



## From the Pilot House

Several important events have occurred since the last issue of *Cheesebox*. As you will see from our lead story, the U. S. Congress demonstrated its concern about the *Monitor's* deteriorating condition by requesting NOAA to prepare and submit a comprehensive plan for the preservation of the *Monitor*. Realizing that time is of the essence, Congress asked that the plan be submitted by the end of the fiscal year (September 30, 1997). We are on schedule and will meet that deadline. Since the report will address options ranging from taking no action to recovering major hull components, it may be some time before a final decision is made concerning the fate of the *Monitor*.

In the meantime, we have also been busy trying to further document the current state of the *Monitor's* hull. With the

help of numerous governmental, military and private organizations, we conducted two imaging surveys using a relatively new device, the laser line scanner. This system was used for locating wreckage and human remains from the TWA Flight 800 crash site off Long Island. Although bad weather hampered operations (as usual, it seems!) we obtained new images that are now being processed by computer, much like the images being beamed from Mars to NASA's Jet Propulsion Laboratory.

The next *Cheesebox* will be a special issue devoted to the comprehensive plan. We will present a synopsis of the plan, along with considerations for decisionmaking. Deciding how best to preserve the *Monitor* will not be easy. Any positive efforts to stabilize or recover hull components will be expensive and require the efforts of highly skilled marine engineers. Although the challenges are quite daunting, they are also exciting. We will make every effort to provide all the information necessary for taking the next steps toward preservation. We will also keep the public informed through an expanded World Wide Web site. As always, we welcome your comments and suggestions. Please stay in touch; it's going to be an interesting year.

## 1997 Special Use Permit

As reported in the previous issue of *Cheesebox*, in 1996 a three-year special-use permit was issued to Captain Arthur Kirchner of Dover, NJ, and Hatteras, NC, for non-research dives on the *Monitor*. The first round of special use dives for 1997 were scheduled for May 26-31. Once again weather was a factor, preventing the dive boat from leaving the dock for all but one day. On the final day, six divers were able to make one dive on the *Monitor*. A NOAA observer was on the dive boat to provide information to the divers and to evaluate the special use permit program.

For more information on the special use dives, contact Captain Kirchner in Hatteras at (919) 986-2835.

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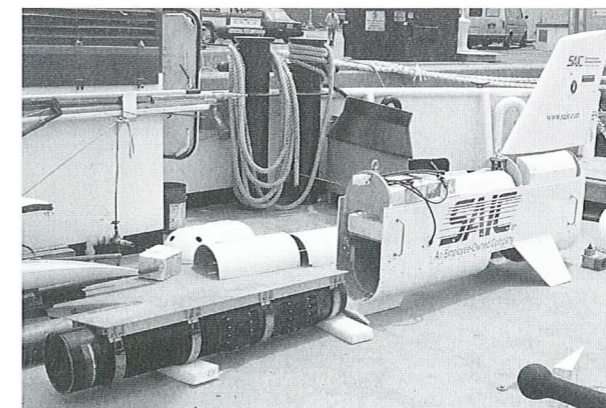
## The Monitor in Crisis

*As reported in previous issues, the Monitor's hull is collapsing at a rapid rate. Photographic evidence clearly shows that there has been a marked increase in the rate of deterioration of the Monitor's hull over the past seven years. NOAA has delayed finalizing the management plan for the Monitor National Marine Sanctuary to allow time for further assessment. In 1993, after extensive archival and on-site research, it was determined that a concerted, well-planned effort would be required to preserve the Monitor and planning efforts were initiated.*

The increased rate of deterioration of the *Monitor* represents a management crisis for the National Marine Sanctuary Program. The *Monitor* is perhaps the most significant ship in American history, made more so by its designation as the nation's first marine sanctuary. The location of the wreck, 16 miles offshore and in 230 feet of water, poses challenges for protection, management, and research. In its 21-year stewardship of the *Monitor* Sanctuary, NOAA has employed sound management practices and state-of-the-art technology to investigate the wreck. Through NOAA's efforts, public understanding of and interest in the *Monitor* has been enhanced and the need for continued preservation of this unique resource has been emphasized.

Following a NOAA briefing in 1996 on the *Monitor's* deteriorating condition, Congress placed a mandate in the 1997 National Marine Sanctuary Program reauthorization bill requiring NOAA to develop a "long-range, comprehensive plan for the management, stabilization, preservation, and recovery of artifacts

and materials" from the *Monitor*. NOAA was also instructed to seek the assistance of other governmental organizations in this effort. The plan is to be



The tow fish is prepared for operations during the laser line scanning survey.

completed by September 30, 1997 and submitted to Congress for review. Fortunately, the plan was already in preparation, as no additional funds were allocated for the completion of the plan and associated research.

This comprehensive plan will document NOAA's response to the challenging problem of the *Monitor's* deteriora-

tion. It will describe each major element in detail and address all aspects of management, protection, stabilization, and possible recovery, conservation, and exhibition. Development of the plan involves resources for planning, budgeting, and coordination with governmental and non-governmental agencies with expertise in marine salvage and engineering, conservation, exhibition and other specialties, many of which must be obtained outside of the Sanctuaries and Reserves Division.

*Monitor* Sanctuary staff have established partnerships with other agencies and individuals to complete the plan, which will address several management and research options for the immediate future. The plan will include the following:

### Historical/Archaeological Research

Over the past several months, NOAA staff members have compiled a detailed survey of available historical sources in the *Monitor* Collection and other repositories. The survey includes records, reports, and correspondence of the *Monitor's* designer, builders, and engineers. Highly detailed specifications for the *Monitor's* turret, turret contents, and engine assembly have been prepared to facilitate assessments of the feasibility of recovery and requirements for detailed conservation plans. From this information, significant historical/archaeological questions that might

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be answered through additional on-site investigations have been identified. This portion of the report is nearly complete.

### Engineering Recovery Plan

Engineering plans developed during the 1970s recommended actions and methodologies based on data and technologies that are no longer current. The new plan will define the rapidly deteriorating condition of the wreck and assess options for complete or partial recovery in light of the current condition of the wreck and current marine engineering technology. All options for complete or partial recovery of the *Monitor* will be identified and assessed. A recommended option will be identified and a methodology and budget for carrying out the option will be developed. The U.S. Navy is providing valuable guidance and assistance through the Naval Historical Center and Naval Sea Systems Command (NAVSEA).

### Engineering Site Stabilization Plan

While proposals for site stabilization have been developed in the past, the premises upon which they were based are no longer valid. The feasibility and appropriateness of site stabilization will be assessed based on the best available data, current technology and the rapid deterioration of the *Monitor*. All options for mechanical and/or electrochemical stabilization of the *Monitor's* hull will be identified and assessed. A recommended option will be identified if applicable and a methodology and budget for carrying out the option will be developed.

### Archaeological Recovery Plan

A study of the contents of the *Monitor* is being developed in order to assess the potential for artifacts in each area of the vessel. In as much detail as possible, this plan addresses size, type, and material of artifacts or groups of artifacts expected to exist in each area of the ship. The contents study builds upon work begun by Capt. Ernest W. Peterkin in the mid-1980s. The information will provide data necessary for the recovery plan and will also facilitate development of an appropriate conservation plan.

### Conservation Plan

Since the technology to conserve all

or portions of the *Monitor* is critical to determining future recovery efforts, this study must address available conservation options for processing large iron objects from the marine environment. It is not always understood that it is the difficulty and expense of conservation that limits recovery options. Since the conservation process is lengthy and will generate a high level of public interest, the study will address the potential for creating an exhibit of the conservation process itself. Several previous conservation studies served as the basis for this plan but the new study will be the most comprehensive to date.

### Exhibition Plan

The primary purposes for raising artifacts and components from the *Monitor* would be public exhibition and long-term preservation. Therefore, this study will assess the exhibit potential for portions of the hull and the contents of the *Monitor*. It will also address items such as requirements for specialized environments and maintenance for materials that may be recovered. A cursory exhibit concept prepared in 1988 is serving as a starting point and an updated study is underway.

### Geographic Information System (GIS) Research/Management Database

This study includes a digitized plan of the wreck of the *Monitor* developed from the 1974 photomosaic, which is the only existing overall image of the site. Efforts were made to ensure that the image is dimensionally correct, based on the original builder's plans of the *Monitor*. NOAA and the contractor have defined a system of site datum references that can be used as control points in improving the accuracy of the digitized baseline plan. Key points on the wreck will be designated as site datum points and careful measurements will be made between the points by divers. This study will also include development of a spatially related artifact inventory listing all artifacts recovered from the *Monitor* and all relevant data. The inventory can be updated for inclusion of artifacts recovered in the future.

### Environmental Impact Statement (Section 106 Approval)

While an Environmental Impact Statement (EIS) will not be necessary for the preliminary plan that will be submitted to Congress in September 1997, it will be required before any major site disturbance is carried out. The plan must be reviewed by the State Historic Preservation Officer for the state of North Carolina and the (Federal) Advisory Council on Historic Preservation in order to obtain the necessary approvals for the preferred recovery and/or stabilization options through the Section 106 process.

### Enforcement Plan

Illegal activity in the *Monitor* National Marine Sanctuary appears to have increased over the past few years, including trawling and long-line fishing as well as sport fishing. Therefore this study will assess current NOAA/Coast Guard surveillance and enforcement efforts and seek new ways to protect the Sanctuary.

### Plan Summary

In 1994, in response to the threat to the *Monitor*, NOAA's Sanctuaries and Reserves Division (SRD) commenced a broad range of initiatives including several major expeditions to the Sanctuary, cooperative efforts with the U.S. Navy and others, and development of a long-range plan for addressing the *Monitor's* disintegration.

The comprehensive plan will reflect new data from the Sanctuary as well as recent deep-water technological advances. The resulting plan will be critical to determining the fate of the *Monitor*. In addition, it will aid NOAA in managing, protecting and assessing shipwrecks in our other active and proposed sanctuaries, particularly at the proposed Thunder Bay National Marine Sanctuary. From a broader perspective, the plan will also benefit submerged cultural resource managers throughout the world. The plan's management strategy and content will be relevant to other deep-water sites, including the *Titanic*, the War of 1812 brigs in Lake Ontario, shipwrecks in the Mediterranean and many others. The entire preservation community should benefit from NOAA's approach to preserving the *Monitor*.



## Stephanie Thornton Named Chief of NOAA's Sanctuaries and Reserves Division

On October 1, 1996, Stephanie R. Thornton became the new chief of NOAA's Sanctuaries and Reserves Division. Ms. Thornton possesses a unique and well-rounded breadth of experience that integrates marine science, business management and resource conservation. She has over thirty years applied experience in the marine environment with special expertise in fisheries, including eighteen years of professional experience. In addition, eleven of those years includes management and administrative responsibilities. Her academic background includes a B.S. in Fisheries Biology, with an emphasis in Marine Ecology, from Humboldt State University and an MBA from Golden Gate University.



Stephanie Thornton is now Chief of the Sanctuaries and Reserves Division.

Ms. Thornton's career has been built upon a series of positions that allowed her to diversify her expertise in the marine field. She began as a fisheries biologist with the California Department of Fish and Game and later worked for the National Marine Fisheries Service. Both jobs were part of research team studying Pacific salmon and albacore tuna migration, respectively. She then worked for three years as manager of the Humboldt Fisherman's Marketing Association, a 350-member trade association representing salmon, crab, and herring fishermen. She became directly involved in marine resource management through her participation in the development of the Salmon Management Plan for the Pacific Fishery Management Council and her working relationships with the California Department of Fish and Game and the California State Legislature. During this time, she was appointed by former Governor Jerry Brown as a California Commissioner to the Pacific States Marine Fisheries Commissioner (PSMFC). She served four years as Commissioner to this five-state interpart.

These cumulative work experiences led up to the opportunity to create and administer the Coastal Resources Center (CRC), a nonprofit organization whose mission was to preserve, maintain, and enhance marine fish and their ecosystems in coastal California. When CRC was still in the conceptual stage, Ms. Thornton was hired to develop the organization into a fully operating entity. Throughout the Center's existence, she created and implemented over 15 applied marine conservation projects, as well as comprehensive public education efforts. She served as CRC's Executive Director for eight years until CRC recently closed.

In addition to Ms. Thornton's academic training and broad based work experience, her professional association, and appointments have strengthened her leadership capabilities. She served three years as President of the American Fisheries Society, Humboldt Chapter and was founder and President of the Women's Fisheries Network, Northern California Chapter. She is currently a member of the National Research Council's Marine Board where she is a representative to the Marine Area Governance Committee.

In announcing her appointment, Commerce Undersecretary for Oceans and Atmosphere D. James Baker cited Thornton's experience in the marine field.

"Ms. Thornton's diverse marine experience, with special expertise in fisheries, makes her an ideal candidate to lead the marine sanctuary and estuarine reserve programs," Baker said. "I hope our many sanctuary and reserves friends around the country share our excitement in finding a candidate of Ms. Thornton's caliber."

Ms. Thornton said, "From my experiences as a commercial fisherman, fish-

eries biologist and conservationist, I have a special appreciation for the importance of preserving our oceans and coasts for this and succeeding generations." Thornton continued, "National marine sanctuaries and estuarine research reserves represent the best examples of citizens working with their government to secure a future that includes healthy coasts and oceans. I am thrilled to have the opportunity to bring my experience to this important cause, and look forward to building on the many successes these programs have had over the past 25 years."

## Monitor Bibliography Nearing Completion

A new *Monitor* bibliography is in the final stages of compilation. It will include articles, books, government documents, and other groups of published materials. Many of the entries are annotated. The bibliography will be ready for editing and layout by the end of this summer, and will be printed before the end of the year. This bibliography builds on other compilations, particularly one compiled by Gordon Watts and James Pleasants and published in 1978 by the North Carolina Division of Archives and History. The bibliography is being compiled by Benjamin Trask, Librarian at The Mariner's Museum research library. Copies will be sent to research libraries throughout the country and will be available from our office upon request.

We hope that this bibliography will be the first of a series that will include volumes on manuscript collections containing *Monitor* material, images of the *Monitor*, and artifacts/memorabilia associated with the *Monitor*.



## FROM THE WARD ROOM.....

Every issue of *Cheesebox* has contained an historical note without a formal title for the feature. We are formalizing our historical column into "The Ward Room...". The Ward Room on the Monitor was where the officers would gather in the evening to discuss topics of mutual interest. This section is our effort to share information about historical aspects of the Monitor that may not be widely known. Information in this feature will include items on officers and crew, eye-witness accounts of the Monitor, and other bits of history.

# Nathaniel Hawthorne's Visit to the USS Monitor in the Spring of 1862

Benn Trask, Librarian, The Mariners' Museum

The tragedy of the Civil War era, with so much at stake, captured the attention of poets and writers such as Walt Whitman, Sidney Lanier, Ambrose Bierce, and Louisa May Alcott.<sup>1</sup> Harriet Beecher Stowe's *Uncle Tom's Cabin* stands as one of the most influential novels of all times. Whitman and Alcott served as nurses in Union hospitals. Lanier and Samuel L. Clemens (Mark Twain) enlisted in the Confederate army. Conversely, one of the deans of American authors, Nathaniel Hawthorne, elected to take a less active role in the conflict.<sup>2</sup>

Hawthorne did not adopt the abolitionist rhetoric prevalent among many New England intellectuals, and he did not accept the assumption that slavery had to be eliminated by bloodshed. Once the youth from the North marched into battle, however, he supported the federal government's efforts. At the outbreak of the fratricidal war,<sup>3</sup> Hawthorne was an established author who had recently served six years as the United States consul at Liverpool. Before his service in England, he had held bureaucratic positions at the customs houses at Boston and Salem, Massachusetts. And while somewhat out of touch with the heated politics of the day, he resumed his literary exercises with the *Atlantic Monthly*.<sup>4</sup>

Hawthorne accepted an offer to provide his impressions of the Virginia theater in an article for the *Monthly*. After he and other Bay Staters met President Abraham Lincoln, they agreed to report their observations to the government. While in the capital he remarked in a letter to his daughter dated March 16, 1862, "I...am infested by people who want to exhibit me as a lion."<sup>5</sup> The choice of the word "lion" was amusing given the author's high forehead, full mustache, balding pate, and unruly, collar-length hair.<sup>6</sup>

Following tours of Alexandria, the Manassas battlefield, and other nearby sites, Hawthorne and his party journeyed to Fort Monroe. Shortly before their arrival, the exploits of the ironclads USS *Monitor* and

CSS *Virginia* had created a sensation in much of North America and western Europe. On March 8, the *Virginia* steamed from the Elizabeth River into Hampton Roads hunting for Union ships. The USS *Cumberland* and USS *Congress* quickly fell victim to the Confederate ram. The next day the *Monitor* and *Virginia* battled for four hours with no conclusive results. Nevertheless, with observers from the French and British navies on hand, there was a feeling among much of the general public that the age of the majestic, wooden man-of-war had passed in one afternoon and that the era of the mechanized iron and steam warship had arrived the following day.

Hawthorne devoted two and a half pages of his nineteen-page article in the *Monthly*, titled "Chiefly About War-Matters" [by a peaceable man], to the battle, the *Monitor*, and the influence this type of weapon system would have in the future.<sup>7</sup> The essayist's bold, and sometimes wild, predictions strike chords in modern readers, much as they did when the article first appeared in July 1862. Interestingly, the same issue of the *Monthly* that featured Hawthorne's remarks included an article by Epes Sargent titled "Ericsson And His Inventions." Sargent's piece in many ways was the antithesis of Hawthorne's commentary because of the unabashed praise for John Ericsson, his *Monitor*, and America's burgeoning industrial prowess.<sup>8</sup>

Given Hawthorne's background, certain passages are worthy of some discussion. The tone of the New Englander's remarks concerning the heroic effort of Lt. Joseph Morris

and the indomitable crew of the *Cumberland* indicates this feature of the engagement was on its way to becoming part of the battle's everlasting lore. Like many other commentators, Hawthorne over-shot the mark when he proclaimed the immediate demise of traditional naval vessels. Also, Hawthorne was quick to pronounce the end of the domination of the British fleets, but the former U.S. consul in Liverpool still referenced Britannia's proud tradition as the standard by which all other naval forces were to be measured. Finally, literary scholar Leo B. Levy has given Hawthorne's proclamation: "Let poets brook upon the theme, and make themselves sensible how much of the past and

future is contained within its compass" credit for inspiring Herman Melville's relevant offerings in *Battle-Pieces And Aspects of War*.<sup>9</sup>

By examining Hawthorne's observations on the activity in Hampton Roads, one may understand how Hawthorne influenced Melville.

Hawthorne writes:

The waters around Fortress Monroe were thronged with a gallant array of ships of war and transports, wearing the Union flag,—“Old Glory,” as I hear it called in these days. A little withdrawn from our national fleet lay two French frigates, and, in another direction, an English sloop, under that banner which always makes itself visible, like a red portent in the air, wherever there is strife. In pursuance of



Commemorative stamps of Herman Melville and Nathaniel Hawthorne are from the collections of Benn Trask.

our official duty, (which had no ascertainable limits,) we went on board the flag-ship, and were shown over every part of her, and down into her depths, inspecting her gallant crew, her powerful armament, her mighty engines, and her furnaces, where the fires are always kept burning, as well at midnight as at noon, so that it would require only five minutes to put the vessel under full steam. This vigilance has been felt necessary ever since the Merrimack made that terrible dash from Norfolk. Splendid as she is, however, and provided with all but the very latest improvements in naval armament, the Minnesota belongs to a class of vessels that will be built no more, nor ever fight another battle,—being as much a thing of the past as any of the ships of Queen Elizabeth's time, which grappled with the galleons of the Spanish Armada.

On her quarter-deck, an elderly flag-officer was pacing to and fro, with a self-conscious dignity to which a touch of the gout or rheumatism perhaps contributed a little additional stiffness. He seemed to be a gallant gentleman, but of the old, slow, and pompous school of naval worthies, who have grown up amid rules, forms, and etiquette which were adopted full-blown from the British navy into ours, and are somewhat too cumbersome for the quick spirit of to-day. This order of nautical heroes will probably go down, along with the ships in which they fought valorously and strutted most intolerably. How can an admiral condescend to go to sea in an iron pot? What space and elbow-room can be found for quarter-deck dignity in the cramped lookout of the Monitor, or even in the twenty-foot diameter of her cheese-box? All the pomp and splendor of naval warfare are gone by. Henceforth there must come up a race of enginemen and smoke-blackened cannoneers, who will hammer away at their enemies under the direction of a single pair of eyes; and even heroism—so deadly a gripe is Science laying on our noble possibilities—will become a quality of very minor importance, when its possessor cannot break through the iron crust of his own armament and give the world a glimpse of it.

At no great distance from the Minnesota lay the strangest-looking craft I ever saw. It was a platform of iron, so nearly level with the water that the swash of the waves broke over it, under the impulse of a very moderate breeze; and on this platform was a raised circular structure, likewise of iron, and rather broad and capacious, but of no great height. It could not be called a vessel at all; it was a machine,—and I have seen

one of somewhat similar appearance employed in cleaning out the docks; or, for lack of a better similitude, it looked like a gigantic rat-trap. It was ugly, questionable, suspicious, evidently mischievous,—nay, I will allow myself to call it devilish; for this was the new war-fiend, destined, along with others of the same breed, to annihilate whole navies and batter down old supremacies. The wooden walls of Old England cease to exist, and a whole history of naval renown reaches its period, now that the Monitor comes smoking into view; while the billows dash over what seems her deck, and storm bury even her turret in green water,

bottom of the sea, and, even there, not drowned, but stifled. Nothing, however, can exceed the confidence of the officers in this new craft. It was pleasant to see their benign exultation in her powers of mischief, and the delight with which they exhibited the circumvoluntary movement of the tower, the quick thrusting forth of the immense guns to deliver their ponderous missiles, and then the immediate recoil, and the security behind the closed port-holes. Yet even this will not long be the last and most terrible improvement in the science of war. Already we hear of vessels the armament of which is to act entirely beneath the surface of the waters

*“It could not be called a vessel at all; it was a machine...”*

as she burrows and snorts along, oftener under the surface than above. The singularity of the object has betrayed me into a more ambitious vein of description than I often indulge; and, after all, I might as well have contented myself with simply saying that she looked very queer.

Going on board, we were surprised at the extent and convenience of her interior accommodations. There is a spacious ward-room, nine or ten feet in height, besides a private cabin for the commander, and sleeping accommodations on an ample scale; the whole well lighted and ventilated, though beneath the surface of the water. Forward, or aft, (for it is impossible to tell stem from stern,) the crew are relatively quite as well provided for as the officers. It was like finding a palace, with all its conveniences, under the sea. The inaccessibility, the apparent impregnability, of this submerged iron fortress are most satisfactory; the officers and crew get down through a little hole in the deck, hermetically seal themselves, and go below; and until they see fit to reappear, there would seem to be no power given to man whereby they can be brought to light. A storm of cannon-shot damages them no more than a handful of dried peas. We saw the shotmarks made by the great artillery of the Merrimack on the outer casing of the iron tower; they were about the breadth and depth of shallow saucers, almost imperceptible dents, with no corresponding bulge on the interior surface. In fact, the thing looked altogether too safe; though it may not prove quite an agreeable predicament to be thus boxed up in impenetrable iron, with the possibility, one would image, of being sent to the

that, with no other external symptoms than a great bubbling and foaming, and gush of smoke, and belch of smothered thunder out of the yeasty waves, there shall be a deadly fight going on below,—and by-and-by, a sucking whirlpool, as one of the ships goes down.

The Monitor was certainly an object of great interest; but on our way to Newport News, whither we next went, we saw a spectacle that affected us with far profounder emotion. It was the sight of the few sticks that are left of the frigate Congress, stranded near the shore,—and still more, the masts of the Cumberland rising midway out of the water, with a tattered rag of a pennant fluttering from one of them. The invisible hull of the latter ship seems to be careened over, so that the three masts stand slantwise; the rigging looks quite unimpaired, except that a few ropes dangle loosely from the yards. The flag (which never was struck, thank Heaven!) is entirely hidden under the waters of the bay, but is still doubtless waving in its old place, although it floats to and fro with the swell and reflux of the tide, instead of rustling on the breeze. A remnant of the dead crew still man the sunken ship, and sometimes a drowned body floats up to the surface.

That was a noble fight. When was ever a better word spoken than that of Commodore Smith, the father of the commander of the Congress, when he heard that his son's ship was surrendered? "Then Joe's dead!" said he; and so it proved. Nor can any warrior be more certain of enduring renown than the gallant Morris, who fought so well the final battle of the old system of naval warfare,

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and won glory for his country and himself out of inevitable disaster and defeat. That last gun from the Cumberland, when her deck was half submerged, sounded the requiem of many sinking ships. Then went down all the navies of Europe, and our own, Old Ironsides and all, and Trafalgar and a thousand other fights become only a memory, never to be acted over again; and thus our brave countrymen come last in the long procession of heroic sailors that includes Blake and Nelson, and so many mariners of England, and other mariners as brave as they, whose renown is our native inheritance. There will be other battles, but no more such tests of seamanship and manhood as the battles of the past; and, moreover, the Millennium is certainly approaching, because human strife is to be transferred from the heart personality of man into cunning contrivances of machinery, which by-and-by will fight out our wars with only the clank and smash of iron, strewing the field with broken engines, but damaging nobody's little finger except by accident. Such is obviously the tendency of modern improvement. But, in the mean while, so long as manhood retains any part of its pristine value, no country can afford to let gallantry like that of Morris and his crew, any more than that of the brave Worden, pass unhonored and unrewarded. If the Government do nothing, let the people take the matter into their own hands, and cities give him swords, gold boxes, festivals of triumph, and, if he needs it, heaps of gold. Let poets brood upon the theme, and make themselves sensible how much of the past and future is contained within its compass, till its spirit shall flash forth in the lightning of a song!

<sup>1</sup>John S. Bowman, ed., *The Civil War Almanac* (New York: World Almanac Publications, 1983):391-92; Louisa May Alcott, *Hospital Sketches* (1863: rpr. Boston and Cambridge: Applewood Books, 1986): 40-60.

<sup>2</sup>*Dictionary of American Biography*, (Charles Scribner's Sons: New York, 1932): Vol. VIII, p. 428.

<sup>3</sup>Robert Morsberger, "Hawthorne: The Civil War as the unpardonable Sin," in the C. E. Clark, Jr., ed., *The Nathaniel Hawthorne Journal 1977* (Detroit: Brucoli Clark Books, 1980): 11-19.

<sup>4</sup>*DAB*, VIII, 426-28.

<sup>5</sup>Thomas Woodson, et.al., eds., Nathaniel Hawthorne: *The Letters, 1857-1864*. (Columbus: Ohio State University Press, 1987), Vol. XV, p. 437.

<sup>6</sup>*The Hawthorne Journal 1977*, frontispiece; and T. Walter Herbert, *Dearest Beloved: The Hawthornes and the Making of the Middle-Class Family*, (Berkeley: University of California Press, 1993), 43-61.

<sup>7</sup>Nathaniel Hawthorne, "Chiefly About War-Matters," *Atlantic Monthly*, Vol. X, No. LVII (July 1862), 43-61.

<sup>8</sup>Epes Sargent, "Ericsson and His Inventions," *Atlantic Monthly*, Vol. X, No. LVII (July 1862), 68-81.

<sup>9</sup>Leo B. Levy, "Hawthorne, Melville, and the *Monitor*," *American Literature*, Vol. 37, No. 1 (March 1965), 33-40.

## Editor's Corner

There has been a change in the editorial staff. Octavia Cubbins, who had served as the Director of Education for The Mariners' Museum for more than a decade, married Greg Starbuck in December 1996. She and Greg relocated to Savannah, Georgia, to begin married life. In addition to duties related to *Cheesebox*, Octavia assisted in developing *Monitor* education programs and projects. Her enthusiasm and innovative approach to education are sorely missed by our staff. I would like to publicly thank Octavia for all of her support and efforts on behalf of the *Monitor* Sanctuary over the past seven years. We wish Octavia and Greg much happiness as they venture into a new life together.

Jerry Kinney of the Museum's Buildings and Grounds Division is currently handling Octavia's *Monitor*-related responsibilities. He has been with the Museum for three and one-half years and possesses the two most important qualities for working with the *Monitor*: patience and a sense of humor. Jerry is currently serving as the Museum liaison for the NOAA/Mariners' grant.

The Mariners' Museum is developing a Naval Power gallery that will include an expanded permanent *Monitor* exhibit. Design development is in the final stages. We will include an article on the new gallery in a future issue of *Cheesebox*.

As you will read elsewhere in this issue, we will soon have an additional source of information for *Monitor* researchers: a new *Monitor* bibliography. It will be available in early 1998. Benjamin Trask, Librarian at The Mariners' Museum, who is compiling the bibliography, also authored an article in this issue on a visit to the *Monitor* by Nathaniel Hawthorne. Our thanks to Benn for all of his hard work on our behalf.

Many of our printed items are still available and an up-to-date publications list can be obtained from our office. There is a separate list for teachers that includes traveling exhibits and other items for classroom use. If you want to do something *Monitor*-related for your classroom, please let us know.

Congratulations to Ty Bartley of Charleston, West Virginia, whose project on the *Monitor* won first place in his school's science fair and an honorable mention at the Kanawha County fair. We send out thousands of pieces of information on the *Monitor* every year and really enjoy hearing how students use the information and how their projects are received. Way to go, Ty!

And finally, another sincere thank you to Betty Peterkin and her family for donating Ernest W. Peterkin's extensive collection of *Monitor* papers to the *Monitor* Collection. We have relied extensively on Pete's papers for much of the research data we have been compiling as part of the comprehensive plan. His years of research on the *Monitor* resulted in an invaluable collection of material that we rely on daily.

## Private Researchers to Continue Photodocumentation of the *Monitor* During 1997

Two research permits have been issued for research at the *Monitor* National Marine Sanctuary during July 1997. The first will be the 1997 Farb *Monitor* Expedition, Rod Farb, principal investigator. The Farb team will continue video documentation of the wreck. High-resolution video will be recorded with a scale near the hull and within the camera's view; later the best video frames will be digitized for use in preparing photomosaics and for making measurements. The second expedition will be The Cambrian Foundation, Terrence Tysall, principal investigator. This group is concentrating on using small scales and still cameras to develop an accurate, high-resolution photomosaic of portions of the hull. Both expeditions, plagued by bad weather in recent years, are attempting to assist NOAA in documenting the current condition of the *Monitor*.



## Results of Recent On-site Research

### Propeller Recovery Efforts

Efforts to recover the propeller during 1995 were not successful due primarily to exceptionally adverse weather conditions. An unexpectedly heavy work schedule, including the search for wreckage from TWA flight 800 which crashed off the coast of New York, prevented the Navy from returning to complete the task during 1996. As a result, plans to conduct NOAA field research during 1996 were canceled in order for research funds to be diverted to development of a comprehensive management plan for the *Monitor*. Weather has been increasingly unfriendly in recent years, primarily due to a more active weather cycle that has resulted in more storms during the period of June through October, the best months for working at the site.

### 1996 Laser Line Scan Imaging Survey

During October 9-16, 1996, a unique imaging survey was conducted at the *Monitor* National Marine Sanctuary using a new type of laser line scanner system. This prototype laser device, under development for the U.S. Navy, is the first underwater imaging system with the capability to generate a photographic-quality color image of submerged objects or vast areas of seabed. The primary objective of the survey was to utilize the state-of-the-art synchronous laser line scanner to generate high-resolution color images of the *Monitor* and its surrounding debris field. The mission was made possible by the cooperation and participation of NOAA, the U.S. Navy, Raytheon Electronic Systems and Harbor Branch Oceanographic Institution. Two photographers from *National Geographic* magazine were aboard to document this pioneering survey. The Research Vessel *Edwin Link* supported diving operations by the Research Submersible *Clelia*, which was outfitted with the laser system.

Secondary goals were to image the debris field for approximately 30 meters around the hull; locate and recover a recording current meter that is positioned south of the wreck; image the seabed in a larger perimeter around the hull; and conduct daylight surveys, recording the site on videotape.

The expedition was hampered throughout by heavy seas, strong winds, swift currents, and, worst of all, poor visibility, since the laser system is an optical device. Despite these difficulties, more than two gigabytes of laser imaging data were obtained on two submersible dives. A review of all data files verified that the laser line scanner system performed well and that significant portions of the *Monitor's* hull are captured in one or more of

the image files (approximately 70 percent of the hull was imaged). The images are distorted because high currents at the site affected the height and track of the submersible and poor visibility limited the color rendition and resolution of the images. The files are currently being "warped," optimized, and merged to form a composite image of the *Monitor's* hull. Had bottom conditions been more favorable, there is little doubt that excellent color images of the *Monitor* would have been obtained.

### 1997 Laser Line Scan Site Mapping Imaging Survey

During June 11-15, 1997, NOAA conducted a second laser line scanner imaging survey at the *Monitor* National Marine Sanctuary. The survey was a cooperative

effort involving NOAA's Sanctuaries and Reserves division, NOAA Corps Operations, NOAA Ship *Ferrel*, Northrop Grumman Oceanic Systems, and Science Applications International Corporation. The Northrop Grumman laser system was mounted in a tow vehicle and deployed from NOAA ship *Ferrel*, for a series of transects over the wreck site. Survey operations commenced on June 12, but had to be terminated shortly after 1:00 a.m. on June 14 due to deteriorating weather conditions. The survey was hampered by strong ocean currents, but video and digital still images of the *Monitor* were obtained and are being analyzed. It is hoped that this and the 1996 laser imaging survey will provide sufficient data for a complete mosaic of the *Monitor's* hull.

### New...

We have added *Monitor* bookmarks to the material available from our office. There are two different designs, both in color. These are the first in a series.

We will have a new traveling photographic exhibit available for the 1997-98 school year. The exhibit is designed for students to assemble with double-sided tape or Velcro. It can be mounted in a space approximately the size of two standard doors. Teachers can contact us for more information.

An "Accomplishments Report" was printed by the Sanctuaries and Reserves Division (SRD) to commemorate the 25th anniversary of National Marine Sanctuaries. This report, filled with beautiful color illustrations and photographs of sea life, highlights the *Monitor* Sanctuary. Copies are available from SRD.

### Special Events

Beginning August 1 the *Monitor* traveling exhibit will be at the North Carolina Maritime Museum, Beaufort, North Carolina, for an undetermined length of time. If you are in the Beaufort area, stop in and see it.

*Monitor* artifacts are on exhibit at the Gerald Ford Presidential Library in Grand Rapids, Michigan through December 5, 1997. *Monitor* artifacts are also on exhibit at the Hampton Roads Naval Museum, Norfolk, Virginia, the Cape Hatteras National Seashore Visitors Center, Hatteras, North Carolina, and in the permanent *Monitor* exhibit at The Mariners' Museum, Newport News, Virginia.

### For Your Reading Enjoyment

The June 1997 issue of the *Civil War Times Illustrated* included a series of articles on the *Monitor* and the *Monitor* National Marine Sanctuary. There is a detailed discussion of the crisis at the *Monitor* Sanctuary, a tour of the *Monitor* exhibit at The Mariners' Museum, and an article on the development of the revolving gun turret.

In November of this year, Walker and Company of New York City will release *Monitor* by James Tertius deKay. It is a detailed history of the *Monitor* and John Ericsson. The staff of the *Monitor* Sanctuary reviewed this book and found it to be a very pleasant and informative reading experience.