

= Battle of Hampton Roads =

The Battle of Hampton Roads , often referred to as either the Battle of the Monitor and Merrimack (or Virginia) or the Battle of Ironclads , was the most noted and arguably most important naval battle of the American Civil War from the standpoint of the development of navies . It was fought over two days , March 8 ? 9 , 1862 , in Hampton Roads , a roadstead in Virginia where the Elizabeth and Nansemond rivers meet the James River just before it enters Chesapeake Bay adjacent to the city of Norfolk . The battle was a part of the effort of the Confederacy to break the Union blockade , which had cut off Virginia 's largest cities , Norfolk and Richmond , from international trade .

The major significance of the battle is that it was the first meeting in combat of ironclad warships , i.e. , the USS Monitor and the CSS Virginia . The Confederate fleet consisted of the ironclad ram Virginia (built from the remnants of the USS Merrimack) and several supporting vessels . On the first day of battle , they were opposed by several conventional , wooden @-@ hulled ships of the Union Navy . On that day , Virginia was able to destroy two ships of the Federal flotilla , USS Congress and USS Cumberland , and was about to attack a third , USS Minnesota , which had run aground . However , the action was halted by darkness and falling tide , so Virginia retired to take care of her few wounded ? which included her captain , Flag Officer Franklin Buchanan ? and repair her minimal battle damage .

Determined to complete the destruction of the Minnesota , Catesby ap Roger Jones , acting as captain in Buchanan 's absence , returned the ship to the fray the next morning , March 9 . During the night , however , the ironclad Monitor had arrived and had taken a position to defend Minnesota . When Virginia approached , Monitor intercepted her . The two ironclads fought for about three hours , with neither being able to inflict significant damage on the other . The duel ended indecisively , Virginia returning to her home at the Gosport Navy Yard for repairs and strengthening , and Monitor to her station defending Minnesota . The ships did not fight again , and the blockade remained in place .

The battle received worldwide attention , and it had immediate effects on navies around the world . The preeminent naval powers , Great Britain and France , halted further construction of wooden @-@ hulled ships , and others followed suit . A new type of warship was produced , the monitor , based on the principle of the original . The use of a small number of very heavy guns , mounted so that they could fire in all directions was first demonstrated by Monitor but soon became standard in warships of all types . Shipbuilders also incorporated rams into the designs of warship hulls for the rest of the century .

= = Background = =

= = = Military situation = = =

= = = The blockade at Norfolk = = =

On April 19 , 1861 , shortly after the outbreak of hostilities at Charleston Harbor , US President Abraham Lincoln proclaimed a blockade of ports in the seceded states . On April 27 , after Virginia and North Carolina had also passed ordinances of secession , the blockade was extended to include their ports also . Even before the extension , local troops seized the Norfolk area and threatened the Gosport Navy Yard in Portsmouth . The commandant there , Captain Charles S. McCauley , though loyal to the Union , was immobilized by advice he received from his subordinate officers , most of whom were in favor of secession . Although he had orders from (Union) Secretary of the Navy Gideon Welles to move his ships to Northern ports , he refused to act until April 20 , when he gave orders to scuttle the ships in the yard and destroy its facilities . Nine ships were burned , among them the screw frigate USS Merrimack . One (the old frigate Cumberland) was towed away successfully . Merrimack burned only to the waterline , however , and her engines were

more or less intact . The destruction of the navy yard was mostly ineffective ; in particular , the large drydock there was relatively undamaged and soon could be restored . Without firing a shot , the advocates of secession had gained for the South its largest navy yard , as well as the hull and engines of what would be in time its most famous warship . They had also seized more than a thousand heavy guns , plus gun carriages and large quantities of gunpowder .

With Norfolk and its navy yard in Portsmouth , the Confederacy controlled the southern side of Hampton Roads . To prevent Union warships from attacking the yard , the Confederates set up batteries at Sewell 's Point and Craney Island , at the juncture of the Elizabeth River with the James . (See map .) The Union retained possession of Fort Monroe , at Old Point Comfort on the Virginia Peninsula . They also held a small man @-@ made island known as the Rip Raps , on the far side of the channel opposite Fort Monroe , and on this island they completed another fort , named Fort Wool . With Fort Monroe went control of the lower Peninsula as far as Newport News .

Forts Monroe and Wool gave the Union forces control of the entrance to Hampton Roads . The blockade , initiated on April 30 , 1861 , cut off Norfolk and Richmond from the sea almost completely . To further the blockade , the Union Navy stationed some of its most powerful warships in the roadstead . There , they were under the shelter of the shore @-@ based guns of Fort Monroe and the batteries at Hampton and Newport News and out of the range of the guns at Sewell 's Point and Craney Island . For most of the first year of the war , the Confederacy could do little to oppose or dislodge them .

= = = Birth of the ironclads = = =

When steam propulsion began to be applied to warships , naval constructors renewed their interest in armor for their vessels . Experiments had been tried with armor during the Crimean War , just prior to the American Civil War , and the British and French navies had each built armored ships and were planning to build others . In 1860 , the French Navy commissioned La Gloire , the world 's first ocean @-@ going ironclad warship . Great Britain followed a year later with HMS Warrior . The use of armor remained controversial , however , and the United States Navy was generally reluctant to embrace the new technology .

= = = CSS Virginia = = =

When the Civil War broke out , Confederate Secretary of the Navy Stephen R. Mallory was an early enthusiast for the advantages of armor . As he looked upon it , the Confederacy could not match the industrial North in numbers of ships at sea , so they would have to compete by building vessels that would be individually superior to those of the Union . The edge would be provided by armor . Mallory gathered about himself a group of men who were able to put his vision into practice , among them John M. Brooke , John L. Porter , and William P. Williamson .

When Mallory 's men searched the South for factories that could build engines to drive the heavy ships that he wanted , they found no place to do it immediately . At the best facility , the Tredegar Iron Works in Richmond , building engines from scratch would take at least a year . Upon learning this , Williamson suggested taking the engines from the hulk of Merrimack , recently raised from the bed of the Elizabeth River . His colleagues promptly accepted his suggestion and expanded it , proposing that the design of their projected ironclad be adapted to the hull . Porter produced the revised plans , which were submitted to Mallory for approval . On July 11 , 1861 , the new design was accepted , and work began almost immediately . The burned @-@ out hull was towed into the graving dock that the Union Navy had failed to destroy . During the subsequent conversion process , the plans were further modified to incorporate an iron ram fitted to the prow . Her offense in addition to the ram consisted of 10 guns : six 9 in (230 mm) smooth @-@ bore Dahlgrens , two 6 @. @ 4 in (160 mm) and two 7 in (180 mm) Brooke rifles . Trials showed that these rifles firing solid shot would pierce up to eight inches of armor plating . The Tredegar Iron works could produce both solid shot and shell , and since it was believed that Virginia would face only wooden ships , she was given only the shell . Had solid shot been used against the Monitor , the result of the battle might

have been different . The armor plating , originally meant to be 1 in (25 mm) thick , was replaced by double plates , each 2 in (51 mm) thick , backed by 24 in (61 cm) of iron and pine . The armor was pierced for 14 gunports : four on each broadside , three forward , and three aft . The revisions , together with the usual problems associated with the transportation system of the South , resulted in delays that pushed out the launch date until February 3 , 1862 , and she was not commissioned until February 17 , bearing the name CSS Virginia .

= = = = USS Monitor = = = =

Intelligence that the Confederates were working to develop an ironclad caused consternation for the Union , but Secretary of the Navy Gideon Welles waited for Congress to meet to request permission to consider building armored vessels ; Congress gave this permission on August 3 , 1861 . Welles appointed a commission , which came to be known as the Ironclad Board , of three senior naval officers to choose among the designs that were submitted for consideration . The three men were Captains Joseph Smith and Hiram Paulding , and Commander Charles Henry Davis . The board considered seventeen designs , and chose to support three . First of the three to be completed , even though she was by far the most radical in design , was Swedish engineer and inventor John Ericsson 's USS Monitor .

Ericsson 's Monitor , which was built at Ericsson 's yard on the East River in Greenpoint , Brooklyn , incorporated new and striking design features , the most significant of which were her armor and armament . Instead of the large numbers of guns of rather small bore that had characterized warships in the past , Ericsson opted for only two guns of large caliber ; he wanted to use 15 in (380 mm) guns , but had to settle for 11 in (280 mm) Dahlgren guns when the larger size were unavailable . These were mounted in a cylindrical turret , 20 ft (6 @. @ 1 m) in diameter , 9 ft (2 @. @ 7 m) high , covered with iron 8 in (200 mm) thick . The whole rotated on a central spindle , and was moved by a steam engine that could be controlled by one man . Ericsson was afraid that using the full 30 pounds of black powder to fire the huge cannon would raise the risk of an explosion in the turret . He demanded that a charge of 15 pounds be used to lessen this possibility . As with Virginia , it was found that the full charge would pierce armor plate , a finding that would have affected the outcome of the battle . A serious flaw in the design was the pilot house from which the ship would be conned , a small structure forward of the turret on the main deck . Its presence meant that the guns could not fire directly forward , and it was isolated from other activities on the ship . Despite the late start and the novelty of construction , Monitor was actually completed a few days before her counterpart Virginia , but Virginia was activated first .

= = Opposing forces = =

= = = Union = = =

= = = Confederate = = =

= = Battle = =

= = = Command = = =

The Confederate chain of command was anomalous . Lieutenant Catesby ap Roger Jones had directed much of the conversion of Merrimack to Virginia , and he was disappointed when he was not named her captain . Jones was retained aboard Virginia , but only as her executive officer . Ordinarily , the ship would have been led by a captain of the Confederate States Navy , to be

determined by the rigid seniority system that was in place . Secretary Mallory wanted the aggressive Franklin Buchanan , but at least two other captains had greater seniority and had applied for the post . Mallory evaded the issue by appointing Buchanan , head of the Office of Orders and Detail , flag officer in charge of the defenses of Norfolk and the James River . As such , he could control the movements of Virginia . Technically , therefore , the ship went into the battle without a captain .

On the Union side , command of the North Atlantic Blockading Squadron was held by Flag Officer Louis M. Goldsborough . He had devised a plan for his frigates to engage Virginia , hoping to trap her in their crossfire . In the event , his plan broke down completely when four of the ships ran aground (one of them intentionally) in the confined waters of the roadstead . On the day of battle , Goldsborough was absent with the ships cooperating with the Burnside Expedition in North Carolina . In his absence , leadership fell to his second in command , Captain John Marston of USS Roanoke . As Roanoke was one of the ships that ran aground , Marston was unable to materially influence the battle , and his participation is often disregarded . Most accounts emphasize the contribution of the captain of Monitor , John L. Worden , to the neglect of others .

= = = March 8 : Virginia wreaks havoc on wooden Union warships = = =

The battle began when the large and unwieldy CSS Virginia steamed into Hampton Roads on the morning of March 8 , 1862 . Captain Buchanan intended to attack as soon as possible . Virginia was accompanied from her moorings on the Elizabeth River by Raleigh and Beaufort , and was joined at Hampton Roads by the James River Squadron , Patrick Henry , Jamestown , and Teaser . When they were passing the Union batteries at Newport News , Patrick Henry was temporarily disabled by a shot in her boiler that killed four of her crew . After repairs , she returned and rejoined the others .

At this time , the Union Navy had five warships in the roadstead , in addition to several support vessels . The sloop @-@ of @-@ war USS Cumberland and frigate Congress were anchored in the channel near Newport News . Frigate St. Lawrence and the steam frigates Roanoke and Minnesota were near Fort Monroe , along with the storeship USS Brandywine (1825) . The latter three got under way as soon as they saw Virginia approaching , but all soon ran aground . St. Lawrence and Roanoke took no further important part in the battle .

Virginia headed directly for the Union squadron . The battle opened when Union tug Zouave fired on the advancing enemy , and Beaufort replied . This preliminary skirmishing had no effect . Virginia did not open fire until she was within easy range of Cumberland . Return fire from Cumberland and Congress bounced off the iron plates without penetrating , although later some of Cumberland 's payload lightly damaged Virginia .

Virginia rammed Cumberland below the waterline and she sank rapidly , " gallantly fighting her guns as long as they were above water , " according to Buchanan . She took 121 seamen down with her ; those wounded brought the casualty total to nearly 150 .

Ramming Cumberland nearly resulted in the sinking of Virginia as well . Virginia 's bow ram got stuck in the enemy ship 's hull , and as Cumberland listed and began to go down , she almost pulled Virginia under with her . At the time the vessels were locked , one of Cumberland 's anchors was hanging directly above the foredeck of Virginia . Had it come loose , the two ships might have gone down together . Virginia broke free , however , her ram breaking off as she backed away .

Buchanan next turned Virginia on Congress . Seeing what had happened to Cumberland , Lieutenant Joseph B. Smith , captain of Congress , ordered his ship grounded in shallow water . By this time , the James River Squadron , commanded by John Randolph Tucker , had arrived and joined Virginia in the attack on Congress . After an hour of unequal combat , the badly damaged Congress surrendered . While the surviving crewmen of Congress were being ferried off the ship , a Union battery on the north shore opened fire on Virginia . In retaliation , Buchanan ordered Congress fired upon with hot shot , cannonballs heated red @-@ hot . Congress caught fire and burned throughout the rest of the day . Near midnight , the flames reached her magazine and she exploded and sank , stern first . Personnel losses included 110 killed or missing and presumed drowned . Another 26 were wounded , of whom ten died within days .

Although she had not suffered anything like the damage she had inflicted , Virginia was not

completely unscathed . Shots from Cumberland , Congress , and Union troops ashore had riddled her smokestack , reducing her already low speed . Two of her guns were disabled and several armor plates had been loosened . Two of her crew were killed , and more were wounded . One of the wounded was Captain Buchanan , whose left thigh was pierced by a rifle shot .

Meanwhile , the James River Squadron had turned its attention to Minnesota , which had left Fort Monroe to join in the battle and had run aground . After Virginia had dealt with the surrender of Congress , she joined the James River Squadron despite her damage . Because of her deep draft and the falling tide , however , Virginia was unable to get close enough to be effective , and darkness prevented the rest of the squadron from aiming their guns to any effect . The attack was therefore suspended . Virginia left with the expectation of returning the next day and completing the task . She retreated into the safety of Confederate @-@ controlled waters off Sewell 's Point for the night , but had killed 400 enemy sailors and had lost two . The Union had lost two ships and three were aground .

The United States Navy 's greatest defeat until World War II caused panic in Washington . As Lincoln 's Cabinet met to discuss the disaster , the frightened Secretary of War Edwin Stanton told the others that the Virginia might attack East coast cities , and even shell the White House before the meeting ended . Welles assured his colleagues that they were safe as the ship could not traverse the Potomac River . He added that the Union also had an ironclad , and that it was heading to meet the Virginia .

= = = March 9 : Monitor engages Virginia = = =

Both sides used the respite to prepare for the next day . Virginia put her wounded ashore and underwent temporary repairs . Captain Buchanan was among the wounded , so command on the second day fell to his executive officer , Lieutenant Catesby ap Roger Jones . Jones proved to be no less aggressive than the man he replaced . While Virginia was being prepared for renewal of the battle , and while Congress was still ablaze , Monitor , commanded by Lieutenant John L. Worden , arrived in Hampton Roads . The Union ironclad had been rushed to Hampton Roads in hopes of protecting the Union fleet and preventing Virginia from threatening Union cities . Captain Worden was informed that his primary task was to protect Minnesota , so Monitor took up a position near the grounded Minnesota and waited . " All on board felt we had a friend that would stand by us in our hour of trial , " wrote Captain Gershom Jacques Van Brunt , the vessel 's commander , in his official report the day after the engagement .

The next morning , at dawn on March 9 , 1862 , Virginia left her anchorage at Sewell 's Point and moved to attack Minnesota , still aground . She was followed by the three ships of the James River Squadron . They found their course blocked , however , by the newly arrived Monitor . At first , Jones believed the strange craft ? which one Confederate sailor mocked as " a cheese on a raft " ? to be a boiler being towed from the Minnesota , not realizing the nature of his opponent . Soon , however , it was apparent that he had no choice but to fight her . The first shot of the engagement was fired at Monitor by Virginia . The shot flew past Monitor and struck Minnesota , which answered with a broadside ; this began what would be a lengthy engagement . " Again , all hands were called to quarters , and when she approached within a mile of us I opened upon her with my stern guns and made a signal to the Monitor to attack the enemy , " Van Brunt added .

After fighting for hours , mostly at close range , neither could overcome the other . The armor of both ships proved adequate . In part , this was because each was handicapped in her offensive capabilities . Buchanan , in Virginia , had not expected to fight another armored vessel , so his guns were supplied only with shell rather than armor @-@ piercing shot . Monitor 's guns were used with the standard service charge of only 15 lb (6 @.@ 8 kg) of powder , which did not give the projectile sufficient momentum to penetrate her opponent 's armor . Tests conducted after the battle showed that the Dahlgren guns could be operated safely and efficiently with charges of as much as 30 lb (14 kg) .

The battle finally ceased when a shell from Virginia struck the pilot house of Monitor and exploded , driving fragments of paint and iron through the viewing slits into Worden 's eyes and temporarily

blinding him . As no one else could see to command the ship , Monitor was forced to draw off . The executive officer , Lieutenant Samuel Dana Greene , took over , and Monitor returned to the fight . In the period of command confusion , however , the crew of Virginia believed that their opponent had withdrawn . Although Minnesota was still aground , the falling tide meant that she was out of reach . Furthermore , Virginia had suffered enough damage to require extensive repair . Convinced that his ship had won the day , Jones ordered her back to Norfolk . At about this time , Monitor returned , only to discover her opponent apparently giving up the fight . Convinced that Virginia was quitting , with orders only to protect Minnesota and not to risk his ship unnecessarily , Greene did not pursue . Thus , each side misinterpreted the moves of the other , and as a result each claimed victory .

Confederate Secretary of the Navy Stephen Mallory wrote to Confederate President Davis of the action :

The conduct of the Officers and men of the squadron ? reflects unfading honor upon themselves and upon the Navy . The report will be read with deep interest , and its details will not fail to rouse the ardor and nerve the arms of our gallant seamen . It will be remembered that the Virginia was a novelty in naval architecture , wholly unlike any ship that ever floated ; that her heaviest guns were equal novelties in ordnance ; that her motive power and obedience to her helm were untried , and her officers and crew strangers , comparatively , to the ship and to each other ; and yet , under all these disadvantages , the dashing courage and consummate professional ability of Flag Officer Buchanan and his associates achieved the most remarkable victory which naval annals record .

In Washington , belief that Monitor had vanquished Virginia was so strong that Worden and his men were awarded the Thanks of Congress :

Resolved . . . That the thanks of Congress and the American people are due and are hereby tendered to Lieutenant J. L. Worden , of the United States Navy , and to the officers and men of the ironclad gunboat Monitor , under his command , for the skill and gallantry exhibited by them in the remarkable battle between the Monitor and the rebel ironclad steamer Merrimack .

During the two @-@ day engagement , the U.S.S. Minnesota shot off 78 rounds of 10 @-@ inch solid shot ; 67 rounds of 10 @-@ inch solid shot with 15 @-@ second fuse ; 169 rounds of 9 @-@ inch solid shot ; 180 9 @-@ inch shells with 15 @-@ second fuse ; 35 8 @-@ inch shells with 15 @-@ second fuse and 5 @,@ 567 @.@ 5 pounds of service powder . Three crew members , Alexander Winslow , Henry Smith and Dennis Harrington were killed during the battle and 16 were wounded . One of Monitor 's crew , Quartermaster Peter Williams , was awarded the Medal of Honor for his actions during the battle .

= = = Spring 1862 ? a standoff at Hampton Roads = = =

Virginia remained in drydock for almost a month , getting repairs for battle damage as well as minor modifications to improve her performance . On April 4 , she was able to leave drydock . Buchanan , still recovering from his wound , had hoped that Catesby Jones would be picked to succeed him , and most observers believed that Jones 's performance during the battle was outstanding . The seniority system for promotion in the Navy scuttled his chances , however , and the post went to the 67 @-@ year @-@ old Commodore Josiah Tattnall . Monitor , not severely damaged , remained on duty . Like his antagonist Jones , Greene was deemed too young to remain as captain ; the day after the battle , he was replaced with Lieutenant Thomas O. Selfridge . Two days later , Selfridge was in turn relieved by Lieutenant William Nicholson Jeffers .

By late March , the Union blockade fleet had been augmented by hastily refitted civilian ships , including the powerful SS Vanderbilt , SS Arago , SS Illinois , and SS Ericsson . These had been outfitted with rams and some iron plating . By late April , the new ironclads USRC E. A. Stevens and USS Galena and had also joined the blockade .

Each side considered how best to eliminate the threat posed by its opponent , and after Virginia returned each side tried to goad the other into attacking under unfavorable circumstances . Both captains declined the opportunity to fight in water not of their own choosing ; Jeffers in particular was under positive orders not to risk his ship . Consequently , each vessel spent the next month in what amounted to posturing . Not only did the two ships not fight each other , neither ship ever

fought again after March 9 .

= = = Destruction of the combatants = = =

The end came first for Virginia . Because the blockade was unbroken , Norfolk was of little strategic use to the Confederacy , and preliminary plans were laid to move the ship up the James River to the vicinity of Richmond . Before adequate preparations could be made , the Confederate Army under Major General Benjamin Huger abandoned the city on May 9 , without consulting anyone from the Navy . Virginia 's draft was too great to permit her to pass up the river , which had a depth of only 18 ft (5 @. @ 5 m) , and then only under favorable circumstances . She was trapped and could only be captured or sunk by the Union Navy . Rather than allow either , Tatnall decided to destroy his own ship . He had her towed down to Craney Island in Portsmouth , where the gang were taken ashore , and then she was set afire . She burned through the rest of the day and most of the following night ; shortly before dawn , the flames reached her magazine , and she blew up .

Monitor likewise did not survive the year . She was ordered to Beaufort , North Carolina , on Christmas Day , to take part in the blockade there . While she was being towed down the coast (under command of her fourth captain , Commander John P. Bankhead) , the wind increased and with it the waves ; with no high sides , the Monitor took on water . Soon the water in the hold gained on the pumps , and then put out the fires in her engines . The order was given to abandon ship ; most men were rescued by USS Rhode Island , but 16 went down with her when she sank in the early hours of December 31 , 1862 .

= = Who won ? = =

The victory claims that were made by each side in the immediate aftermath of the Battle of Hampton Roads , based as both were on misinterpretations of the opponent 's behavior , have been dismissed by present @-@ day historians . They agree that the result of the Monitor ? Merrimack encounter was not a victory for either side . As the combat between ironclads was the primary significance of the battle , the general verdict is that the overall result was a draw . All would acknowledge that the Southern fleet inflicted far more damage than it received , which would ordinarily imply that they had gained a tactical victory . Compared to other Civil War battles , the loss of men and ships for the Union Navy would be considered a clear defeat . On the other hand , the blockade was not seriously threatened , so the entire battle can be regarded as an assault that ultimately failed .

However , initially after the Battle of Hampton Roads , both the Confederates and the Unions used media to claim victory for their own sides . The headline a Boston newspaper the day after the battle read " The Merrimac Driven back by the Steamer ! " , implying a Union victory , while Confederate media focused on their original success against wooden Union ships . Despite the battle ending in a stalemate , it was seen by both sides as an opportunity to raise war @-@ time morale , especially since the ironclad ships were an exciting naval innovation that intrigued citizens .

Evaluation of the strategic results is likewise disputed . The blockade was maintained , even strengthened , and Virginia was bottled up in Hampton Roads . Because a decisive Confederate weapon was negated , some have concluded that the Union could claim a strategic victory . Confederate advocates can counter , however , by arguing that Virginia had a military significance larger than the blockade , which was only a small part of the war in Tidewater Virginia . Her mere presence was sufficient to close the James River to Federal incursions . She also imposed other constraints on the Peninsula Campaign then being mounted by the Union Army under General George B. McClellan , who worried that she could interfere with his positions on the York River . Although his fears were baseless , they continued to affect the movements of his army until Virginia was destroyed .

= = Impact upon naval warfare = =

Both days of the battle attracted attention from almost all the world 's navies . The USS Monitor became the prototype for the monitor warship type . She thus became the first of two ships whose names were applied to entire classes of their successors . The other was HMS Dreadnought . Many more were built , including river monitors , and they played key roles in Civil War battles on the Mississippi and James rivers . The US immediately started the construction of ten more monitors based on Ericsson 's original larger plan , known as the Passaic @-@ class monitors . However , while the design proved exceptionally well @-@ suited for river combat , the low profile and heavy turret caused poor seaworthiness in rough waters . Russia , fearing that the American Civil War would spill into Russian Alaska , launched ten sister ships , as soon as Ericsson 's plans reached St. Petersburg . What followed has been described as " Monitor mania " . The revolving turret later inspired similar designs for future warships , which eventually became the modern battleship .

The vulnerability of wooden hulls to armored ships was noted particularly in Britain and France , where the wisdom of the planned conversion of the battle fleet to armor was given a powerful demonstration . Another feature that was emulated was not so successful . Impressed by the ease with which the Virginia had sunk the Cumberland , naval architects began to incorporate rams into their hull designs . The first purpose @-@ built ram in the modern era was the French armored ram Taureau (1863) , whose guns were said to have " the sole function of preparing the way for the ram . " The inclusion of rams in warship hull design persisted almost to the outbreak of World War I , despite improvements in naval gunnery that quickly made close action between warships almost suicidal , if not impossible .

= = Commemorating the battle : Virginia = =

The name of the warship that served the Confederacy in the Battle of Hampton Roads has been a continuing source of confusion and some contention . She was originally a screw frigate in the United States Navy carrying the name USS Merrimack . All parties continued to use the name after her capture by secessionists while she was being rebuilt as an ironclad . When her conversion was almost complete , her name was officially changed to Virginia . Despite the official name change , Union accounts persisted in calling the Merrimack by her original name , while Confederate sources used either Virginia or Merrimac (k) . The alliteration of Monitor and Merrimack has persuaded most popular accounts to adopt the familiar name , even when it is acknowledged to be technically incorrect .

A CSS Merrimac did actually exist . She was a paddle wheel steamer named for the victor (as most Southerners saw it) at Hampton Roads . She was used for running the blockade until she was captured and taken into Federal service , still named Merrimac . Her name was a spelling variant of the river , namesake of USS Merrimack . Both spellings are still in use around the Hampton Roads area .

A small community in Montgomery County , Virginia near the location where the iron for the Confederate ironclad was forged is now known as Merrimac . Some of the iron mined there and used in the plating on the Confederate ironclad is displayed at the Norfolk Naval Shipyard in Portsmouth . The anchor of the Virginia sits on the lawn in front of the Museum of the Confederacy in Richmond .

= = Commemorating the battle : Monitor = =

After resting undetected on the ocean floor for 111 years , the wreck of Monitor was located by a team of scientists in 1973 . The remains of the ship were found upside down 16 mi (26 km) off Cape Hatteras , on a relatively flat , sandy bottom at a depth of about 240 ft (73 m) . In 1987 , the site was declared a National Marine Sanctuary , the first shipwreck to receive this distinction .

Because of Monitor 's advanced state of deterioration , timely recovery of remaining significant artifacts and ship components became critical . Numerous fragile artifacts , including the innovative turret and its two Dahlgren guns , an anchor , steam engine , and propeller , have been recovered . They were transported back to Hampton Roads to the Mariners ' Museum in Newport News ,

Virginia , where they were treated in special tanks to stabilize the metal . It is reported that it will take about ten years for the metal to completely stabilize . The new USS Monitor Center at the Mariners ' Museum officially opened on March 9 , 2007 , and a full @-@ scale replica of USS Monitor , the original recovered turret , and artifacts and related items are now on display .

= = Commemorating the Battle of Hampton Roads = =

The Battle of Hampton Roads was a significant event in both Naval and Civil War history that has been detailed in many books , televised Civil War documentaries , and in film , to include TNT 's 1991 Ironclads . In New York City , where the designer of the Monitor , John Ericsson , died in March 1889 , a statue was commissioned by the state to commemorate the battle between the Ironclads . The statue features a stylized male nude allegorical figure on water between two iron cleats . It is located in Msgr McGolrick Park .

In Virginia , the state dedicated the Monitor @-@ Merrimack Overlook at Anderson Park on a jetty that overlooks the site of the battle . The park contains several historical markers commemorating both ships . Also , in 1992 , Virginia dedicated the \$ 400 million , 4 @.@ 6 mile @-@ long Monitor @-@ Merrimac Memorial Bridge @-@ Tunnel , which is located less than 1 mile from the site of the battle .