after her battle with C.S.S. Virginia.

Monitor and the Development of the Ironclad Warship

Many of the features incorporated into *Monitor's* design—steam powered screw propulsion, iron hull, large caliber guns, and iron armor—had been developed prior to the construction of *Monitor*. Designs and proposals for ironclad warships date to as early as the 1840s. The outbreak of war on Russia's Crimean peninsula in 1854 brought about the first use of ironclads in naval warfare when French and British-built floating armored batteries bombarded shore-based fortifications in 1855. In response to the success of the French batteries, France and Britain constructed sea-going ironclad warships, the French applying iron armor to the wooden steam frigate *La Gloire* in 1858 and the British laying the keel, in the same year, of the ironclad *Warrior*. By 1860, a number of ironclad warships had been laid down and constructed, including more than forty seagoing ironclads, thirty armored coastal-defense vessels, and eighteen partially protected gunboats already built, building, or authorized in Europe. ^[9]

The development of the heavy shell gun in the 1820s and a scarcity of timber reserves in Europe had made clear the necessity for the subsequent adaptation of iron armor on naval warships. ^[10] Armor, as well as iron sea-going hulls, and steam screw propulsion, while conceived and to some degree tested prior to the American Civil War of 1861-1865, were not fully combined until Ericsson's intuitive leap in the design and construction of *Monitor*. Naval historian Philip Lundeborg has noted that the most significant aspect of *Monitor's* design was that she was "the world's first turreted ironclad...[which]...more than *Monitor's* low-freeboard draft and tapered lower hull, was the most distinctive element of this novel weapons system..." ^[11]

The design and construction of *Monitor*, then, summed up precisely earlier concepts of design and actual improvements on iron hulls, armor, steam screw propulsion, shell guns, and turrets. ^[12] *Monitor's* combat with C.S.S. *Virginia* at Hampton Roads, however, was the first between ironclad

warships and "revealed the limited effectiveness of the *Virginia's* casemated broadside battery against a mobile, low-freeboard opponent, while conversely demonstrating the practical impregnability and all-round fire capability" of *Monitor*. This demonstration, and the fact that "Ericsson's turret conception was the first to take form in an actual man-of-war... weighed heavily in the international acclaim which he was subsequently awarded...." ^[13]

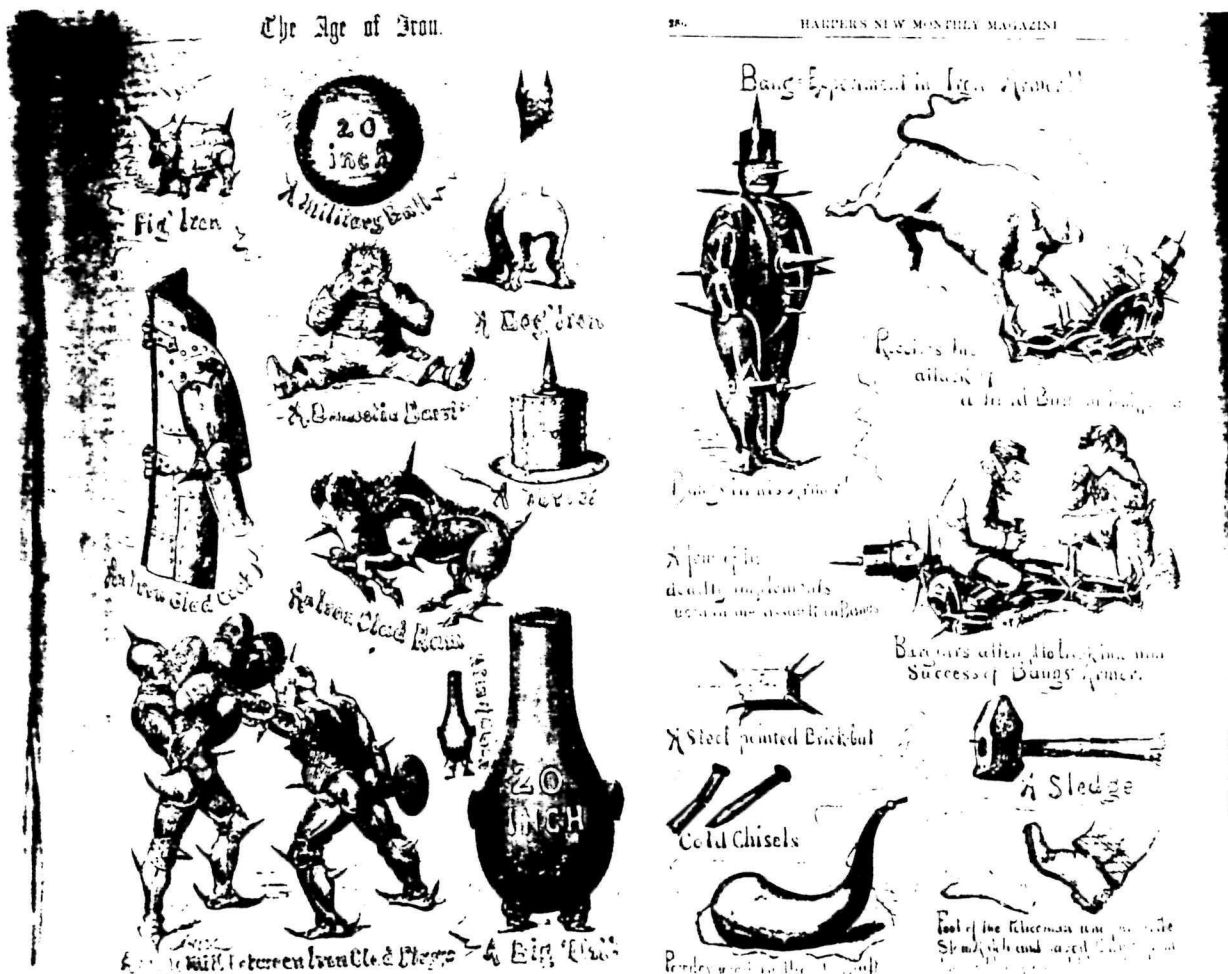
Ericsson's design concept for *Monitor* was also, more importantly, as historian Nicholas D. Ward has noted, an anticipation of modernity, "the blending and harmonizing of methods of construction with design to achieve desired goals." ^[14] Rather than rely solely on past practices, Ericsson had realized that form follows function. The modernity of *Monitor* is perhaps best expressed in Ericsson's pioneering extensive use of detailed specifications and engineering drawings and subcontractors in the construction of his ironclad: "With a conglomeration of major and minor subcontractors it is obvious that no one manufacturer had a clear idea of what the assembled ship would be. This was a unique departure from the traditional ways of ship construction." ^[15] Ericsson's use of modernity "in the field of naval architecture... put the United States on the map." ^[16] English naval architect J. Scott Russell similarly noted in 1865 that *Monitor* was "a creation altogether original, peculiarly American, admirably adapted to the special purpose which gave it birth. Like most American inventions, use had been allowed to dictate terms of construction, and purpose, not prejudice, has been allowed to rule invention." ^[17]



Professor Jonathan giving the Crowned Heads of Europe a few Notions on Naval Architecture.

Harper's Weekly noted American pride in the invention of *Monitor* with "Professor Jonathan," complete with an ironclad head, presenting the crowned heads of Europe with a lecture on naval architecture. Europe actually had little need for a lecture. European naval powers did note the *Monitor-Virginia* combat with considerable interest, however.

Monitor received international attention as well as acclaim. The turret concept, ably demonstrated for the first time on *Monitor*, was adopted by the navies of the world while the hull form and design of the coast-bound, largely unseaworthy vessel was not, except by Russia and Sweden. J. Scott Russell, writing in 1865, noted that *Monitor* and the classes of "monitors" that followed her offered conditions "such as we, at least for sea-going ships, would reluctantly accept. The low ship's side will, in the seaway, allow the sea to sweep over the ship, and the waves, not the sailors, will have possession of the deck..." Russell stated "that we should copy them [American monitors], I no longer recommend, than they should copy us. But we may each do well to study and admire the merit of the other's work."¹⁸¹ Ultimately, the adaptation of multiple turrets to sea-going ironclad hulls, or the synthesis of concepts tested and proven in *Monitor* and her progeny, and *Gloire* and *Warrior* and their successors, culminated in the development of iron and steel-hulled dreadnoughts and later ocean-going capital ships.



Harper's New Monthly Magazine lampooned and at the same time applauded "The Age of Iron."

Monitor as built also embodied an important American iron-working tradition. The development of the American ironclad warship would not have been possible were it not for the Industrial Revolution's metallurgical results in the United States. Largely built by three of America's largest and most innovative ironworks, the Albany Iron Works of Troy, New York, the Continental Iron Works of Brooklyn, New York, and the Novelty Iron Works of New York City and a variety of smaller "iron works, foundries, and machinery manufacturing firms" whose "composite history illustrates industrial growth of the United States during the nineteenth century," *Monitor* was also a product of the

nation's technological ability. A separate but cooperative study by Dr. William N. Still, Jr., of East Carolina University, North Carolina, identifies the pre- and post-war histories, significance, and *Monitor* construction roles of the various metal working firms that cooperated as sub-contractors to John Ericsson in the construction of *Monitor*.¹¹⁹¹

Monitor and most of her successor monitors were not effective sea-going warships, as the founding of *Monitor* and the near-loss of *Passaic* demonstrated. They were, however, design-effective coastal operation vessels ideal for coastal defense as John Ericsson had intended. Ericsson later noted that he had prepared plans for "an impregnable steam-battery of light draught, suitable to navigate the shallow rivers and harbors of the Confederate States."¹²⁰¹ Monitors represented the most appropriate warship for the United States, which in the 19th and early 20th centuries relied on the vast expanses of the Pacific and Atlantic oceans for security.¹²¹¹ While *Monitor* had limited effect on the ultimate development of the European ironclads and the modern warship, she did have a profound effect on warship construction in the United States during the Civil War. The tremendous positive public response to *Monitor* and her combat with C.S.S. *Virginia* in the United States inspired a "Monitor craze." Political and military support to construct a large number of monitors and the construction of larger, more sophisticated versions of *Monitor* occupied a substantial portion of warship production in the United States throughout the Civil War.¹²²¹ In all, fifty-nine monitors were ordered after the perceived success of the original *Monitor*—of these, approximately thirty-five were commissioned, twenty-seven during the Civil War, and the last to be built was laid down in 1889.¹²³¹ Monitors were given multiple turrets and more seaworthy hulls, but the modern American battleship owes much of her form to the steel-hulled so-called "A,B,C,D" ships of the 1880s patterned after European warships typical of *Warrior* and her progeny.¹²⁴¹

***Monitor's* Role in the American Civil War**

Monitor was widely perceived as "the ship that saved the Union" during the Civil War. The presence of C.S.S. *Virginia* in waters close to Washington, D.C., and her potential destruction of the Federal fleet at Hampton Roads inspired hysteria and some panic. The arrival of *Monitor* at Hampton Roads and her battle with *Virginia*, ended the Confederate ironclad's destructive foray among the Union's wooden fleet, and provoked a flurry of pro-*Monitor* sentiment that persisted long after the last shots of the Civil War had been fired. Popular conception of *Monitor's* role as "the ship that saved the Union" and won the Civil War has been overstated. The role of *Monitor's* offspring, the Union's monitors in the Civil War has also been over-emphasized by some historians.

As largely coast-bound vessels, monitors were strategically linked to two aspects of Union naval strategy—protecting the advance bases of the Union blockaders, and bombarding forts to capture and close Confederate ports. Monitors were also used to project Union power onto the rivers of the Confederacy. The use of monitors in the blockade enabled blockading fleets to stand off and destroy attacking Confederate ironclads. Monitors had a demonstrated defensive role in the blockade. But the monitors alone could not be successful in taking Confederate ports since they were not effective offensive weapons except in ship-to-ship combat.¹²⁵¹

"*Monitor* mania" prevalent in naval circles overlooked the weakness of monitors and fostered a myth of monitor invincibility in all situations. When a fleet of nine vessels (including seven monitors) attempted to crush the harbor defenses of Charleston, South Carolina, on April 7, 1863, they were repelled. Throughout the engagement, the cannon of the Confederate forts fired more than 2,000 rounds at the invading ships, hitting them no less than 439 times.¹²⁶¹ One non-monitor, *Keokuk*, was lost and several monitors suffered damage. The myth of monitor effectiveness in all situations was shattered again at Charleston and later at Mobile, Alabama, when the monitor *Tecumseh* was lost after hitting a Confederate mine.

The monitors were not alone able to capture and hold Confederate ports; those ports that were taken fell to combined land and sea forces. Monitor-type warships, therefore, while composing an important part of the Union fleet and a major Union commitment to naval construction, did not materially influence the collapse of the Confederacy. Yet the Civil War years saw the development of the Ericsson and Eads monitors, the first large-scale use of ironclad warships in combat, and a substantial favorable public and political response to the ironclads. The latter may be the most significant aspect of the monitors.



THE MONITOR AND MERRIMAC.

By CHAS. A. CLARK.

I'm going to sing a song, I wont detain you long ;
If you listen, I will tell you how so handy, O !
The Monitor went smack up to the Merrimac,
And upon her sides played : Yankee Doodle dandy, O !

CHORUS.
Hip a Dooden Do, Jeff Davis, how are you ?
Our Monitor beat your Merrimac quite handy, O !
Ericsson he's around ; in the world, there can't be found
A People like the Yankees Doodle Dandy, O !

'Twas on the Eighth of March, the Merrimac slipped out
From Norfolk, for to take a cruise so handy, O !
She did not think she'd meet any thing, in our fleet,
Able to give her : Yankee Doodle Dandy, O !

She went rushing round, smashing every thing she found,
Till the Monitor came sailing in, so handy, O !
And **WORDEN** stopped her fun, soon made her cut and run,
While the shells they whistled : Yankee Doodle dandy, O !

For the Yorktown and the other, they'd be little bother
To smash and break them both up, so handy, O !
For our gun-boats they would do to rip them through
and through,
While the sailors they'd sing : Yankee Doodle dandy, O !

The Merrimac was Some, till the Monitor she come,
And opened up her little ports so handy, O !
Then, the shot did fly, till the Merrimac's men did cry :
Here's the Devil, sure, or Yankee Doodle Dandy, O !

To Jeff this ought to show : that this Monster is no go,
And that Mechanics, in the North, are very handy, O !
That he must surrender soon, or we'll blow him to
the moon,
With inventions of our Yankees' Doodle Dandy, O !

Now, Boys, let us cheer the men that don't know fear,
That worked that little battery, so handy, O !
They deserve well of us all, let us pray that none may fall !
May they live long to sing : Yankee Doodle Dandy, O !



Charles A. Clark's "The Monitor and Merrimac" celebrated the ingenuity of Ericsson's invention and her exemplary role as a product of Yankee industry.

Public Response to *Monitor* and the Monitors

Public response to the news of *Monitor's* battle with C.S.S. *Virginia*, ending the Confederate ironclad's destructive rampage, was enthusiastic and outspoken. "Poets, government authorities, soldiers, sailors and the civilian public . . . considered the ironclad a tool for achieving victory . . ." and "mythicized the weapon."^[27] *Monitor* officer Frederick Keeler noted in a letter to his wife: "You cannot conceive of the feeling . . . the *Monitor* is on every one's tongue . . . It was told from one to another as I passed along—he's an officer from the *Monitor*—& they looked at me as if I was some strange being."^[28] Keeler also noted that a young female visitor to the vessel, when asked if she had seen the ship's armament, had said "Oh yes . . . & kissed them too. I feel as if I could kiss the deck we stand on."^[29]

Monitor was viewed as an impregnable super-weapon. One contemporary newspaper correspondent wrote that "Americanlike, we went mad over the *Monitor*. Naval warfare was revolutionized, we thought, in an hour. The supremacy of England on the ocean was ended. Monitors were henceforth to sway the destinies of commerce, and Monitors had been patented for the exclusive use of the universal Yankee nation."^[30] Newspapers around the nation reported the *Monitor-Virginia* battle and discoursed on the power and invulnerability of ironclads; the editors of the San Francisco Daily *Alta California*, a continent away from the battle, noted in 1863 that

Our Monitors can hammer away with a steady hand, and in a manner which will defy all the modern improvements in naval warfare. It is certainly a subject upon which we have just reason to congratulate ourselves, that the intelligence of the naval authorities of this country, and the superiority in engineering and mechanical skill and naval warfare, which it must be admitted they possess, has caused this gigantic element in naval warfare, and preeminently the American Monitor, to be called into existence.^[31]

Monitor reinforced the popular concept among Americans that they were technologically superior and ingenious; Herman Melville, writing on *Monitor's* battle with *Virginia*, in 1866 penned

Hail to victory without the gaud
Of glory; zeal that needs no fans
Of banners; plain mechanic power
Plied cogently in War now placed—
Where War belongs—
Among the trades and artisans.^[32]

H. De Marsan of Chatham, New York, publisher of sheet music, agreed with Melville; "To Jeff [Davis] this ought to show; that this Monster is no go, And that Mechanics, in the North, are very handy, O! That he must surrender soon, or we'll blow him to the moon, with the inventions of our Yankees' Doodle Dandy, O!"^[33]

Popular music was another aspect of the monitor craze; the "Monitor Polka," "The Monitor Grand March," "The Ericsson Galop," and "O Give Us a Navy of Iron" were among the musical celebrations:

O give us a Navy of Iron, And to
man it our Yankee Lads, And we'll
conquer the world's broad oceans,
with our navy of Ironclads.^[34]

"O Give Us a Navy of Iron" was sung to great acclaim throughout the North along with other songs, ditties, and ballads which boasted *Monitor* prowess.

The *Monitor* craze permeated the public consciousness through popular culture during the Civil War. American jargon was influenced with the introduction of the word "ironclad" and its acceptance as a term denoting a rigid, unbending, and inviolate nature. *Harper's New Monthly Magazine* of

To Capt Ericsson

Monitor Polka



G. WEINGARTEN.

NEW YORK

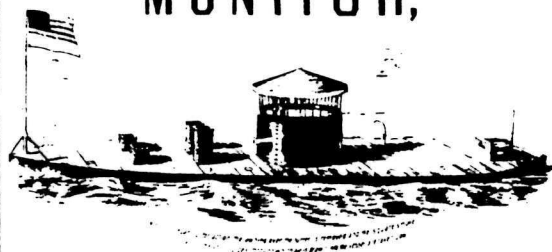
Published by H. R. DODD & CO. 615 Broadway

The

ERICSSON GALOP

Dedicated to the INVENTOR of the celebrated
STEAM BATTERY

MONITOR,



V. TINANS.

BOSTON
Published by Oliver Ditson & Co. 977 Washington St.

RESPECTFULLY DEDICATED TO
CAPTAIN JOHN L. WORDEN

THE

MONITOR

GRAND MARCH

CAPTAIN WORDEN WAS PARTIALLY WOUNDED BY THE CONCESSION AND AS
CAPTAIN ARMY ON RECOVERING HE ASKED HAVE I SAVED THE MINNESOTA
HE SAID I WAS LATE AND WOUNDED THE MERCHANT HE RESPONDED THAT
I WAS WHAT BELONGED OF ME

COMPOSED BY

E. MACK.

Philadelphia LEE & WALKER 722 Chestnut St.

TO CAPT. JOHN ERICSSON
Inventor of the Monitor.

O! GIVE US A NAVY OF IRON

THE POPULAR NAVAL BALLAD



Sung by
J. H. RAINER

AT SANFORD'S NEW OPERA-HOUSE

Words by
D. Bramard Williamson

Music by
JAS. W. PORTER.

PHILADELPHIA
Publ'd by J. W. LAWTON & CO. 19 So. 8th St.

A spate of popular songs and sheet music celebrated Monitor and ironclads. Among the offerings were "Monitor Polka," "The Ericsson Galop," "The Monitor Grand March," and "O Give Us a Navy of Iron."



The "Iron Clad Paint" advertisement shown here dates to 1879 and reflects the impact *Monitor* had on the popular language.

July, 1863, published an illustrated, humorous essay entitled, "The Age of Iron," which included an "ironclad coat," an iron-plated stove-pipe hat designated a "turret," "a steel-pointed brickbat," and "a little mill between Iron Clad plugs," in which two armored gentlemen slugged it out. The *Harper's* essay also featured "Bangs Experiment in Iron Armor!!" in which Mr. Bangs received a suit of iron armor, allowing him to meet "the attack of a mad bull with indifference!"^[35] The ironclad fervor continued well after the war; an 1879 advertisement in a railroad magazine depicted a monitor steaming along for "Iron Clad Paint," which was used by railroads and had been adopted by the "U.S. Government for Iron Ships' bottoms..."^[36]

The enthusiastic public response to *Monitor* and the later monitors during the Civil War lasted throughout the 19th century and well into the 20th century as participants in her design, construction, and career publicly reminisced and ruminated on the vessel and her place in history. Historians added to the mythology of the vessel; *Monitor* assumed greater importance and became even more of a symbol of American ingenuity and know-how, the progenitor of the modern battleship, representing "a completely new concept of design."^[37]

The context of *Monitor's* role in the development of the ironclad warship and the United States Navy and the conduct of the American Civil War is different than the exaggerated role some say the vessel played. Enthusiastic public response and mythology, the reasons for the difference, are significant. The comprehensive national response to *Monitor* and the creation of the *Monitor* myth point to the profound impact *Monitor* had and has on the American consciousness.

***Monitor* as a Representative Work of John Ericsson**

U.S.S. *Monitor* is the best known product of John Ericsson (1803-1889), Swedish-American inventor and engineer. Ericsson's work included progress toward the development of the steam fire-engine, screw propulsion, heavy ordnance, the use of iron in ship-building, ironclad warships, and the use



John Ericsson was apotheosized for his best-known creation, Monitor. This monument to Ericsson is located behind the Lincoln Memorial on the banks of the Potomac River in Washington, D.C. While focusing on Ericsson's connection to Monitor, the monument also pays tribute to Ericsson's other inventions (National Park Service Photographs by J. Candace Clifford, 1988).

of hot air as a motive force. ^[38] Ericsson's work in the United States (he immigrated to America in 1839) included the development of the first screw-propelled vessel in the U.S. Navy, *Princeton*, the construction of an experimental vessel, *Ericsson*, to test his theories of hot air or "caloric" power, and the design and construction of *Monitor* and her offspring. A colorful figure with a forceful personality, Ericsson's genius is best demonstrated in combining pre-existing theory, concepts, and design to create the Caloric Ship *Ericsson*, U.S.S. *Princeton*, and *Monitor*. Many of the factors that make *Monitor* significant through modernity apply to the Caloric Ship. Ericsson's principal biographer, William Conant Church, noted that "Ericsson pushed to completion this vessel of novel design and including so many new and untried problems of construction. It is a remarkable illustra-

tion, not alone of his industry, energy, and skill in management, but of **the completeness of his preliminary preparation in the way of designing and planning.**"¹³⁹

Ericsson also admirably fit into a cherished American stereotype, according to historian Theodore Ropp, as he "gradually became the prototype of those immigrant engineers who did so much for American technology."¹⁴⁰ Ericsson became mythicized and was to an extent apotheosized with his most famous invention, *Monitor*. Monuments to Ericsson include a cenotaph on the banks of the Potomac River in Washington, D.C., and another in Battery Park, Manhattan, which portrays a larger than life John Ericsson clutching in his hand a model of *Monitor*.

Monitor as Prototype

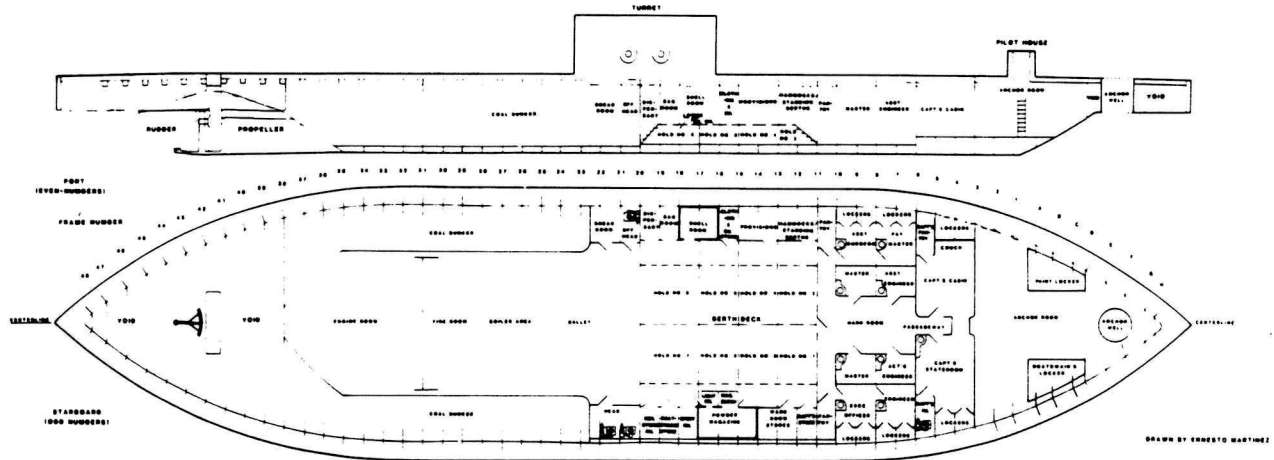
Monitor was designed and built by John Ericsson to give notice to the Confederacy and the rest of the world that the United States now possessed a formidable new weapon, which was impregnable and could invade the South with impunity. *Monitor's* perceived success and invulnerability and the substantial public and political response to the vessel sparked a program of monitor construction by the United States Navy. As noted, 59 monitors were ordered, some 35 of which were commissioned. These included ten *Passaic* class monitors, Ericsson's design of what *Monitor* could have been if her construction had not been rushed, but with several significant improvements, the *Miantonomah* class of double turreted monitors, nine *Canonicus* class monitors, the "first to incorporate the lessons of combat experience gained during the *Monitor-Virginia* clash and the attacks on Charleston as well as the practical ones gained from day-to-day experience," twenty light-draft *Casco* class monitors, *Dictator*, a sea-going monitor, and a number of river monitors.¹⁴¹ In contrast, the design of C.S.S. *Virginia* did not survive the war, nor did European navies adopt it.

After the Civil War a number of "new Navy" monitors were built with double turrets and steel hulls including the *Arkansas* class, the last group of monitors to be constructed by the U.S. Navy, at the end of the 19th century. The monitor design of 1900 bore little resemblance to the original *Monitor*. "Detailed analysis of the available historical sources confirm *Monitor* remained unique even among the later classes of turreted, heavily-armored, low freeboard vessels which were built in the United States. Although many of the characteristics which combined to make the *Monitor* unique were utilized in later vessels, their design was unquestionably altered from its original form."¹⁴² *Monitor* therefore not only embodies many of the distinctive characteristics of a type but also represents a significant, unique entity. *Monitor's* ultimate success as a prototype lay in Ericsson's design which used the natural strengths and characteristic elements of the materials selected and incorporating the requirements for the operation to build a new kind of vessel. Ericsson's design originated from need rather than preconception. "In this way his addition to the theory of design, from our hindsight, was a significant contribution toward the modern age, even if its manifestation in the form of the *Monitor* was not properly understood at the time and misused for most of her career."¹⁴³

Monitor's Potential to Yield Information Important to American History

The wreck of U.S.S. *Monitor* is one of two known wreck sites of Civil War monitors; the other is U.S.S. *Tecumseh*, an intact *Canonicus*-class monitor sunk in Mobile Bay, Alabama. *Tecumseh* lies upside down and is buried beneath sediment; in 1966 divers recovered her anchor and artifacts from her engine room. Some of the artifacts are curated at the National Museum of American History at the Smithsonian Institution, Washington, D.C.¹⁴⁴

Archaeological research at the *Monitor* site has the potential to yield information concerning particulars of the vessel; *Monitor* is the only monitor whose drawings do not divulge the functions of all of her compartments, and many minor details of construction are undocumented. Interpretations to date have been based on conjecture. Numerous questions concerning the unique, prototypical character of *Monitor* could be answered through careful archaeological research. It should be noted that a considerable body of documentary evidence exists; it has been estimated by some *Monitor* scholars that a 90% accurate reproduction of the vessel could be built from existing data.¹⁴⁵



Based on historical research by Capt. Ernest Peterkin, this drawing shows where archeologists might find certain classes or groups of artifacts (National Park Service drawing by Ernesto Martinez, a modification of Capt. Ernest Peterkin's).

Archaeological research that produces credible inferences and information beyond *Monitor's* individual characteristics by utilizing anthropologically-generated research questions can provide a better understanding of human behavior. Dr. Richard A. Gould, chair of the Department of Anthropology, Brown University, Providence, Rhode Island, formulated an anthropological research design for *Monitor* that posed questions relating to the vessel as a key to understanding how modern industrial societies (such as the Union during the Civil War) prepare for war; *Monitor's* role in the emergence of the modern arms race; an assessment of rates of technological change as evidenced by *Monitor's* percentages of innovative and standardized elements; *Monitor's* effect on the mass-production of iron warships in a traditional wooden ship industry; and the influences on *Monitor's* construction by a war situation that required haste to meet the threat of Confederate ironclads. ^[46]

Another series of research questions should focus on the shipboard stress of officers and crew in an experimental, "untried" vessel which might be answered through documentary research. Archaeological research on *Monitor*, *Tecumseh*, and other Civil War wrecks could generate another perspective on the human response to the ironclad. Indeed, recent maritime archaeological research in the Southeastern United States has increasingly focused on ironclads and other armored vessels of the Civil War. Archaeological documentation of the Confederate ironclad C.S.S. *Georgia* in the Savannah River was initiated by the Army Corps of Engineers. Another Confederate ironclad, C.S.S. *Neuse*, has been documented and interpreted by the State of North Carolina's Division of Archives and History. The gunboat U.S.S. *Cairo*, a river-based ironclad, was salvaged from the Yazoo River, Mississippi in 1964; its disassembled and deteriorating remains and artifacts were collected, conserved, curated, reconstructed and studied by the National Park Service between 1973 and 1985. ^[47]

Archaeological recovery of *Monitor* is ultimately linked to the public response to the vessel, which remains enthusiastic after more than a century. The discovery of *Monitor* in 1973 sparked a renewal of *Monitor* mania and inspired an almost religious awe in the discoverers:

We who have played a part in locating . . . *Monitor*, beneath the blue waters off Cape Hatteras, have been profoundly moved, for we have nearly touched those long-ago days of highest drama. ^[48]

Among other benefits, archaeology can recover relics that fulfill the popular need for a tactile response to this famous mythologized vessel. Ultimately, though, the romance of a shipwreck sitting on the ocean floor may be inexorably linked to modern *Monitor* mania. Recovery of all or part of the vessel could result in a discovery by the public that Ralph Waldo Emerson was right:

I wiped away the weeds and foam, I fetched my sea-born treasures home;
But the poor, unsightly, noisome things
Had left their beauty on the shore,
With the sun and sand and the wild uproar.

Footnotes

¹Other "mythic" aspects of American history include Davy Crockett, Daniel Boone, the landing at Plymouth Rock, and the New England town as the wellspring of American democracy. Kenneth A. Lockridge, *A New England Town: The First Hundred Years*. (New York: W.W. Norton & Company, 1970) p. xi.

²Larry E. Tise, "The Monitor: Its Meaning," in *The Monitor, Its Meaning and Future: Papers from a National Conference, Raleigh, North Carolina, April 2-4, 1978* (Washington, D.C.: The Preservation Press, 1978) p. 13.

³Tise, p. 14.

⁴Charles M. McKinney, "Comments," in *The Monitor, Its Meaning and Future*. . . . p. 99.

⁵Larry E. Tise, "The Monitor: An American Artifact," in *The Monitor, Its Meaning and Future*. . . . p. 63.

⁶Tise, p. 63.

⁷Larry E. Tise, "The Monitor: Its Meaning and Future," in *The Monitor, Its Meaning and Future*. . . . p. 128.

⁸Philip K. Lundeberg, "The Monitor: Fragile Survivor," in *The Monitor, Its Meaning and Future*. . . . p. 65.

⁹Edward M. Miller, *U.S.S. Monitor: The Ship That Launched a Modern Navy* (Annapolis, Maryland: Leeward Publications, Inc., 1978) p. 14.

¹⁰Gordon P. Watts, Jr., "Monitor of a New Iron Age: The Construction of the U.S.S. *Monitor*." M.A. Thesis, East Carolina University, 1975, p. 1.

¹¹Lundeberg, "The Monitor: Fragile Survivor," pp. 66-67.

¹²Watts, "Monitor of a New Iron Age. . . ." p. 1.

¹³Lundeberg, "The Monitor: Fragile Survivor," p. 66.

¹⁴Nicholas Donnell Ward, "Reflections on the Finding of the *Monitor*." *Loyal Legion Historical Journal*, 30 (3) p. 4.

¹⁵Dana M. Wegner, "Alban C. Stimers and the Office of the General Inspector of Ironclads, 1862-1864," M.A. Thesis, State University of New York College at Oneonta, 1979.

¹⁶Ward, "Reflections on the Finding of the *Monitor*," p. 4.

¹⁷J. Scott Russell, *The Modern System of Naval Architecture* (London: David and Son, 1865) v. 1, p. 565.

¹⁸Russell, p. 566.

¹⁹William N. Still, Jr., "Constructors of the U.S.S. *Monitor*," (1986), p. 1.

²⁰John Ericsson, "The Monitors," *Century Illustrated Monthly Magazine*, 31 (December 1885) p. 280.

²¹Gordon P. Watts, Jr., "The Location and Identification of the Ironclad U.S.S. *Monitor*," *International Journal of Nautical Archaeology*, 4 (1975) p. 304.

- ²²Watts, p. 307.
- ²³Richard H. Webber, *Monitors of the U.S. Navy, 1861-1937* (Washington, D.C.: Naval History Division, Navy Department, 1969) p. 3.
- ²⁴See George L. Fowler, "Ericsson's First Monitor and the Later Turret Ships," *Engineering Magazine*, October 1897, pp. 110-128, and Stanley Sandler, *The Emergence of the Modern Capital Ship* (Newark: University of Delaware Press, 1981).
- ²⁵Gerald S. Henig, "Admiral Samuel F. DuPont, The Navy Department, and the Attack on Charleston, April 1863," *Naval War College Review*, 32, (February, 1979) p. 72.
- ²⁶Richard E. Beringer, Herman Hattaway, Archer Jones, and William N. Still, Jr., *How the South Lost the Civil War*. (Athens: The University of Georgia Press, 1986) pp. 146-147.
- ²⁷Earl J. Hess, "Northern Response to the Ironclad: A Prospect for the Study of Military Technology," *Civil War History*, 31 (June, 1985) p. 127, 129.
- ²⁸Frederick Keeler to wife, March 11, 1862, in *Aboard the USS Monitor, 1862: The Letters of Acting Paymaster William Frederick Keeler, U.S. Navy, to his Wife Anna*, ed. Robert W. Daly (Annapolis, Maryland: United States Naval Institute, 1964) pp. 41-42.
- ²⁹Keeler, March 11, 1862.
- ³⁰Whitelaw Reid, Dispatch to the *Cincinnati Daily Gazette*, January 5, 1863 in *A Radical View: The "Agate" Dispatches of Whitelaw Reid, 1861-1865* ed. James G. Smart (Memphis, Tennessee: Memphis State University Press, 1976) pp. 240-241.
- ³¹San Francisco Daily *Alta California*, November 4, 1863.
- ³²Herman Melville, "A Utilitarian View of the Monitor's Fight," in *Battle-Pieces and Aspects of the War* ed. Sidney Kaplan (1866, reprint, Amherst, Massachusetts: University of Massachusetts Press, 1972) pp. 61-62.
- ³³Charles A. Clark, "The Monitor and the Merrimac," (Chatham, New York: H. De Marsan, 1862).
- ³⁴E.M. Eller, *Civil War Naval Chronology, 1861-1865*. (Washington, D.C.: Government Printing Office, 1966) Part VI, pp. 143-147.
- ³⁵"The Age of Iron," *Harper's New Monthly Magazine*, 27, (July 1863), pp. 285-286.
- ³⁶Advertisement in Matthias N. Forney, *The Railroad Car Builder's Pictorial Dictionary* (1879, reprint, New York: Dover Publications, Inc., 1974) p. 25.
- ³⁷As cited in Nicholas Donnell Ward, "Reflections on the Finding of the Monitor," *Loyal Legion Historical Journal*, 30 (September 1974), p. 4
- ³⁸William Conant Church, *Life of John Ericsson* (New York: Charles Scribner's Sons, 1980, 1911). 2 vols.
- ³⁹Church, pp. 189-190
- ⁴⁰Theodore Ropp, "The Monitor's Changing Appeal," in *The Monitor, Its Meaning and Future...* p. 74.
- ⁴¹William H. Cracknell, "United States Navy Monitors of the Civil War," *Profile*, September 1973, pp. 273-296, *pass.* and Webber, *Monitors of the U.S. Navy, 1861-1937*.
- ⁴²Gordon P. Watts, Jr., "The Location and Identification of the Ironclad U.S.S. Monitor," p. 315.
- ⁴³Ward, "Reflections on the Finding of the Monitor," p. 10.

⁴⁴*U.S.S. Tecumseh, Capsule of History* (Washington, D.C.: Smithsonian Institution, 1970).

⁴⁵Interview, Ernest Peterkin, Camp Springs, Maryland, September 26, 1985 and Interview Gordon P. Watts, Jr., Greenville, North Carolina, September 30, 1985.

⁴⁶Interviews, Richard A. Gould, Annapolis, Maryland, September 25 and 26, 1985.

⁴⁷See James G. Baker, Richard J. Anuskiewicz, and Ervan G. Garrison, "Mapping and Site Characterization in Zero Visibility: The C.S.S. *Georgia*," in Gordon P. Watts, Jr., ed. *Underwater Archaeology: The Challenge Before Us: The Proceedings of the Twelfth Conference on Underwater Archaeology*, (San Marino, California: Fathom Eight, 1981), Leslie S. Bright, William H. Rowland, and James C. Bardon, *C.S.S. Neuse: A Question of Iron and Time* (Raleigh: North Carolina Division of Archives and History, 1981), Edwin C. Bearss, *Hardluck Ironclad: The Sinking and Salvage of the Cairo* (Baton Rouge: Louisiana State University Press, 1966), and Tom McGrath and Doug Ashley, *Historic Structure Report, U.S.S. Cairo, Vicksburg National Military Park, Vicksburg, Mississippi* (Denver: National Park Service, 1981).

⁴⁸John G. Newton, "How We Found the Monitor," *National Geographic*, 147 (January 1975), p. 61.

APPENDIX I. National Register of Historic Places Nomination, 1974

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM
FOR FEDERAL PROPERTIES**

(Type all entries - complete applicable sections)

STATE: Outer Continental Shelf off North Carolina
COUNTY: Coast
Not Applicable
FOR NPS USE ONLY
ENTRY DATE: OCT 11 1974

1. NAME

COMMON: U.S.S. Monitor

AND/OR HISTORIC:

2. LOCATION

STREET AND NUMBER: S of Cape Hatteras in Atlantic Ocean
Not for Publication, See Continuation Sheet #2

CITY OR TOWN: Cape Hatteras vicinity CONGRESSIONAL DISTRICT: Senators Ervin and Helms

STATE: North Carolina CODE: 037 COUNTY: Not Applicable CODE: --

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
<input type="checkbox"/> District <input type="checkbox"/> Building <input type="checkbox"/> Site <input type="checkbox"/> Structure <input checked="" type="checkbox"/> Object	<input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Both	Public Acquisition: <input type="checkbox"/> In Process <input type="checkbox"/> Being Considered	<input type="checkbox"/> Occupied <input checked="" type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress
PRESENT USE (Check One or More as Appropriate)			
<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input type="checkbox"/> Educational <input type="checkbox"/> Entertainment	<input type="checkbox"/> Government <input type="checkbox"/> Industrial <input type="checkbox"/> Military <input type="checkbox"/> Museum	<input type="checkbox"/> Park <input type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	<input type="checkbox"/> Transportation <input checked="" type="checkbox"/> Other (Specify) <u>shipwreck</u>
Yes: <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Unrestricted <input type="checkbox"/> No			

4. AGENCY

Bureau of Land Management (Department of the Interior)

REGIONAL HEADQUARTERS: (If applicable)
Atlantic OCS Office

CITY OR TOWN: New York

STREET AND NUMBER: 90 Church Street

STATE: New York CODE: 036

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.: Not Applicable

STREET AND NUMBER:

CITY OR TOWN: STATE: CODE:

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: Not Applicable

DATE OF SURVEY: Federal State County Local

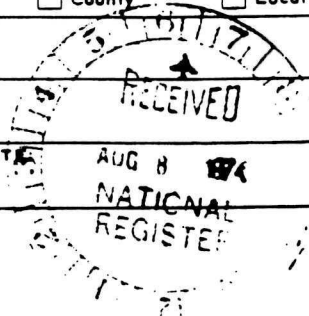
DEPOSITORY FOR SURVEY RECORDS:

STREET AND NUMBER:

CITY OR TOWN: STATE: AUG 8 1974 CODE:

SEE INSTRUCTIONS

STATE: Outer
COUNTY: N/A
ENTRY NUMBER: OCT 11 1974
DATE:
FOR NPS USE ONLY



NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Outer Continental Shelf off North Carolina	
COUNTY	Coast
Not Applicable	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
067 11 874	

(Number all entries)

2. Location

35° 00' 23" North
75° 24' 32" West

The Monitor site lies in 220' of water on a hard sand and shell hash bottom 15.80 miles south-southeast of the present Cape Hatteras Light (FL 15 sec 191ft 20M/C&GS 1109 2-20-71) on a geographical range bearing 159° true. From the Diamond Shoals Tower (FL 2 1/2 sec 20ft 17M/C&GS 1109 2-20-71) the site lies 10.40 miles south-southwest on a geographical range bearing 212° true. This is as accurate as we can determine with our present equipment.

As the location of the site is a critical factor in preserving its integrity, this location should remain confidential.



7. DESCRIPTION

CONDITION	(Check One)					
	<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input checked="" type="checkbox"/> Deteriorated	<input type="checkbox"/> Ruins	<input type="checkbox"/> Unexposed
	(Check One)			(Check One)		
	<input checked="" type="checkbox"/> Altered	<input type="checkbox"/> Unaltered		<input type="checkbox"/> Moved	<input checked="" type="checkbox"/> Original Site	

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

ORIGINAL CONDITION

At her launching on January 30, 1862, the steam-powered ironclad Monitor indeed resembled the "Cheesebox on a Raft" to which her profile has frequently been compared. Above the main deck level only the small pilot house forward and the revolving cylindrical gun turret amidship remained in the absence of the conventional superstructure. The flat featureless deck of the upper hull contained little that would obstruct the vessel's 360° field of fire.

Resembling a raft in appearance, the upper hull measured approximately 172' in length with an extreme beam of approximately 41'. The lines of the bow and stern were identical and represented arcs having radii of 75'. The sides of the upper hull were constructed parallel and extended for approximately 80' before intersecting the arcs of the bow and stern. This configuration was adopted to eliminate the expensive and time-consuming necessity for bending plates to obtain a more conventional and sea kindly hull.

For the same reason the lower hull was designed with a simple flat bottom, hard chine, and athwartship straking. Like the armored raft it supported, the lower hull was bilaterally symmetrical with the configuration of the bow identical to that of the stern. In the water the overlapping armor belt of the upper hull completely obscured the 124'-long 34'-wide lower hull which contained the crew's quarters, engines, and machinery.

The single turret amidships provided protection for the vessel's ordnance and, through the use of a small auxiliary steam engine, made it possible to train the guns without altering the position of the ship. The turret, constructed of 8" of iron, stood 9' high and had an internal diameter of 20'. The Monitor's battery of two 11" guns were located inside the turret.

PRESENT CONDITION

Today the remains of the Monitor are located in 220' of water approximately 16 miles south-southeast of Cape Hatteras, North Carolina. The inverted hull of the vessel lies on a hard sand bottom. While the accumulation of sand has obscured portions of the starboard side to a height of approximately 6', the port side remains exposed. The displaced turret partially obscured by the hull protrudes from the port quarter.

In the stern a considerable portion of the starboard quarter has separated from the hull and now lies on the bottom directly under its original position. Aside from this the upper hull exists in an excellent state of preservation and remains virtually intact. The turret, because of its heavy construction, exists in a similar state of preservation.

Continued

SEE INSTRUCTIONS

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

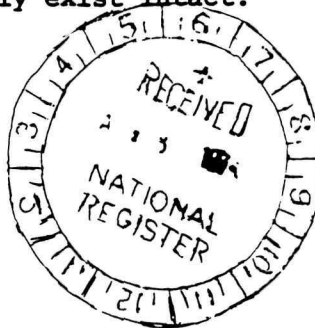
(Continuation Sheet)

STATE Outer Continental Shelf off North Carolina	
COUNTY	Coast
Not applicable	
FOR NPS USE ONLY	
ENTRY NUMBER 71	DATE
00111	10/11/71

(Number all entries)

7. Description

The lower hull, partially because of its exposed position and partially because of its less massive construction, has suffered considerably more damage. Forward of the vessel's only substantial athwartship bulkhead, damage to the lower hull seems to be quite general. With the exception of portions of the starboard side, it has been reduced to the level of the bottom of the armor belt. Aft of the bulkhead damage more closely resembles what can be considered natural deterioration. Most of the lower hull plating remains intact and there is little of the heavy structural damage apparent in the forward areas. Heavy machinery located in the aft sections of the vessel probably exist intact.



8. SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

- | | | | |
|--|---------------------------------------|--|---------------------------------------|
| <input type="checkbox"/> Pre-Columbian | <input type="checkbox"/> 16th Century | <input type="checkbox"/> 18th Century | <input type="checkbox"/> 20th Century |
| <input type="checkbox"/> 15th Century | <input type="checkbox"/> 17th Century | <input checked="" type="checkbox"/> 19th Century | |

SPECIFIC DATE(S) (If Applicable and Known)

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

- | | | | |
|--|---|--|---|
| Aboriginal | <input type="checkbox"/> Education | <input type="checkbox"/> Political | <input type="checkbox"/> Urban Planning |
| <input type="checkbox"/> Prehistoric | <input checked="" type="checkbox"/> Engineering | <input type="checkbox"/> Religion/Philosophy | <input checked="" type="checkbox"/> Other (Specify) |
| <input type="checkbox"/> Historic | <input type="checkbox"/> Industry | <input type="checkbox"/> Science | Archaeological |
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Invention | <input type="checkbox"/> Sculpture | Technological |
| Naval <input checked="" type="checkbox"/> Architecture | <input type="checkbox"/> Landscape | <input type="checkbox"/> Social/Humanitarian | _____ |
| <input type="checkbox"/> Art | Architecture | <input type="checkbox"/> Theater | _____ |
| <input type="checkbox"/> Commerce | <input type="checkbox"/> Literature | <input type="checkbox"/> Transportation | _____ |
| <input type="checkbox"/> Communications | <input checked="" type="checkbox"/> Military | | _____ |
| <input type="checkbox"/> Conservation | <input type="checkbox"/> Music | | _____ |

STATEMENT OF SIGNIFICANCE

The U.S.S. Monitor was the prototype of a class of ironclad, turreted warships which significantly altered both naval technology and marine architecture in the nineteenth century. Designed by Swedish engineer John Ericsson, the vessel contained all of the nascent innovations which would combine to revolutionize warfare at sea. An example of the North's highly developed industrial society, Monitor was constructed in an amazing 110 days. On March 6, 1862, just nine days after her commissioning, the Monitor was ordered to Hampton Roads, Virginia, to oppose the Confederate ram which had been reconstructed from the remains of the scuttled screw steamer U.S.S. Merrimack.

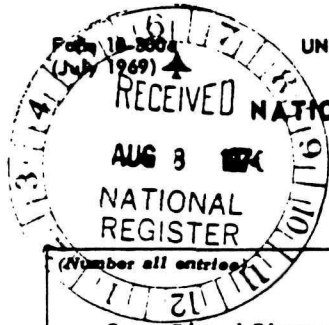
On March 9, 1862, the U.S.S. Monitor fought the converted ironclad C.S.S. Virginia in one of the most significant encounters in the history of naval warfare. While the four-hour battle, the first between steam-powered, armored warships, produced no clear-cut victor, its effects were both immediate and far-reaching.

The Monitor's timely arrival at Hampton Roads effectively checked the destructive rampage of the Virginia. Her presence alone preserved the blockade which previously had been maintained by ships of wood. In retrospect, the point is moot, but in the spring of 1862, the Monitor's presence off Fort Monroe represented a formidable, if only psychological, barrier between the Confederate ram and the Union capital. The vessel's success provided President Abraham Lincoln with a badly needed psychological victory to offset flagging morale caused by the mediocre performance of the Federal armies in the field. After the destruction of the Virginia in May, 1862, ended the stalemate at Hampton Roads, the Monitor contributed heavily to the naval support of General George McClellan's unsuccessful peninsular campaign during the summer of 1862, patrolling the James River.

After McClellan's forces retreated, thwarted in their efforts to capture Richmond, the Monitor remained to patrol the James River, in response to rumors that the Confederates were constructing a new ironclad, to be called the Virginia II. By October, however, the Monitor had been replaced by other vessels and was brought to the Washington, D.C., Navy Yard for badly needed repairs and refitting. After extensive renovation and the installation of new machinery, completed in November, the Monitor was sent back to the James River to protect Fort Monroe. On December 25,

Continued

SEE INSTRUCTIONS



UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Outer Continental Shelf off North Carolina	
COUNTY	Coast
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
0011	1974

8. Significance

1862, orders were received to tow the ironclad to Beaufort, North Carolina, and the journey began on the 29th. This, it appears, was to be followed by heading either to Wilmington or Charleston to attack. En route to Beaufort, under tow by the steamer Rhode Island, the Monitor encountered a great gale. Leaks occurred in various places on the ironclad, and it became obvious it would sink. The captain left the ship, but others were unwilling to do so; of the sixteen who were lost, three or four were washed overboard, while the rest went down with the ship. The Monitor sank on December 31, 1862.

While the Monitor is perhaps best known for its celebrated encounter with the Virginia, the unique vessel played an equally significant role in influencing the design of warship construction in the United States well into the twentieth century. The success of the vessel's performance at Hampton Roads provided the impetus for a "Monitor craze" which swept the Union. Popular, political, and, to a lesser degree, naval support for the vessel combined to insure the construction of a large number of these heavily armored, turreted, low-profile vessels which gained the generic name "monitors." Throughout the Civil War, production of larger, more sophisticated versions of the Monitor occupied a considerable portion of the warship production of the United States. In the postwar years when European naval powers were concentrating on the development and construction of large seagoing armored vessels, the United States still clung tenaciously to the "monitors" as the primary weapon in the naval arsenal. By 1937, when the last monitor was decommissioned, the Navy had ordered a total of seventy-one of the vessels. Ideally suited to the task of coastal defense, monitors represented the most logical warship for a nation which in the nineteenth century relied almost exclusively on its oceanic buffers for security. For a country with a traditional abhorrence for standing navies and a foreign policy of isolation, the vessels offered maximum security for the smallest possible expense.

As the prototype of this class of vessels, the Monitor represents one of the most revolutionary concepts in nineteenth century naval technology. Her construction marks one of the most distinct departures from established shipbuilding tradition in the history of marine architecture, and has been widely accepted as symbolic of the beginning of the end of the era of the wooden, sail-powered ship-of-the-line as the citadel of sea power. As the first comprehensive naval response to the technological advances of the scientific and industrial revolution, the Monitor represents the first major step in the development of the first modern capital ships.

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Nomination prepared by Gordon Watts, archaeological assistant, Archaeology Section.

Baxter, J.B. The Introduction of the Ironclad Warship, Cambridge, Mass., 1933.

Bennett, F. M. The Steam Navy of the United States, Pittsburg: Warren & Company, 1896.

Continued

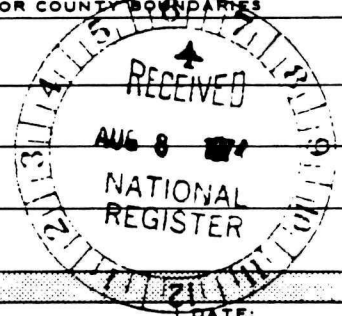
10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY				O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES				
CORNER	LATITUDE		LONGITUDE		LATITUDE		LONGITUDE		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
NW	°	'	"	°	'	"	35°	00'	23"
NE	°	'	"	°	'	"	75°	24'	32"
SE	°	'	"	°	'	"			
SW	°	'	"	°	'	"			

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: Not applicable.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY:	CODE



SEE INSTRUCTIONS

11. FORM PREPARED BY

NAME AND TITLE: Gordon Watts, archaeological assistant, Archaeology Section DATE: June 12, 1974

BUSINESS ADDRESS: Department of Cultural Resources, Division of Archives and History

STREET AND NUMBER: 109 East Jones Street PHONE: 829-7862

CITY OR TOWN: Raleigh STATE: North Carolina CODE: 037

12. CERTIFICATION OF NOMINATION

State Liaison Officer recommendation:

Yes
 No
 None

Monten W. Hutchell
 State Liaison Officer Signature

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Liaison Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The recommended level of significance is National State

[Signature] 8-5-74
 Federal Representative Signature Date
Deputy Asst Secy - FWP
 Title

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

[Signature]
 Director, Office of Archeology and Historic Preservation

Date 10/11/74

ATTEST:

[Signature]
 Keeper of the National Register

Date 10-11-74

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Outer Continental Shelf off North Carolina	
COUNTY	Coast
Not Applicable	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
	OCT 11 1974

(Number all entries)

9. Major Bibliographical References

Bradley, C. D. President Lincoln's Campaign Against the Merrimac. Journal of the Illinois State Historical Society, Spring 1958, vol. 51, no. 1.

Bruce, R. B. Lincoln and the Tools of War, Indianapolis: Bobbs-Merrill Co., 1956.

Carrison, D. J. The Navy from Wood to Steel-1860-1890. New York: Watts, 1965.

Church, W. C. The Life of John Ericsson. 2 vols. New York, 1891.

Daly, R. W. (ed.) Aboard the U.S.S. Monitor, Naval Letters Series, vol. 1, United States Naval Institute, Annapolis, Maryland, c. 1964.

_____ How the Merrimac Won . . ., New York, Crowell, 1957.

McCordock, R.S. The Yankee Cheesebox, Philadelphia, Dorrance and Co., 1938.

MacBride, R. Civil War Ironclads. Chilton Company Publishers: New York and Philadelphia, 1962.

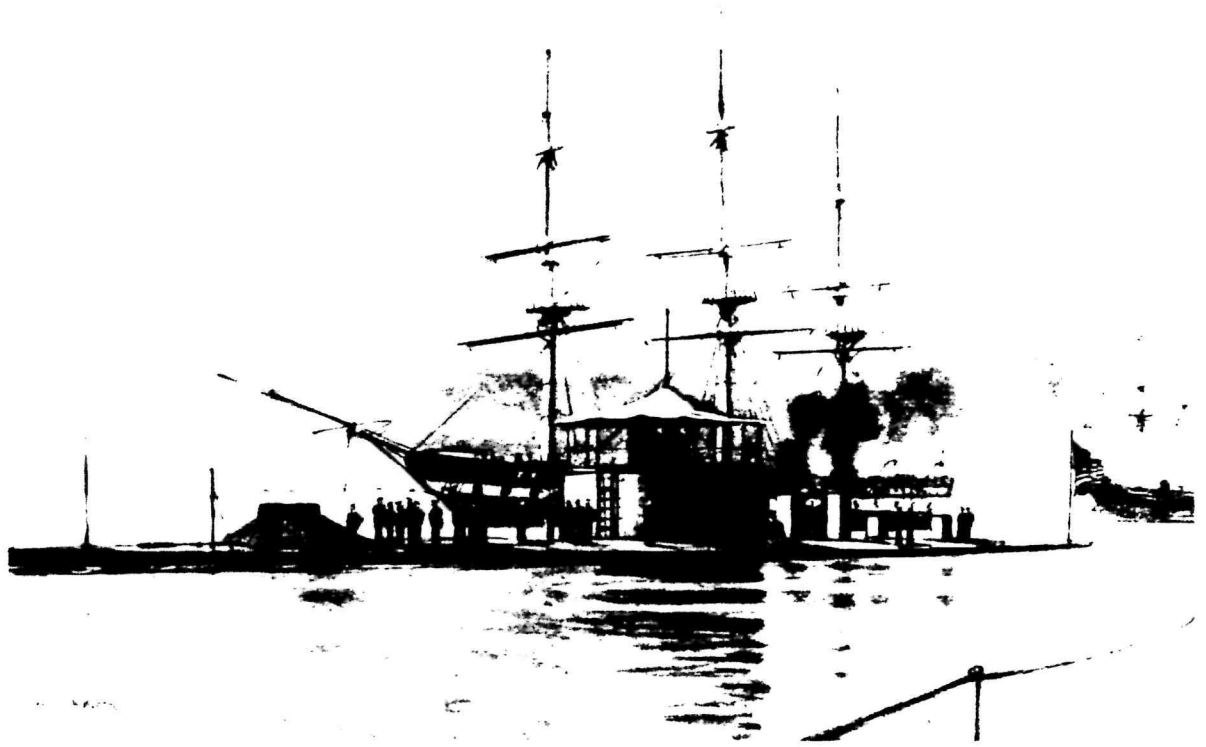
Smith, A. C. "The Monitor-Merrimac Legend", in U.S. Naval Institute Proceedings, Annapolis, 1940.

Weber, R. Monitors of the United States Navy, 1861-1937. Washington, D.C.: GPO, 1969.

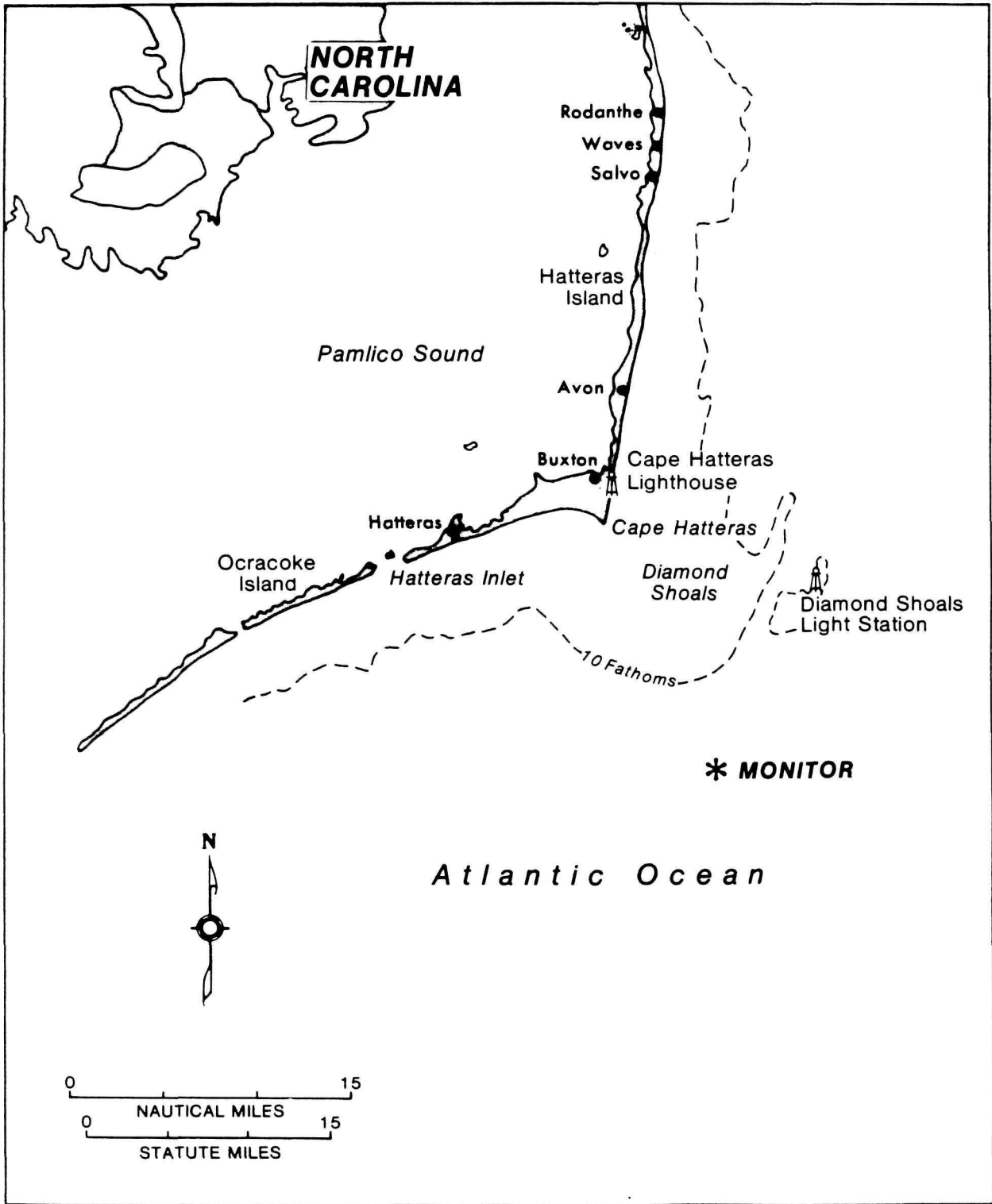
White, R. Yankee from Sweden, Henry Holt and Co., New York, 1960.

White, W. C. Tin Can on a Shingle. New York, Dutton, 1957.





A painting of the U.S.S. Monitor at port (courtesy of Naval History Division, Navy Department).



APPENDIX II. National Historic Landmark Study, 1986



United States Department of the Interior

NATIONAL PARK SERVICE
P.O. BOX 37127
WASHINGTON, D.C. 20013-7127

Your
National Park Service
Reminds You.



"TAKE PRIDE IN AMERICA"

IN REPLY REFER TO

MAY 15 1986

Memorandum

TO: The Secretary
THROUGH: ^{Deputy} Assistant Secretary for Fish and Wildlife and Parks
FROM: Director, National Park Service, **William Penn Mott, Jr.**
SUBJECT SUMMARY: Designation of National Historic Landmarks--Request for Secretarial Action

MAY 15 1986

DISCUSSION: The National Park System Advisory Board, at a meeting on April 28, 1986, recommended designation of the following properties as National Historic Landmarks:

- (1) Locust Grove (General George Rogers Clark House), vicinity of Louisville, Kentucky
- (2) White Haven (Grant-Dent House), vicinity of Grantwood Village, Missouri
- (3) USS Monitor, off Cape Hatteras, North Carolina
- (4) ~~Texas~~ State Capitol, Austin, Texas
- (5) Kennecott Mines, vicinity of Kennecott, Alaska
- (6) Los Adaes (Nuestra Senora del Pilar los Adaes), vicinity of Robeline, Louisiana
- (7) Space Launch Complex 10, Vandenberg Air Force Base, California

In accordance with National Historic Landmarks Program regulations, the Board reviewed the studies nominating these properties for Landmark status, and found that the properties meet National Historic Landmarks Program criteria. The Board members voted unanimously to recommend the designations of the above properties, except that in the case of Locust Grove, the motion to recommend designation passed by a vote of 4 to 2. No objections to these designations have been raised by any of the parties required to be notified of Landmark nomination proposals.

I recommend that you approve the Board's recommendation and designate the properties listed above as National Historic Landmarks.

Approve *Ronald Paul Hodel* Disapprove _____

Date JUN 23 1986 Date _____

Prepared by: Laura Feller ext.: 343-8167

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR FEDERAL PROPERTIES

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC U.S.S. Monitor

FEE W FEE

AND/OR COMMON

Shipwreck Site and Remains, U.S.S. Monitor

2 LOCATION

STREET & NUMBER South of Cape Hatteras in the Atlantic Ocean

— NOT FOR PUBLICATION

CITY, TOWN

Hatteras

VICINITY OF

CONGRESSIONAL DISTRICT

STATE

North Carolina

CODE

037

COUNTY

N/A

CODE

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input checked="" type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input type="checkbox"/> PRIVATE RESIDENCE
<input checked="" type="checkbox"/> SITE	PUBLIC ACQUISITION	<input checked="" type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input checked="" type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES, RESTRICTED	<input checked="" type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES, UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER

4 AGENCY

REGIONAL HEADQUARTERS (If applicable)

National Oceanic and Atmospheric Administration

STREET & NUMBER

33 Whitehaven NW

CITY, TOWN

Washington

— VICINITY OF

STATE

D.C.

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC

Same as above

STREET & NUMBER

CITY, TOWN

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

National Register of Historic Places

DATE

October 11, 1974

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

National Park Service

CITY, TOWN

Washington

STATE
D.C.

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input checked="" type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input checked="" type="checkbox"/> FAIR	<input checked="" type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The wreck of USS Monitor lies off the North Carolina coast on the eastern Continental Shelf 16.1 miles south-southwest of Buxton, North Carolina, in 220 feet of water at the center [Latitude and Longitude] of the one-mile diameter Monitor National Marine Sanctuary. The wreck lies on a sandy plain and is surrounded by an associated wreckage field. While marine growth is attached to the hull, the immediate bottom area is devoid of vegetation.

U.S.S. Monitor as Built, 1862

U.S.S. Monitor, prototype of a new type of ironclad, turreted warship, was launched at Greenpoint, Long Island, New York, on January 30, 1862. As launched, Monitor was 173 feet in length, with an extreme beam of 41 feet, 4 inches, an 11 foot, 2 inch depth of hold, a 10 foot, 4 inch draft, and displaced 987 gross tons. Monitor's freeboard was only 18 inches, offering a low profile with only the turret, pilothouse, smoke and blower stack above deck. The 164 foot long, 36 foot wide wrought iron hull was protected from shellfire by a 32-inch-wide iron beam armored shelf supporting 27 inches of oak and pine backing covered by five layers of 1-inch iron plates. Two courses 1/2-inch iron plate was laid over 7 inches of pine deck planking and 10-inch deck beams. Decklights admitted light below to the wardroom and were protected by iron covers which could be hooked in place. The deck was pierced by hatches for blowers, smoke stacks, and access to the engine room, berth deck and the turret. Iron stanchions set into the deck supported rope lifelines.

The principal feature of the vessel was the 20-foot (internal) diameter, 9 foot high iron turret, which housed two XI-inch Dahlgren smoothbore shell guns, the ship's armament. The turret's 21 1/2-foot diameter bulkhead was composed of eight courses of one-inch iron plates protected the guns and their crews. The turret set on a bronze ring on the deck and was raised by a wedge under the central column when going into action. The turret revolved under the power of two steam engines operating through a gear train and controlled by the gunnery officer in the turret.

Monitor was propelled by an Ericsson vibrating lever engine of 320 indicated horsepower which drove a single, 9-foot diameter four bladed screw. The engines were powered by two forced-draft fed Horizontal fire-tube boilers. Monitor's bunker capacity was

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 2

100 tons of coal. Monitor was designed to operate at 9 knots; her service speed was 6 knots. The interior of the vessel was divided amidships by a single iron bulkhead which supported the weight of the turret and provided a pressure barrier for the fire room. Cabins, storerooms, berth deck, wardroom, and lockers were located inside the hull below the waterline. Heads designed for operations below the waterline were installed, and the interior spaces were ventilated by forced draft. The anchor, of four-fluked design, was set into a well at the bow and was raised and lowered by a manually operated windlass inside the vessel (1).

Modifications to Monitor

Following her engagement with C.S.S. Virginia at Hampton Roads, Virginia on March 9, 1862, and subsequent operations on Virginia's James River, Monitor was modified, repaired, and overhauled. Much of the work was accomplished at the Washington Navy Yard. Repairs included replacing battle damaged armor plate. Modifications to the interior of the vessel included raising the berth deck, shifting storeroom bulkheads, and adding storerooms and an additional shell room. On deck the pilothouse, which had been hit during the engagement with Virginia, wounding Monitor's commander, was armored with a oak and iron glacis. The square smoke stacks were replaced with a breeching which led to a single telescoping 24-foot tall stack. Boats were rigged from davits on the deck. A breast-high sheet iron "rifle screen" was added to the top of the turret. Additions were made to the machinery; An Andrews centrifugal pump driven by two-cylinder steam engine was added in May 1862 and a blower and engine for additional forced ventilation were added in October of the same year. Monitor's main engines were overhauled in October of 1862. These were the only major alterations, repairs, and replacements to the vessel prior to her sinking on December 31, 1862 (2).

Wreck of U.S.S. Monitor

Monitor evidently capsized when sinking. She lies upside down and rests with her port side partly atop her displaced turret. The wreck retains much of Monitor's original form. Archeologists documenting the wreck in 1979 reported that:

Bottom plating on the lower hull aft of the amidships bulkhead survives almost intact where

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 3

supported by boilers, machinery, and machinery foundations in the engineering spaces. Along both sides of the aft lower hull plating has deteriorated and only the supporting frames remain. In the extreme stern the armor belt has been extensively damaged along the portions of the overhang. Damage to the deck extends from the stern as far forward as the present location of the turret and an extensive amount of armor plate has been dislodged. The propellor shaft and propellor...have been displaced...but remain near their original positions...Inside the hull the steam propulsion plant, boilers, blowers, pumps, and associated machinery remain relatively intact. Forward of the midship bulkhead damage has been more extensive. The hull has collapsed. With the exception of the vicinity of the pilot house and limited areas inboard of the port armor belt, plating, associated frames and floor timbers, and other structural iron fragments have collapsed into the interior of the ship...In those areas not obscured by remains of the hull, exposed material has been identified as portions of the interior of the vessel, i.e., equipment and fittings that were stowed away below the crew's quarters and wardroom, and associated artifacts. Exposed portions of the turret appear structurally sound and exhibit little evidence of deterioration. The gun ports, visible beneath the hull, are blocked by the port stoppers (3).

Limited archeological testing and recovery at the site in 1979 and 1983 recovered more than one hundred artifacts from an area of the vessel which originally contained the captain's cabin and pantry. "The broad spectrum of the material represented in the limited number of artifacts recovered during the [1979] project included wood, leather, rubber-impregnated fabric, glass, ceramics, iron, brass and provisions....The presence of a substantial accumulation of light sediment...indicated that excellent possibilities for the preservation of organic material exist...[this is] perhaps characterized by recovered samples of relish, pepper, leather, and wood...(4)." Monitor's anchor, attached to the wreck by its chain, was located and recovered in

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 4

1983 to test methods of large artifact preservation and conservation at the site (5).

The wreck site of U.S.S. Monitor retains a high level of integrity. Major construction features and details are intact. Minor construction features, while deteriorated, damaged, or no longer intact in some areas, are archeologically recoverable through documentation and comparison with the historical record. Removal of artifacts from the vessel has been limited to date and has been mitigated by archeological practices of documentation, conservation, and analysis. Preservation of associated material culture and the potential for meaningful historical archeological investigations based on anthropologically derived research questions is apparently high.

1

Richard H. Webber, Monitors of the U.S. Navy, 1861-1937. (Washington, D.C.: Naval History Division, Navy Department, 1969) p. 10; Gordon Watts, "National Register of Historic Places Inventory/Nomination Form, U.S.S. Monitor," unpublished manuscript on file at the office of the National Register, National Park Service, Washington, D.C., 1974; Ernest Peterkin, "Building a Behemoth," Civil War Times Illustrated XX (July 1981) pp. 12-21, pass.; Edward M. Miller, U.S.S. Monitor: The Ship That Launched A Modern Navy. (Annapolis, Maryland: Leeward Publications, Inc., 1978) pp. 21-35, pass.; William H. Cracknell, "United States Navy Monitors of the Civil War," Profile, September 1973, pp. 275-282.

2

Peterkin, "Building a Behemoth," p. 19.

3

Gordon P. Watts, Jr., Investigating the Remains of the U.S.S. Monitor: A Final Report on 1979 Site Testing in the Monitor National Marine Sanctuary. (Fort Pierce, Florida: Harbor Branch Foundation, Inc., 1981) p. 13.

4

Watts, Investigating the Remains of the U.S.S. Monitor....
p. 94.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 5

5

Gordon P. Watts, Jr., "Monitor '83," and Curtiss E. Peterson, "Conservation of the Anchor and Chain (Recovered from the Wreck of the USS Monitor, August, '83," Cheesebox II (2) pp. 1-4, 6 pass.; Curtiss E. Peterson, "Conservation of the Monitor Anchor: Progress Report," Cheesebox III (1), pp. 1-2, pass.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input checked="" type="checkbox"/> MILITARY	<input checked="" type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input checked="" type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input checked="" type="checkbox"/> INVENTION		

SPECIFIC DATES 1862

BUILDER/ARCHITECT John Ericsson

STATEMENT OF SIGNIFICANCE

The story and the significance of U.S.S. Monitor in the American Civil War is interwoven with perceptions and hence the vessel has become another "one of the myths out of which Americans' conception of their history has been constructed, along with others as The Liberty Bell, George Washington, and the Frontier (1)." Much has been said in the popular media and in scholarly forums about the importance of Monitor to American history. Monitor, it has been said, like other "famous" vessels such as Mayflower, U.S.S. Constitution ("Old Ironsides"), and U.S.S. Maine, "became and remains a part of the American mind, its bare mention conjuring up images of what we are as a people, of our experience as a people, and of some of the major events and motifs in our history (2)." Monitor has been termed "one of the most meaningful objects in American history...so heavily laden with values that transcend the mundane and the common...(3)." One more sweeping comment on Monitor's significance stated the vessel was important "not just as a ship that changed the course of naval warfare, but as a symbol of a people, their ingenuity, their capabilities, and most importantly, their recognition of those Americans who contributed to the technological success we enjoy today (4)." While much pontification over the importance of Monitor to the American people and their past has ensued, quantification and qualification of significance has not: "the question of the Monitor's intrinsic value either as a symbol or as an artifact has largely been dismissed as so obvious that it was not in need of further discussion (5)."

The significance of Monitor has been debated at a national conference on Monitor's meaning and significance; Dr. Larry Tise, then Director of the State of North Carolina's Department of Archives and History noted at a 1978 Monitor conference that the importance of the vessel needed to be further discussed since questions concerning her value had "become more common and often the subject of sharp disagreement (6)." Dr. Tise also correctly noted that "much of the value of the Monitor is based on legend, an incredible history, and very good public relations on the part of people associated with the Monitor, from [John] Ericsson right down to the present (7)."

United States Department of the Interior
National Park ServiceNational Register of Historic Places
Inventory—Nomination Form

Continuation sheet

Item number

8

Page 2

However, the significance of U.S.S. Monitor can be qualified and quantified utilizing the criteria of the National Register of Historic Places. Monitor meets all four criteria for National Register listing; a) she was associated with broad patterns and events in American history, namely the development of the United States Navy in the 19th century, the rise of industrial facilities in the United States, and the American Civil War as well as public perceptions and reactions to these factors; b) she was associated with an individual significant in American history, Swedish-American inventor and engineer John Ericsson; c) she embodies the distinctive characteristics of a type as a prototype for a class of American warship used by the United States Navy as well as other powers well into the 20th century; and finally d) because her remains are likely to yield information important to American history through a more detailed understanding of the vessel but more importantly as a means for assessing the American "mind-set" through anthropologically generated research questions which probe human interaction with new technology and how "modern" industrial societies prepare for war.

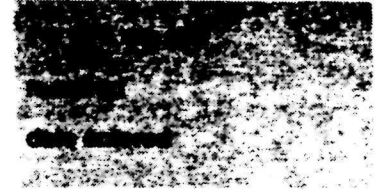
Naval historian Dr. Philip K. Lundeberg has noted that in "appraising the historical significance of...Monitor, the modern observer is confronted with a wide range of technological comparisons--partly with other mid-19th century ironclads--that makes such an undertaking a deliberate search for adequate perspective (8)." Assessing Monitor's significance to broad patterns of American history requires contextual setting and perspective as Monitor's role in the development of the ironclad warship, the Civil War, and public reaction to the war and the new technology embodied in Monitor's design and construction are investigated.

Monitor and the Development of the Ironclad Warship

Many of the features incorporated into Monitor's design--steam powered screw propulsion, iron hull, large caliber guns, and iron armor---had been developed prior to the construction of Monitor. Designs and proposals for ironclad warships date to as early as the 1840s. The outbreak of war on Russia's Crimean peninsula brought about the first use of ironclads in naval warfare when French- and British-built floating armored batteries bombarded

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 3

shore-based fortifications in 1855. In response to the success of the French batteries, France and Britain constructed sea-going ironclad warships, the French applying iron armor to the wooden steam frigate La Gloire in 1858 and the British laying the keel, in the same year, of the ironclad Warrior. By 1860, a number of ironclad warships had been laid down and constructed, including "more than forty seagoing ironclads, thirty armored coastal-defense vessels, and eighteen partially protected gunboats already built, building or authorized in Europe (9)."

The development of the heavy shell gun in the 1820s and a scarcity of timber reserves had "made clear the necessity for the subsequent adaptation of iron armor on naval warships (10)." Armor, as well as iron sea-going hulls, and steam screw propulsion, while conceived and "to some degree tested" prior to the American Civil War of 1861-1865, were not fully combined until Ericsson's intuitive leap in the design and construction of Monitor. Naval historian Philip Lundeborg has noted that the most significant aspect of Monitor's design was that she was "the world's first turreted ironclad...[which]...more than Monitor's low-freeboard draft and tapered lower hull, was the most distinctive element of this novel weapons system...(11)."

The design and construction of Monitor, then, summed up precisely thoughts and improvements of iron hulls, armor, steam screw propulsion, shell guns, and turrets (12). Monitor's combat with C.S.S. Virginia at Hampton Roads, however, was the first between ironclad warships and "revealed the limited effectiveness of the Virginia's casemated broadside battery against a mobile, low-freeboard opponent, while conversely demonstrating the practical impregnability and all-round fire capability" of Monitor (13). This demonstration, and the fact that "Ericsson's turret conception was the first to take form in an actual man-of-war...weighed heavily in the international acclaim which he was subsequently awarded...(14)."

Monitor received international attention as well as acclaim. The turret concept, ably demonstrated for the first time on Monitor, was adopted by the navies of the world while the hull form and design of the coast-bound, largely unseaworthy vessel was not except by Russia's Swedes. English naval architect J. Scott Russell, writing in 1865, noted that Monitor and the class of

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number

8

Page 4

"monitors" that followed her offered conditions "such as we, at least for sea-going ships, would reluctantly accept. The low ship's side will, in a sea-way, allow the sea to sweep over the ship, and the waves, not the sailors, will have possession of the deck...." Russell stated "that we should copy them [American monitors], I no longer recommend, than they should copy us. But we may each do well to study and admire the merit of the other's work (15)." Ultimately, the adaptation of multiple turrets to sea-going ironclad hulls, or the synthesis of concepts tested and proven in Monitor and her progeny and Gloire and Warrior and their successors, culminated in the development of iron and steel-hulled dreadnoughts and later ocean-going capital ships.

Monitor and most of her successor monitors were not effective sea-going warships, as the foundering of Monitor and the near-loss of Passaic demonstrated. They were, however, designed effective coastal operation vessels; "ideally suited to the task of coastal defense, monitors represented the most appropriate warship for a nation which, in the 19th century, relied almost exclusively on its oceanic buffers for security...the monitors offered maximum security for the smallest possible expense (16)." While Monitor had limited effect on the ultimate development of the European ironclads and the "modern warship", she did have a profound effect on warship construction in the United States during the Civil War. The tremendous positive public response to Monitor and her combat with C.S.S. Virginia in the United States "prompted a "Monitor craze, with political and to a lesser degree military support to construct a large number of this type of craft, which gained the generic name of "monitors"...throughout the Civil War, the construction of new, larger, more sophisticated versions of Monitor occupied a substantial portion of warship production in the United States (17)."

In all, fifty-nine monitors were ordered after the perceived "success" of the original Monitor---of these, approximately thirty-five were commissioned, twenty-seven during the Civil War, and the last to be built was laid down in 1889 (18). Gradually some monitors were given multiple turrets and more seaworthy hulls, but the "modern" American battleship owes much of its form to the steel-hulled "A,B,C,D" ships of the 1880s patterned after European warships typical of Warrior and her progeny (19).

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 5

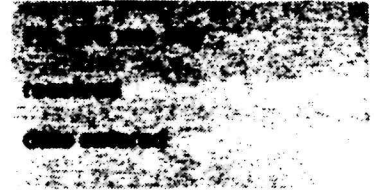
Monitor's Role in the American Civil War

Monitor was widely perceived as the "ship that saved the Union" during the Civil War. The presence of C.S.S. Virginia in waters close to Washington, D.C. and the potential destruction of the Federal fleet at Hampton Roads by Virginia inspired hysteria and some panic. The arrival of Monitor at Hampton Roads and her battle with Virginia, ending the Confederate ironclad's destructive foray among the Union's wooden fleet, provoked a flurry of pro-Monitor sentiment that persisted long after Monitor's career ended and the last shots of the Civil War had been fired. Popular conception of Monitor's role "as the ship that saved the Union" and won the Civil War has been overstated. The role of Monitor's offspring, the Union's "monitors," in the Civil War has also been over-emphasized.

As largely coast-bound vessels, monitors were strategically linked to two aspects of Union naval strategy, protect the advance bases for the blockade and bombard forts for the blockade of the Confederate coast and the capture and closure of Confederate ports. The use of monitors in the blockade enhanced the superiority of the blockaders' fleets and would have enabled these fleets to stand off and possibly destroy attacking Confederate ironclads. The monitor-class warships had a demonstrated role in the blockade, which was a major naval aspect of the Civil War. The monitors alone were not successful in taking Confederate ports. A fleet of nine vessels (including seven monitors) attempted to crush the harbor defenses of Charleston, South Carolina on April 7, 1863 and was repelled. "Throughout the entire 1-hour and 40-minute engagement, the guns of the Union ironclads were able to deliver only 139 rounds. In turn, the cannon of the [Confederate] forts rained more than 2,000 shots on the invading ships, hitting them no less than 439 times. One non-monitor, the Keokuk, was lost and several suffered serious damage (20)." The myth of monitor invulnerability was shattered at Charleston and again at Mobile, Alabama, when the monitor Tecumseh was lost after hitting a Confederate mine. The monitors were not able to capture and hold Confederate ports; those ports that were taken fell to combined land and sea forces and the last Confederate port to fall, Wilmington, North Carolina, remained open until January of 1865 near the war's end. Monitor-class warships, therefore, while

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 6

composing an important part of the Union fleet and a major Union commitment to naval construction, did not effect a lasting influence on the collapse of the Confederacy and Union victory in the Civil War. The Civil War years did see the development of Ericsson's monitors, the first large-scale use of ironclad warships in combat, and a substantial favorable public and political response to the ironclads; the latter may be the most significant aspect of the monitors.

Public Response to Monitor and the Monitors

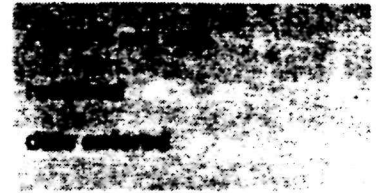
Public response to the news of Monitor's battle with C.S.S. Virginia, ending the Confederate ironclad's destructive rampage, was enthusiastic and outspoken; "poets, government authorities, soldiers, sailors, and the civilian public...considered the ironclad a tool for achieving victory..." and "mythicalized the weapon (21)." Monitor officer Frederick Keeler noted in a letter to his wife: "You cannot conceive of the feeling...the Monitor is on every one's tongue....It was told from one to another as I passed along---he's an officer from the Monitor---& they looked at me as if I was some strange being (22)." Keeler also noted that a young female visitor to the vessel, when asked if she had seen the ship's armament, had said "Oh yes...& kissed them too. I feel as if I could kiss the deck we stand on (23)."

Monitor was viewed as an impregnable super-weapon. One contemporary newspaper correspondent wrote that "Americanlike, we went mad over the Monitor. Naval warfare was revolutionized, we thought, in an hour. The supremacy of England on the ocean was ended. Monitors were henceforth to sway the destinies of commerce, and Monitors had been patented for the exclusive use of the universal Yankee nation (24)." Newspapers around the nation reported the Monitor-Virginia battle and discoursed on the power and invulnerability of ironclads; the editors of the San Francisco Daily Alta California, a continent away from the battle, noted in 1863 that

Our Monitors can hammer away with a steady hand, and in a manner which will defy all the modern improvements in naval warfare. It is certainly a subject upon which we have just reason to congratulate ourselves, that the intelligence of the naval authorities of this country, and the

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 7

superiority in engineering and mechanical skill and naval warfare, which it must be admitted they possess, has caused this gigantic element in naval warfare, and preeminently the American Monitor, to be called into existence (25).

Monitor reinforced the popular concept among Americans that they were technologically superior and ingenious; Herman Melville, writing on Monitor's battle with Virginia, penned

Hail to victory without the gaud
Of glory; zeal that needs no fans
Of banners; plain mechanic power
Plied cogently in War now placed--
Where War belongs--
Among the trades and artisans (26).

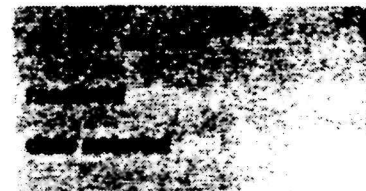
Published response to Monitor and her progeny resulted in a plethora of books and articles--during the Civil War several dozen were produced. A 1979 bibliography enumerated 426 separate entries for Monitor alone (27).

The Monitor craze permeated the public consciousness during the Civil War. Harper's New Monthly Magazine of July, 1863, published an illustrated, humorous essay entitled, "The Age of Iron," which included an "ironclad coat," an iron-plated stove-pipe hat designated a "turret," "a steel-pointed brickbat," and "a little mill between Iron Clad plugs," in which two armored gentlemen slugged it out. The Harper's essay also featured "Bangs Experiment in Iron Armor!!" in which Mr. Bangs received a suit of iron armor, allowing him to meet "the attack of an mad bull with indifference! (28)" The iron-clad fervor continued well after the war; an 1879 advertisement in a railroad magazine depicted a monitor steaming along for "Iron Clad Paint," which was used by railroads and had been adopted by the "U.S. Government for Iron Ships' bottoms...(29)."

The enthusiastic public response to Monitor and the later monitors during the Civil War lasted throughout the 19th century and well into the 20th century as participants in her design, construction, and career publically reminisced and ruminated on the vessel and her place in history. Historians added to the mythology of the vessel; Monitor assumed greater importance

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 8

through the decades, becoming the ship that saved the Union in a dark hour of the war when Virginia rampaged unchecked and threatened to destroy the Federal Navy. Monitor also became a symbol of American ingenuity and know-how, the progenitor of the modern battleship, representing "a completely new concept of design (30)."

The context of Monitor's role in the development of the ironclad warship and the United States Navy and the conduct of the American Civil War is different than the exaggerated role the vessel played. Enthusiastic public response and mythology, the reasons for the difference, are significant. The comprehensive national response to Monitor and the creation of the Monitor myth point to the profound impact Monitor had and has on the American consciousness.

Monitor as a Representative Work of John Ericsson

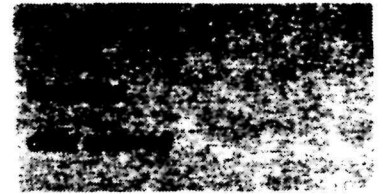
U.S.S. Monitor is perhaps the best known product of John Ericsson (1803-1889), Swedish-American inventor and engineer. Ericsson's work included progress toward the development of the steam fire-engine, screw propulsion, heavy ordnance, the use of iron in ship-building, ironclad warships, and the use of hot air as a motive force (31). Ericsson's work in the United States (he immigrated to America in 1839) included the development of the first screw-propelled vessel in the U.S. Navy, Princeton, the construction of an experimental vessel, Ericsson, to test his theories of hot air or "caloric" power, and the design and construction of Monitor and her offspring. A colorful figure with a forceful personality, Ericsson's genius is best demonstrated in the intuitive leap he made in combining pre-existing theory, concepts, and design to create the Caloric Ship Ericsson, U.S.S. Princeton, and Monitor. Ericsson "gradually became the prototype of those immigrant engineers who did so much for American technology (32)." Ericsson became mythicized and was to an extent apotheosized with his most famous invention, Monitor.

Monitor as a Prototype

Monitor's perceived success and invulnerability and the substantial public and political response to the vessel sparked a program of monitor construction during the Civil War by the

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 9

United States Navy. As previously noted, 59 monitors were ordered, some 35 of which were commissioned. These included ten Passaic class monitors, "Ericsson's design of what the Monitor herself would have been if her construction time had not been so critical...with several significant improvements," the Miantonomah class of double turreted monitors, nine Canonicus class monitors, the "first to incorporate the lessons of combat experience gained during the Monitor-Virginia clash and the attacks on Charleston as well as the practical ones gained from day-to-day experience," twenty light-draft Casco class monitors, Dictator, a sea-going monitor, and a number of river monitors (33).

After the Civil War a number of "new Navy" monitors were built with double turrets and steel hulls including the Arkansas class, the last group of monitors to be constructed by the U.S. Navy, at the end of the 19th century. The monitor design of 1900 bore little resemblance to the original Monitor. "Detailed analysis of the available historical sources confirm Monitor remained unique even among the later classes of turreted, heavily-armored, low freeboard vessels which were built in the United States. Although many of the characteristics which combined to make the Monitor unique were utilized in later vessels, their design was unquestionably altered from its original form (34)." Monitor therefore not only embodies many of the distinctive characteristics of a type but also represents a significant, unique entity as a prototypical vessel.

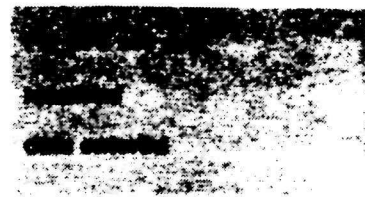
Monitor's Potential to Yield Information
Important to American History

The wreck of U.S.S. Monitor is one of two known wreck sites of Civil War monitors; the other is U.S.S. Tecumseh, an intact Canonicus-class monitor sunk in Mobile Bay, Alabama. Tecumseh lies upside down and is buried beneath sediment; her engine room was entered by divers and some artifacts were recovered in 1966 along with her anchor. Some of the artifacts are curated at the National Museum of American History at the Smithsonian Institution, Washington, D.C. Other artifacts, including the anchor, could not be located in 1985 (35).

Archeological research at the Monitor site has the potential to yield information concerning particulars of the vessel; Monitor

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 10

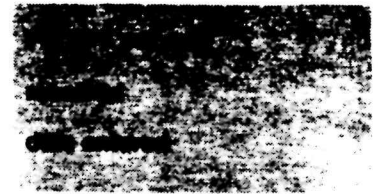
is the only monitor whose drawings do not divulge the functions of most of her compartments, and many minor details of construction are undocumented and interpretations to date have been based on conjecture. A variety of particularistic research questions concerning the unique, prototypical character of Monitor could be answered through careful archeological research. It should be noted that a considerable body of documentary evidence exists; it has been estimated by some Monitor scholars that a 90% accurate reproduction of the vessel could be built from existing data (36).

Archeological research to produce credible inferences and information beyond Monitor's individual characteristics and history utilizing anthropologically-generated research questions can provide information important to American history as well as a better understanding of human behavior. Dr. Richard A. Gould, chair of the Department of Anthropology, Brown University, Providence, Rhode Island, is currently formulating an anthropological research design for Monitor which will pose questions relating to the vessel as a key to an understanding of how modern industrial societies (such as the Union during the Civil War) prepare for war, Monitor's role in the emergence of the modern arms race, an assessment of rates of technological change as evidenced by Monitor's percentages of innovative and standardized elements, Monitor's effect on the technique of mass-produced warships in America in an age of a American traditional wooden ship industry, and the influences on Monitor's construction by the exigencies of a war situation and the requirement for haste to meet the threat of Confederate ironclads (37).

Another series of research questions might focus on the shipboard stress of officers and crew in an experimental, "untried" vessel which possibly could be answered through documentary research coupled with archeological evidence of the inclusion of more familiar items related to the conventional Navy or family life elsewhere. Archeological research on Monitor, compared with the other monitor site and other Civil War ironclad and warship wrecks, could generate a corpus of knowledge important to a better understanding of monitor characteristics and life on board as well as another perspective on the human response to the ironclad.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 11

Archeological recovery of Monitor is ultimately linked to the public response to the vessel, which has yet to die after more than a century. Archeology may provide a mitigative tool for the recovery of relics which would fulfill the need for a tactile response to this famous, mythologized vessel, which currently rests, unattainable to the public, at the bottom of the Atlantic Ocean.

FOOTNOTES

1

Other "mythic" aspects of American history include Davy Crockett, Daniel Boone, the landing at Plymouth Rock, and the New England town as the wellspring of American democracy. Kenneth A. Lockridge, A New England Town: The First Hundred Years. (New York: W.W. Norton & Company, 1970) p. xi.

2

Larry E. Tise, "The Monitor: Its Meaning," in The Monitor, Its Meaning and Future: Papers from a National Conference, Raleigh, North Carolina, April 2-4, 1978 (Washington, D.C.: The Preservation Press, 1978) p. 13.

3

Tise, p. 14.

4

Charles M. McKinney, "Comments," in The Monitor, Its Meaning and Future.... p. 99.

5

Larry E. Tise, "The Monitor: An American Artifact," in The Monitor, Its Meaning and Future.... p. 63.

6

Tise, p. 63.

7

Larry E. Tise, "The Monitor: Its Meaning and Future," in The Monitor, Its Meaning and Future.... p. 128.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 12

- 8
Philip K. Lundeberg, "The Monitor: Fragile Survivor," in The Monitor, Its Meaning and Future.... p. 65.
- 9
Edward M. Miller, U.S.S. Monitor: The Ship That Launched a Modern Navy (Annapolis, Maryland: Leeward Publications, Inc., 1978) p. 14.
- 10
Gordon P. Watts, Jr., "Monitor of a New Iron Age: The Construction of the U.S.S. Monitor." M.A. Thesis, East Carolina University, 1975, p. 1.
- 11
Lundeberg, "The Monitor: Fragile Survivor," pp. 66-67.
- 12
Watts, "Monitor of a New Iron Age...." p. 1.
- 13
Lundeberg, "The Monitor: Fragile Survivor," p. 66.
- 14
Lundeberg, p. 66.
- 15
J. Scott Russell, The Modern System of Naval Architecture (London: David and Son, 1865) v. 1, p. 566.
- 16
Gordon P. Watts, Jr., "The Location and Identification of the Ironclad U.S.S. Monitor," International Journal of Nautical Archeology, 4 (1975) p. 304.
- 17
Watts, p. 307.
- 18
Richard H. Webber, Monitors of the U.S. Navy, 1861-1937 (Washington, D.C.:Naval History Division, Navy Department, 1969) p. 3.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

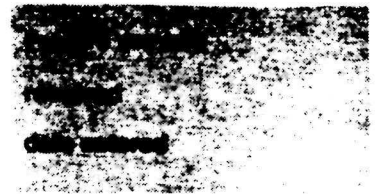
Item number 8

Page 13

- 19 See George L. Fowler, "Ericsson's First Monitor and the Later Turret Ships," Engineering Magazine, October 1897, pp. 110-128, and Stanley Sandler, The Emergence of the Modern Capital Ship (Newark: University of Delaware Press, 1981)
- 20 Gerald S. Henig, "Admiral Samuel F. DuPont, The Navy Department, and the Attack on Charleston, April 1863," Naval War College Review, 32, (February, 1979) p. 72.
- 21 Earl J. Hess, "Northern Response to the Ironclad: A Prospect for the Study of Military Technology," Civil War History, 31 (June, 1985) p. 127, 129.
- 22 Frederick Keeler to wife, March 11, 1862, in Aboard the USS Monitor, 1862: The Letters of Acting Paymaster William Frederick Keeler, U.S. Navy, to his Wife Anna, ed. Robert W. Daly (Annapolis, Maryland: United States Naval Institute, 1964) pp. 41-42.
- 23 Keeler, March 11, 1862.
- 24 Whitelaw Reid, Dispatch to the Cincinnati Daily Gazette, January 5, 1863 in A Radical View: The "Agate" Dispatches of Whitelaw Reid, 1861-1865 ed. James G. Smart (Memphis, Tennessee: Memphis State University Press, 1976) pp. 240-241.
- 25 San Francisco Daily Alta California, November 4, 1863.
- 26 Herman Melville, "A Utilitarian View of the Monitor's Fight," in Battle-Pieces and Aspects of the War ed. Sidney Kaplan (1866, reprint, Amherst, Massachusetts: University of Massachusetts Press, 1972) pp. 61-62.

United States Department of the Interior
National Park Service

National Register of Historic Places
Inventory—Nomination Form



Continuation sheet

Item number 8

Page 14

- 27
Gordon P. Watts, Jr. and James A. Pleasants, Jr., The Monitor: A Bibliography (Kure Beach, North Carolina: Division of Archives and History, 1979)
- 28
"The Age of Iron," Harper's New Monthly Magazine, 27, (July 1863), pp. 285-286.
- 29
Advertisement in Matthias N. Forney, The Railroad Car Builder's Pictorial Dictionary (1879, reprint, New York: Dover Publications, Inc., 1974) p. 25.
- 30
As cited in Nicholas Donnell Ward, "Reflections on the Finding of the Monitor," Loyal Legion Historical Journal, 30 (September 1974), p. 4.
- 31
William Conant Church, Life of John Ericsson (New York: Charles Scribner's Sons, 1890, 1911). 2 vols.
- 32
Theodore Ropp, "The Monitor's Changing Appeal," in The Monitor, Its Meaning and Future.... p. 74.
- 33
William H. Cracknell, "United States Navy Monitors of the Civil War," Profile, September 1973, pp. 273-296, pass. and Webber, Monitors of the U.S. Navy, 1861-1937.
- 34
Gordon P. Watts, Jr., "The Location and Identification of the Ironclad U.S.S. Monitor," p. 315.
- 35
U.S.S. Tecumseh, Capsule of History (Washington, D.C.: Smithsonian Institution, 1970).

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**



Continuation sheet

Item number 8

Page 15

36

Interview, Ernest Peterkin, Camp Springs, Maryland, September 26, 1985 and Interview, Gordon P. Watts, Jr., Greenville, North Carolina, September 30, 1985.

37

Interviews, Richard A. Gould, Annapolis, Maryland, September 25 and 26, 1985.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

See Continuation Sheet

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

UTM REFERENCES

A

ZONE	EASTING							NORTHING						

B

ZONE	EASTING							NORTHING						

C

ZONE	EASTING							NORTHING						

D

ZONE	EASTING							NORTHING						

VERBAL BOUNDARY DESCRIPTION

All that area encompassed within a circle radiating out $\frac{1}{4}$ mile from a point in the center of wreck, encompassing known and suspected wreck scatter with the National Marine Sanctuary boundary.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME, TITLE James P. Delgado, Historian

ORGANIZATION National Park Service

DATE February 4, 1986

STREET & NUMBER Building 201, Fort Mason

TELEPHONE (415) 556-9504

CITY OR TOWN San Francisco

STATE California 94123

12 CERTIFICATION OF NOMINATION

STATE HISTORIC PRESERVATION OFFICER RECOMMENDATION

YES___ NO___ NONE___

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Historic Preservation Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The evaluated level of significance is ___ National ___ State ___ Local.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

CONTINUATION SHEET

ITEM NUMBER 9 PAGE 1

Church, William Conant. Life of John Ericsson. New York: Charles Scribner's Sons, 1890. 2 vols.

Cracknell, William H., "United States Navy Monitors of the Civil War," Profile, 1973.

Forney, Matthias N., The Railroad Car Builder's Pictorial Dictionary. Reprint, New York: Dover Publications, Inc., 1974.

Fowler, George L., "Ericsson's First Monitor and the Later Turret Ships," Engineering Magazine, October. (1897).

Henig, Gerald S., "Admiral Samuel F. DuPont, The Navy Department, and the Attack on Charleston, April 1863," Naval War College Review, v. 32. (1979).

Hess, Earl J., "Northern Response to the Ironclad: A Prospect for the Study of Military Technology," Civil War History, v. 31. (1985).

Keeler, Frederick, Aboard the USS Monitor, 1862: The Letters of Acting Paymaster William Frederick Keeler, U.S. Navy, to his Wife Anna. ed. Robert W. Daly. United States Naval Institute, Annapolis, 1963.

Lockridge, Kenneth A., A New England Town: The First Hundred Years. New York: W.W. Norton & Company, 1970.

Melville, Herman, "A Utilitarian View of the Monitor's Fight," in Battle-Pieces and Aspects of the War. ed. Sidney Kaplan. Reprint, Amherst: University of Massachusetts Press, 1972.

Miller, Edward M., U.S.S. Monitor: The Ship That Launched a Modern Navy. Annapolis: Leeward Publications, Inc., 1978.

Peterkin, Ernest. "Building a Behemoth," Civil War Times Illustrated v. XX. (1981).

Peterson, Curtiss E. "Conservation of the Anchor and Chain Recovered from the Wreck of the USS Monitor," Cheesebox II (2) (1983).

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

CONTINUATION SHEET

ITEM NUMBER 9 PAGE 2

Peterson, Curtiss E. "Conservation of the Monitor Anchor: Progress Report," Cheesebox III (1). (1984).

Read, Whitelaw. A Radical View: The "Agate" Dispatches of Whitelaw Reid, 1861-1865. ed. James G. Smart. Memphis, Tennessee: Memphis State University Press, 1976.

Russell, J. Scott. The Modern System of Naval Architecture. London: David and Son, 1865.

Sandler, Stanley. The Emergence of the Modern Capital Ship. Newark: University of Delaware Press, 1981.

"The Age of Iron," Harper's New Monthly Magazine, v. 27. (1863). pp. 285-286.

The Monitor, Its Meaning and Future: Papers from a National Conference, Raleigh, North Carolina, April 2-4, 1978. Washington, D.C.: The Preservation Press, 1978.

U.S.S. Tecumseh, Capsule of History. Washington, D.C.: Smithsonian Institution, 1970.

Ward, Nicholas Donnell. "Reflections on the Finding of the Monitor," Loyal Legion Historical Journal, v. 30. (1974).

Watts, Gordon P., Jr. "National Register of Historic Places Inventory/Nomination Form, U.S.S. Monitor," unpublished manuscript. National Register, National Park Service, Washington, D.C., 1974.

Watts, Gordon P., Jr. "Monitor of a New Iron Age: The Construction of the U.S.S. Monitor," M.A. Thesis, East Carolina University, Greenville, 1975.

Watts, Gordon P. Jr. "The Location and Identification of the Ironclad U.S.S. Monitor," International Journal of Nautical Archeology, v. 4. (1975).

Watts, Gordon P. Jr. and James A. Pleasants, Jr. The Monitor: A Bibliography. Kure Beach, North Carolina: Division of Archives and History, 1979.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

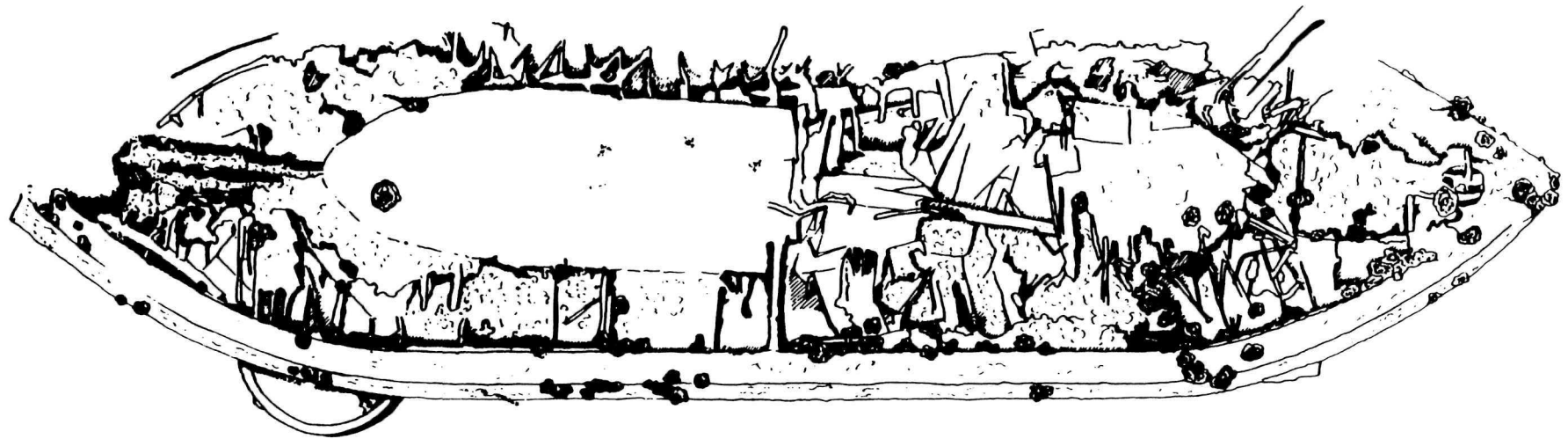
CONTINUATION SHEET

ITEM NUMBER 9 PAGE 3

Watts, Gordon P., Jr. Investigating the Remains of the U.S.S. Monitor: A Final Report on 1979 Site Testing in the Monitor National Marine Sanctuary. Fort Beach, Florida: Harbor Branch Foundation, Inc., 1981.

Watts, Gordon P., Jr. "Monitor '83," Cheesebox II (2), 1983.

Webber, Richard H. Monitors of the U.S. Navy, 1861-1937. Naval History Division, Navy Department, Washington, D.C., 1969.



USS MONITOR, North Carolina OCS

Graphic Provided by NOAA

NOAA

Plan view of USS Monitor's remains. Note
the displaced turret.

Photograph 1 of 2.

USS MONITOR, North Carolina OCS

Graphic provided by NOAA

NOAA

Artist's perspective view of USS Monitor
as she lies on the bottom of the Atlantic
Photograph #2 of 2.

