



NEWSLETTER



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Army-Navy Integration

Observations, Insights, and Lessons

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Foreword

This newsletter highlights some of the operations and missions over the last several years where Army and Navy forces have operated jointly. This publication is primarily a compilation of articles and interviews published in professional journals and military websites that specifically focus on Army-Navy integration efforts. In most instances, the operations described in these articles have been very successful, but in all cases, there are lessons we can learn and best practices we can implement in future missions that will improve the effectiveness of our joint team. Additionally, historical examples from past conflicts are provided that demonstrate lessons are sometimes difficult to learn. We hope this information will be used to stimulate innovation and shared ideas between services to permit our forces to operate more effectively in all future conflicts.

A handwritten signature in black ink, appearing to read "Tom J. Murphy".

THOMAS JOSEPH MURPHY
COL, FA

Director, Center for Army Lessons Learned

Army-Navy Integration	
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Introduction

The following collection of articles, reports, and interviews are focused on Army and Navy integration. The articles are categorized in the following functional areas: historical context, maneuver, fires, protection, and sustainment. The articles cover a range of issues relating to Army and Navy integration, such as lessons learned and best practices. These articles should not be considered as all-inclusive. In some instances, the information may be slightly dated, but many of the lessons learned, even from older operations, are still enduring. This newsletter is an effort to capture relevant articles published in recent professional journals and from the Center for Army Lessons Learned (CALL) archives to show the level of integration between the two services and to provide a historical document for future reference.

In many instances, the ideas presented in these articles are personal opinions and in some cases not approved Army or Navy doctrine. The recommendations in these articles should always be validated with the latest approved Army and Navy doctrine, tactics, techniques, and procedures.

CALL acknowledges and thanks the professional journals and authors who permitted the reprinting of these articles and in some instances were personally involved in assisting CALL in the formatting process.

Minor modifications to format were made to support the CALL newsletter format. In some instances, pictures that were not referenced in the narrative were omitted. Every effort has been made to provide appropriate credit to the authors and the professional journal.

Joint Operations in the Civil War

Scott W. Stucky

Reprinted with permission from Autumn/Winter 1994–95 issue of *Joint Force Quarterly*

Summary

While the earliest example of jointness in American military history may be the subject of an open debate, two campaigns conducted during the Civil War display characteristics attributed to joint operations today. The capture in 1862 of Fort Henry and Fort Donelson, on the Tennessee and Cumberland Rivers respectively, involved riverine operations mounted by the Army and Navy. Though Union forces achieved their objectives, there were no joint commands or doctrinal pubs to show the way. The successful assault on Fort Fisher on the South Carolina coast in 1864–65 was an operation undertaken on a much greater scale that called upon the warfighting skills of soldiers, sailors, and marines. That victory revealed the emerging organizational capabilities of joint forces and demonstrated that senior commanders were becoming adept at employing the assets of each service to wage war both on land and at sea.



Landing at Fort Fisher (Frank Leslie's Illustrated Newspaper)

An analysis of two campaigns of the Civil War—at Fort Henry and Fort Donelson on the Tennessee and Cumberland Rivers and at Fort Fisher on the North Carolina coast—may determine the significance of these early joint operations on the evolution of the American way of war. Did the Union have a coherent joint strategy in 1861–62? Were ad hoc joint operations conducted based upon the personalities of Army and Navy commanders? What role did politics play in fostering inter-service cooperation? Were there any lasting effects of jointness during the Civil War?

In 1861, Clausewitz had been dead for thirty years. However his major work, *On War*, had yet to be translated into English and was largely unknown to Americans.¹ The tactical manuals in use at the U.S. Military Academy, Mahan's *Out-Post*² and Hardee's *Tactics*,³ did not mention joint operations. Jomini's *The Art of War*, the principal strategy text of the day at West Point, contained a short item on "descents" (a term of art for amphibious operations), but stated that such operations were "rare" and "among the most difficult in war."⁴

Naval thinking on joint operations was sketchier. The traditional attitude was that aspiring officers could learn everything they needed to know by putting to sea at an early age. The Naval Academy was not established until 1845, but since no naval counterpart of Jomini had yet emerged, the Navy paid little attention to the theory of war, let alone amphibious or other joint operations.⁵

Experience in joint operations before 1861 was limited. The Revolutionary War involved several amphibious expeditions including a combined French-American fiasco at Newport in 1778 and a successful operation at Yorktown in 1781.⁶ But the fact that the Navy was not established until 1794 (and then virtually abolished again by Jefferson) illustrates that no lasting lessons on the efficacy of joint operations were learned.

The most recent experience before the Civil War was Winfield Scott's unopposed landing at Vera Cruz in 1847, a superbly executed operation using the first specially designed landing craft in U.S. military history. Some 8,600 troops were put ashore in a few hours without losing a man, a fitting prelude to a brilliant campaign.⁷ Scott, aged 75, was general-in-chief of the Army in 1861, though physically unfit for field service. He foresaw a long and difficult war. In May 1861 he wrote to his successor, George B. McClellan, describing his famed Anaconda Plan to strangle the Confederacy by means of a blockade and to invade the South by joint operations conducted down the Mississippi to New Orleans. The appointment of McClellan to command the Army of the Potomac, friction among generals, and Scott's debility prompted his retirement and replacement by McClellan in November 1861.

McClellan's tenure as general-in-chief lasted only four months; yet it has been claimed that in this time he formulated a revolutionary strategy of joint operations that would begin with strikes at Charleston, New Bern, Mobile, and New Orleans, and then, driving inward along railroads and the Mississippi, cut internal communications and split the Confederacy.⁸ In this interpretation, the Peninsular Campaign is viewed as a triumph of jointness that was only unsuccessful because of Lincoln's obtuseness in keeping McDowell's corps in Washington, by fumbling on the part of the Navy, and by the demotion of McClellan, which "prevented him from coordinating the movements of other Federal armies . . . or obtaining reinforcements from less active theaters of war."⁹ The final conclusion is that a major opportunity slipped away:

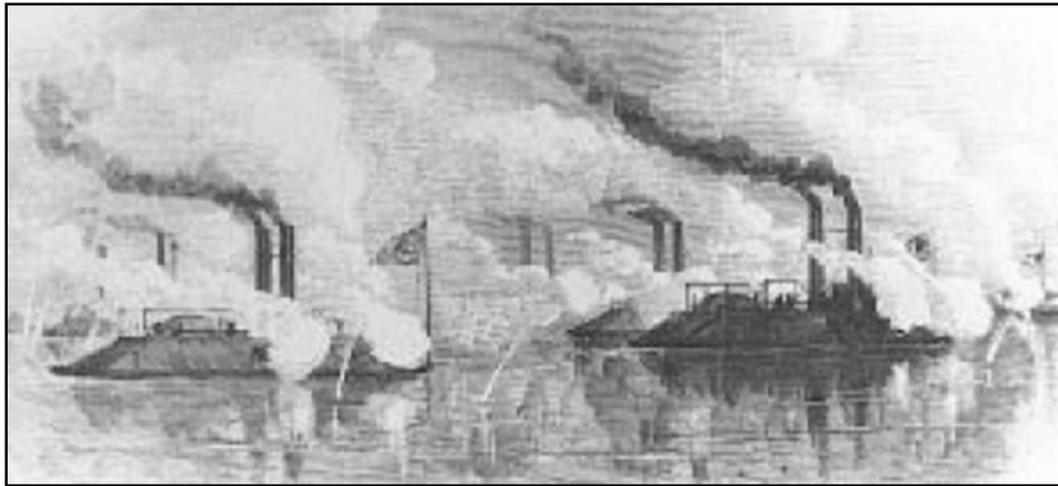
The Navy . . . was allowed to pursue an independent strategy while the Army commanders, lacking McClellan's foresight and flexibility of method, agreed with the Lincoln administration that wars were only won by slugging it out on the battlefield. The failure of the Peninsular Campaign signalled both the demise of Federal grand strategy and the demise of [joint] operations planning.¹⁰

This revisionist interpretation is deeply flawed. First, it posits that McClellan could have, with the nebulous powers of general-in-chief, achieved results with field armies that he was unable to do with his own when in active command. Second, the notion that McDowell's corps was essential to victory on the peninsula is nonsense. McClellan always greatly overestimated his opponents, and McDowell would not have made a difference. Third, McClellan had no authority whatsoever over naval forces. To assume that as general-in-chief in Washington he could have forced Army-Navy cooperation in distant theaters flies in the face of experience throughout the Civil War. Finally, this interpretation simply ignores fatal flaws in his character. An unwillingness to move quickly and fight, consistent overestimation of his opponents, secretiveness about his intentions, and contempt for his political masters in this most political of wars destroyed McClellan in the final analysis. There is absolutely no reason to think that if he had been general-in-chief and given everything he wanted in the Peninsular Campaign it would have made any difference. Spinning out grandiose plans was an activity that McClellan enjoyed; execution was another matter. Neither command arrangements nor doctrine for joint operations existed at the time. Successful joint operations, like much else, would have to be improvised by those on the scene.

Forts Henry and Donelson

The first large-scale joint operation in the western theater was the campaign for Fort Henry and Fort Donelson, which brought Ulysses S. Grant to public attention. Central Tennessee was of strategic importance to the Confederacy. It was a fertile farming area and held large iron deposits as well as numerous forges and furnaces. With the lack of industrial capacity in the South, the area was a resource almost beyond estimate. The immense natural problems of defending it, however, were devilishly complicated by Kentucky's attempt to remain neutral. Since neither side wanted the opprobrium of violating this neutrality, defensive works to protect central Tennessee had to be built outside Kentucky.¹¹

Given the poor roads and lack of north-south railways, the likely invasion route into central Tennessee was by the twin rivers, the Tennessee on the west and the Cumberland on the east. To counter this threat Confederate fortifications were constructed on both rivers in 1861. Fort Henry, on the Tennessee, was poorly located on low land facing Kentucky over the river. Fort Donelson, 12 miles east on the Cumberland, was a stronger position. It sat on a bluff 75 to 100 feet above the river and was surrounded by gullies that would hamper assault by land.¹² In November 1861, Union Army forces in the area were shaken when Major General Henry W. Halleck assumed departmental command in St. Louis. Grant was subordinate to Halleck. But not all Union forces in Kentucky were under Halleck. Rather he shared responsibility for the state with Major General Don Carlos Buell who commanded the Army of the Ohio from Louisville. Buell's department included Kentucky east of the Cumberland and all of Tennessee.¹³



Naval Historical Center

Attack on Fort Henry (Thomas Nast; in *Pictorial Battles of the Civil War*)

Lincoln was eager for a campaign in Tennessee to succor the Unionists in the eastern part of the state. But mounting such an expedition depended on naval forces which did not as yet exist. The first naval commander in the west, John Rodgers, was sent to the Mississippi primarily to interdict clandestine commerce, although he was also charged with beginning work on the Anaconda Plan's advance down the river. This thrust, it was thought, required construction of a fleet of ironclads. Building them was a joint Army-Navy affair, and squabbles over the contract resulted in the recall of Commander Rodgers and his replacement by Captain Andrew Hull Foote.¹⁴

Foote, a strongly religious New Englander and a strict temperance man, was instructed by Secretary of the Navy Gideon Welles to cooperate with the Army without subordinating himself. He threw himself into constructing the ironclads and seven were launched by November. The Army Quartermaster Corps, however, was terribly slow in paying the contractors. Foote also had enormous trouble getting crews. As late as January 9 Foote still had to commission *Cincinnati* and *Carondelet* with only one third of their crews. And at the start of the Fort Henry expedition Halleck was still authorizing Grant to detail soldiers for gunboat duty.¹⁵ Nevertheless, by the end of January Foote had a workable gunboat fleet.

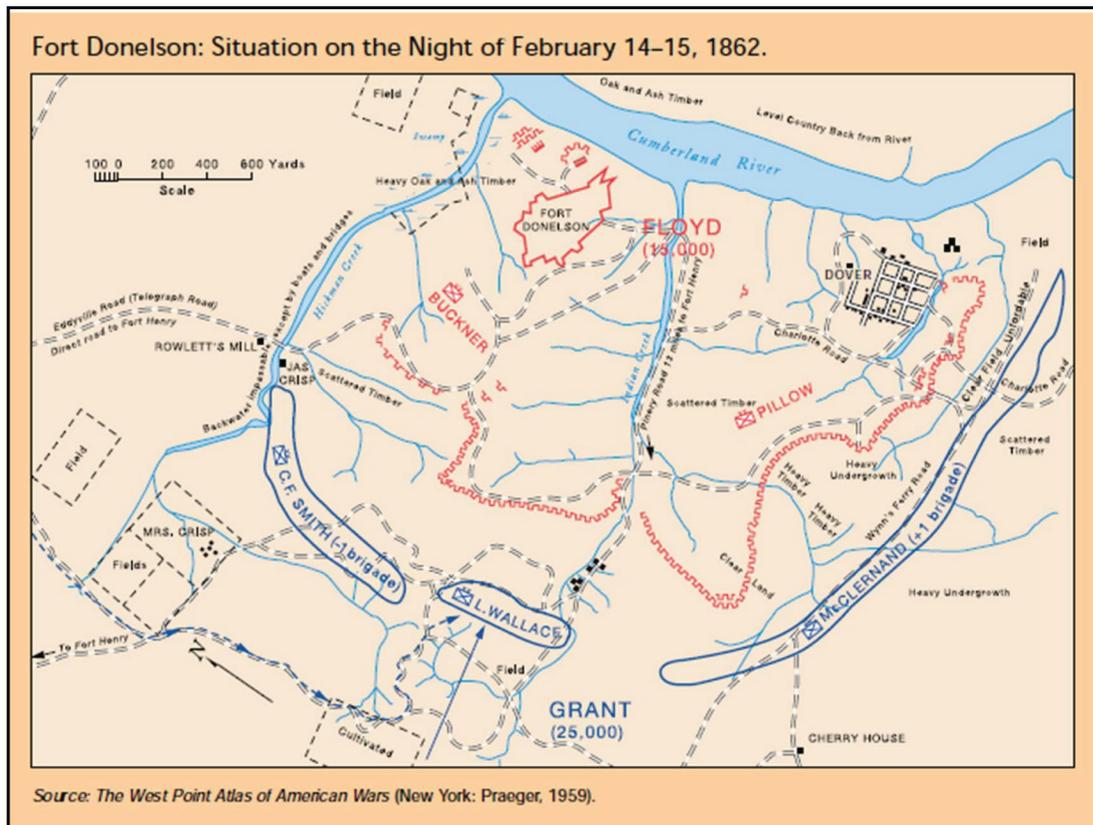
In early January Halleck directed Grant to reconnoiter up the Tennessee to keep Polk from sending reinforcements to Bowling Green, toward which Buell was planning an advance in response to Lincoln's desires. This excursion turned into a miniature version of General Ambrose Burnside's "mud march" a year later. Grant said, "We were out more than a week splashing through the mud, snow, and rain, the men suffering very much."¹⁶ The reconnaissance had its intended effect in that Polk sent no reinforcements, and General George Thomas was victorious at Mill Springs, thereby erasing the threat of a Confederate move against Buell's flank. Grant, however, was restless and impatient; he saw opportunity in a joint operation up the twin rivers but had to persuade Halleck to approve such an expedition. He accordingly traveled to St. Louis

for an interview with Halleck, which went badly. Halleck barely knew Grant but was familiar with the stories of Grant's drinking.¹⁷ Grant recounted the scene in his memoirs:

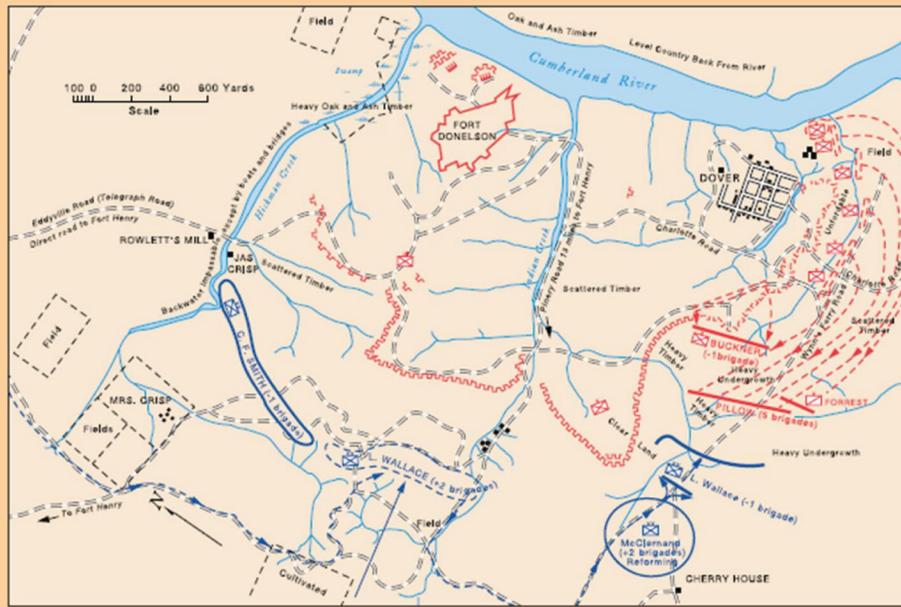
*I was received with so little cordiality that I perhaps stated the object of my visit with less clearness than I might have done, and I had not uttered many sentences before I was cut short as if my plan was preposterous. I returned to Cairo very much crestfallen.*¹⁸

Crestfallen Grant may have been, but his spirits revived upon his return to Illinois, where he consulted with Foote, who agreed on the advisability of a joint operation down the rivers. Therefore, on January 28 both officers cabled Halleck, asking permission to occupy Fort Henry. Foote stated that four ironclads would suffice. Foote's endorsement of the plan changed Halleck's mind.¹⁹

Grant and Foote worked closely together in arranging transportation and planning for the landing of troops. The expedition sailed on February 4 and landed troops early the next day some miles north of Fort Henry. The land advance was slow because of severe rains and poor road conditions. On February 6 Foote took his gunboats down to the fort and began a bombardment.

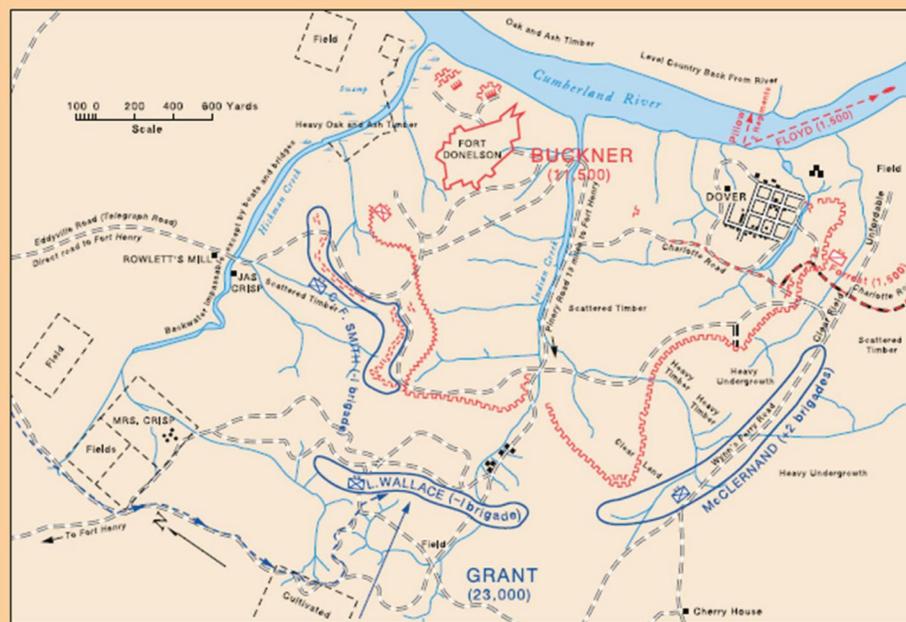


Fort Donelson: Situation at Noon on February 15, 1862.



Source: *The West Point Atlas of American Wars* (New York: Praeger, 1959).

Fort Donelson: Situation on the Night of February 15-16, 1862.

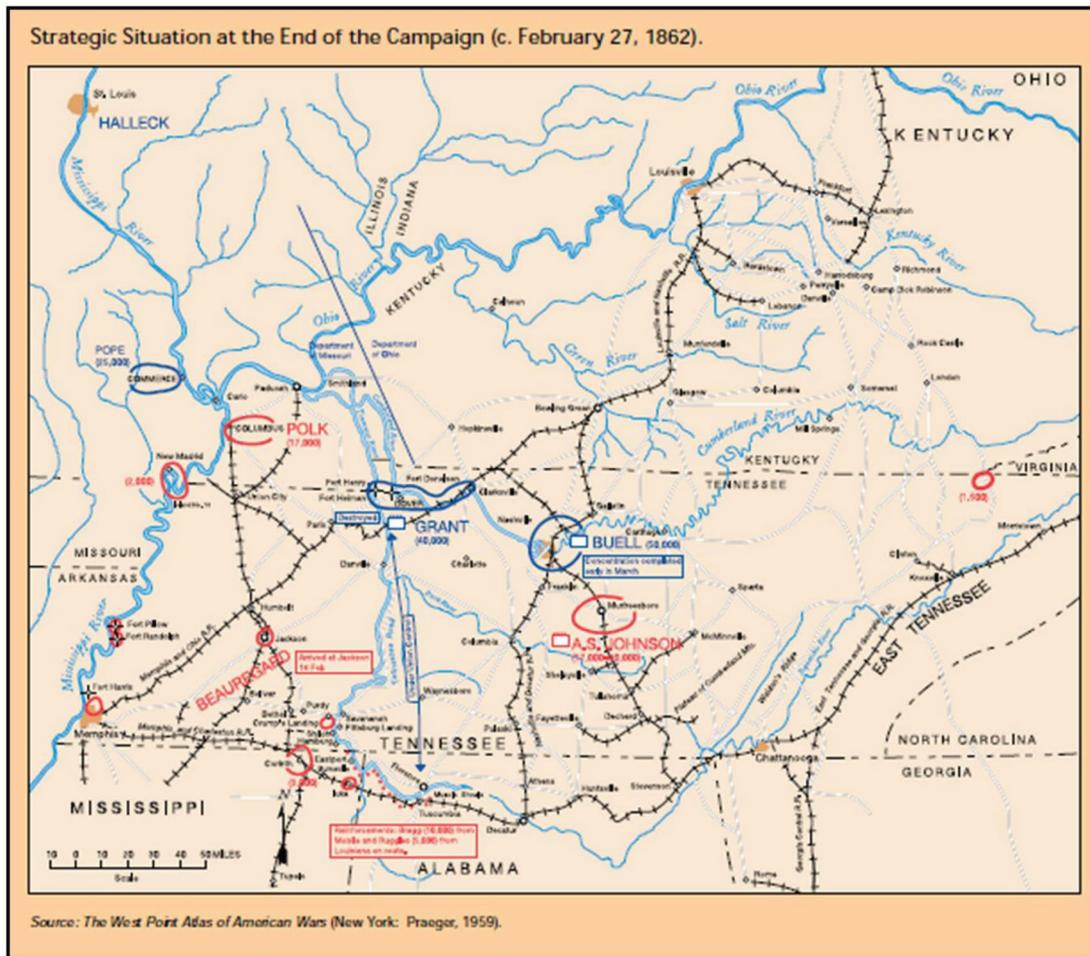


Source: *The West Point Atlas of American Wars* (New York: Praeger, 1959).

The river in the winter of 1862 crested some 30 feet above normal. This flood was a disaster for the Confederacy because it made the mines anchored to the river bottom useless and put part of Fort Henry under water. Brigadier General Lloyd Tilghman, commanding there, had 3,000 men and 17 guns; however, only two of the riverside guns, a Columbiad and a 24-pounder rifle, were effective against armor. Tilghman, thinking Fort Henry indefensible, had sent most of his men to Fort Donelson.

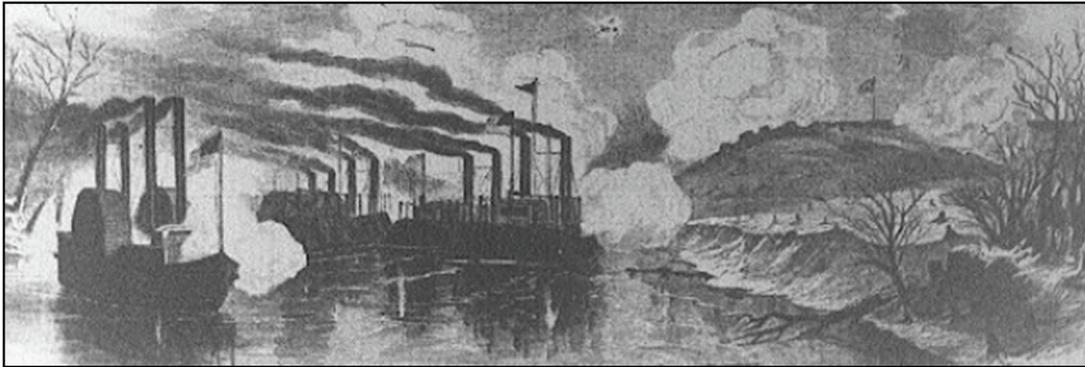
The artillery battle between Foote's gunboats and the fort was heavy. *USS Essex* was hit in a boiler by the Columbiad, causing "carnage" below decks and scalding the captain and others. *USS Cincinnati*, Foote's flagship, absorbed over 30 hits. But then the fort's 24-pounder burst, killing most of the crew, and the Columbiad was accidentally spiked by a broken priming wire. With the gunboats firing at point-blank range, Tilghman raised a white flag. The river was so high that the boat sent to accept the surrender floated in through the fort's sally port. Grant's forces arrived only 30 minutes after the surrender, having been delayed on the roads, and Foote turned the fort over to the Army.²⁰

Foote, who felt unprepared for another attack against fixed fortifications so soon after the heavy Fort Henry action, nonetheless attacked Fort Donelson on the 14th. This bombardment was as unsuccessful as the one on Henry had been successful. Donelson, located on high bluffs, could subject gunboats to an intense plunging fire. One after another, the gunboats were disabled and floated back downstream. *USS St. Louis*, now Foote's flagship, was hit 59 times and Foote himself was wounded. The weather had now turned bitterly cold, and Grant was faced with conducting a siege under unfavorable conditions. On the 15th he met with the wounded Foote, who said he would have to return to Cairo to repair damages but would return within 10 days and lay siege to the fort with his gunboats. In the meantime, the least damaged vessels would remain on station.²¹



While Foote’s attack had been a tactical failure, it had important operational results. The Confederate commanders in the fort, mesmerized by the naval threat, had allowed Grant to invest the post, missing the opportunity for strategic withdrawal and the saving of the 17,000 who eventually surrendered. After squabbles within the Confederate command, the episode ended with unconditional surrender to Grant on February 16.

The Henry and Donelson Campaign illustrates several points about the conduct of joint operations at this stage of the war. First, of course, in the absence of unified command or meaningful joint doctrine, the conception and execution of joint operations totally depended on ad hoc actions by the responsible commanders, and therefore upon their personal chemistry and communications. Foote and Grant were very different individuals—one a teetotaler who preached sermons, the other a cigar-smoking quasi-alcoholic who had left the Army under a cloud—yet they worked well together. Whatever their differences, they shared a common inclination to attack the enemy, both hating inactivity. They maintained excellent communications without undue worry as to who would get the credit—a quality rare in Civil War commanders.



Naval Historical Center

Fort Donelson (Harper's Weekly)

The second point is that the command arrangements which did exist on the Army side hampered rather than encouraged successful joint operations. Although Grant described Foote as “subject to the command of General Halleck,”²² he was not in any formal sense. His instructions from the Navy Department were to cooperate, and he did that admirably; but he was not Halleck’s subordinate. Halleck therefore had true operational control of only half the joint operation. Moreover, Halleck’s dislike and distrust of Grant almost destroyed the operation before it began. In addition, departmental arrangements then were highly unsatisfactory. Halleck had no operational control over Buell, who was supposed to be moving in support of Grant, but who adamantly refused to budge. Another two years would pass before the North developed satisfactory high command arrangements, and even then they depended more on personalities than on well-thought-out doctrine.

“... Fort Fisher bore more similarity to the amphibious landings in the Pacific during World War II ...”

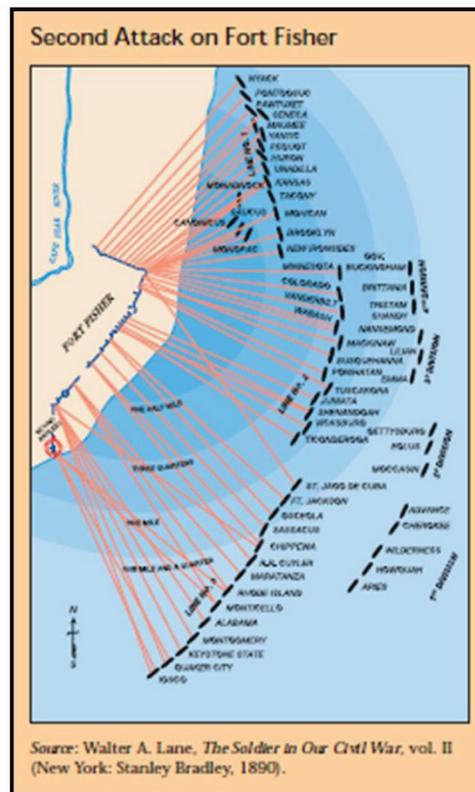
Finally, although the Henry-Donelson Campaign produced important strategic results, it was not followed up. Halleck seemed more intent on curbing his ambitious subordinates than on exploiting the victory. As a result, Grant’s services were essentially lost to the Union until fall 1862, and much that lay open to conquest after Henry and Donelson (including East Tennessee, so vital to Lincoln) had to be won by bloody attrition later.

Fort Fisher

Operations at Fort Fisher in December 1864 and January 1865 differ from the Fort Henry and Fort Donelson campaign in several important particulars. First, by late 1864 most observers would have pronounced the Confederates defeated as opposed to early 1862 when the issue was still in question. Second, there was difference of scale, the assaults on Fort Fisher being vastly larger. Third, the amicable relations that had marked the Union high command during the Henry-Donelson Campaign were conspicuously absent in the first phase of the operations at Fort Fisher.

Finally, of course, Fort Fisher was a coastal rather than a riverine operation and the execution bore more similarity to the amphibious landings in the Pacific during World War II than to Fort Henry and Fort Donelson.

Fort Fisher was located on a peninsula between the Cape Fear River and the Atlantic Ocean 18 miles south of Wilmington and described as “the largest, most formidable fortification in the Confederate States of America.”²³ After the Battle of Mobile Bay, Wilmington, always popular with blockade runners, was the only port open for such commerce—the South’s sole lifeline to the outside world. One hundred blockade runners sailed in and out of Wilmington during the war.²⁴ Blockading the port was difficult because two separate inlets into the river, separated by 25 miles of shoals, had to be watched—an arc 50 miles long.²⁵



Colonel William Lamb, the commander, had been working steadily on the fortifications for two years. By late 1864, an L-shaped earthen work consisting of a half-mile land-face crossed the peninsula. Made of 15 thirty-foot traverses containing bomb proofs and connected by a tunnel, the fort mounted 20 Columbiads, three mortars, and several field pieces. For a half-mile north, trees had been felled to present a clear field of fire. The land-face was also defended by a minefield—a great innovation. Twenty-four buried shells and mines were connected electrically to repulse a land assault.²⁶ By late 1864, Fort Fisher, mounting 44 large guns, was truly impressive. Its principal weakness was manpower, the permanent garrison numbering only 600.

The impetus for a joint Army-Navy expedition against Fort Fisher came from Secretary Welles. When Wilmington became the preeminent blockade-running port in mid-1864, Welles persuaded

Lincoln and Secretary of War Edwin M. Stanton to support a joint operation. But Grant, by now a lieutenant general and general-in-chief of the Union armies, was cool to the idea since he did not want to commit a large number of troops and disapproved of the War Department's choice to lead the Army contingent, Major General Quincy A. Gillmore, who had performed badly in the opening phase of the Richmond campaign earlier in the year. Eventually, Grant approved committing about 7,000 troops to the operation, but vetoed Gillmore and instead chose Godfrey A. Weitzel. Grant particularly approved of Weitzel because he agreed that the fort could be taken without a huge mass of infantry.

Welles had command problems as well. The naval command was offered to Admiral David G. Farragut, but the hero of Mobile Bay was in poor health and declined, believing the expedition to be dubious. It was then offered to Rear Admiral David Dixon Porter, the brash son of a hero of the War of 1812. Seeing a chance for glory and advancement, Porter threw himself into the planning of this largest naval expedition of the war.²⁷

Command arrangements were then completely upset by the commander of the Army of the James, Major General Benjamin F. Butler, in whose area of responsibility Fort Fisher lay. He decided to take personal command of the Army portion of the expedition. Butler was the stormy petrel of Federal command who sowed controversy wherever he went. A brilliant and eccentric Massachusetts lawyer and politician, he had, as a delegate to the Democratic convention in 1860, voted 57 times to nominate Jefferson Davis. Commissioned a major general of volunteers in 1861, he regarded escaped slaves as contraband of war. Although scandal resulted in Butler's relief at New Orleans in 1862, his status as a leading War Democrat ensured his continued employment, despite rascality and almost total failure in the field.²⁸ The problem with his assuming command was that he and Porter despised each other. But the immediate effect of Butler's interposition was delay. Some of this was the normal confusion attendant upon such a switch; most of it, however, was due to the famous affair of the powder-boat.²⁹

Butler was greatly interested in innovative military technology and was an unsuccessful inventor himself. Prompted by newspaper accounts of the destruction caused by the accidental explosion of two gunpowder barges in England, he conceived the idea of packing a hulk with explosives and running it in near Fort Fisher. At a meeting with Grant and Porter in November, he predicted that such a huge explosion would flatten the fort's wall and kill most inside, so that infantry could walk in and take it. Grant was unenthusiastic but let the scheme proceed. Porter, despite his dislike for Butler, was taken in and agreed to provide the ship, explosives, and transport. The ship selected was *USS Louisiana*, a flat-bottomed, shallow draft vessel assigned to blockade duty. It was disarmed, cut down, camouflaged to look like a blockade runner, loaded with 200 tons of gunpowder, and fitted with an elaborate ignition system.³⁰

The expedition left Hampton Roads on December 13 and 14. Butler's transports carried two divisions, 6,500 men; Porter had 57 ironclads, frigates, and gunboats. The expedition arrived off Wilmington December 19, but a gale began to blow and the transports returned to Beaufort to wait it out. The storm lasted three days which enabled Colonel Lamb to bolster his defenses; by December 23 he had some 1,400 troops in the fort, though a third were "junior reserves"—boys 16 to 18 years old.³¹

Butler sent Porter word that he would return on the 24th, with bombardment and landing on Christmas Day. Porter, whose ships had ridden out the gale without serious damage, decided to set off the powder-boat early on the 24th—in the Army's absence—and begin bombardment the

same day. When he heard this, Butler exploded. The old animosity between the two commanders fused with the Navy's seeming desire to get all the glory. Butler promptly steamed south in a rage, ordering his transports to follow as soon as they finished taking on coal.

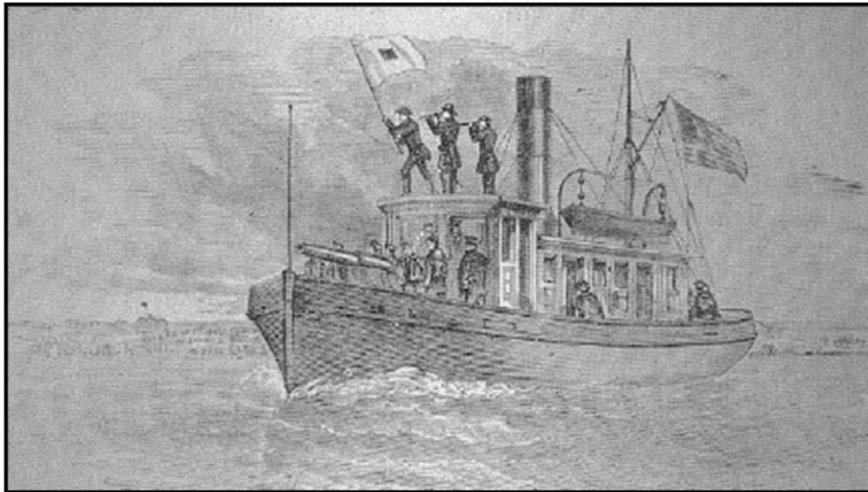
Louisiana, under Commander Alexander C. Rhind, was towed close to Fort Fisher on the evening of the 23rd. Her engines were then started and the ship was moved closer. The night was clear, however, and a blockade runner, *Little Hattie*, inconveniently appeared. Not wanting to alert the fort's sentries, Rhind anchored his vessel at a point he thought was about 300 yards away but was actually about twice that.³² The fuses were lit and the crew got away. *Louisiana* went up in a huge explosion shortly before 0200 on the 24th. Allan Nevins called it "one of the most ludicrous fiascoes of the war." Rhind, watching his work go up in smoke, remarked "There's a fizzle," and went below. The explosion, though impressive, did absolutely nothing to the fort except waken its garrison and badly frighten the teenaged recruits. There would be no easy entry into Fort Fisher.³³

On December 24, Porter began an exceptionally heavy naval bombardment, firing over a hundred rounds a minute. The fort replied with fairly limited fire because the bombardment made the gun emplacements exceedingly uncomfortable and to save ammunition. Nevertheless, several of Porter's ships were damaged by fire. More serious were five accidental explosions of Parrott rifles in the fleet which caused 37 casualties and forced Porter to silence the 100-pounders.

Butler finally arrived late in the day, exceedingly disgruntled by Porter's actions. Porter, in turn, was peeved at the transports arriving too late to attempt a landing that day and suspended the bombardment. Some 10,000 shells had been thrown into Fort Fisher with very little effect.³⁴

The landing took place north of the fort on Christmas. About 2,000 troops went ashore under Weitzel's command, while Porter resumed the bombardment. While unopposed, the landing soon made it apparent that the fort was still full of resistance. Canister exploded in the advancing ranks, and mines took their toll. Moreover, the wind was coming up, which meant reembarkation might be impossible. Finally, Confederate prisoners boasted that 6,000 men under General Robert Hoke were on their way from Wilmington. Though Butler's orders from Grant explicitly directed him to entrench and besiege the fort if necessary, he thought it impossible to carry the place by storm and did not want to undertake a siege. He therefore ordered a withdrawal, although officers on the scene felt that a determined attack would have worked. The withdrawal had to be broken off when the surf became too high to bring in the boats. Butler sailed for Hampton Roads, leaving 700 men on the beach.³⁵ Porter was livid. Even prior to the attack, relations between the two had become so bad that they only communicated through intermediaries. Now Butler abandoned the joint effort, leaving his men and Porter in the lurch. Porter, to his credit, kept up continuous fire and managed to get the 700 men off the beach when the wind changed the following day. He then gradually withdrew to Beaufort.

The rebels were naturally jubilant at the repulse of the huge expedition. Lamb telegraphed, "This morning, the foiled and frightened enemy left our shore." The departmental commander, General Braxton Bragg, wrote President Davis commending Lamb and Brigadier General W.H.C. Whiting, for "gallantry, efficiency, and fortitude displayed under very trying circumstances."³⁶



Naval Historical Center

On the Ogechee near Fort McAllister (in *The Soldier in Our Civil War*)

Reaction in the North was stinging. Grant wired Lincoln that “The Wilmington expedition has proven a gross and culpable failure.... Who is to blame will, I hope, be known.” Porter, in writing to General William T. Sherman, whom he hoped would replace Butler, criticized the Army: “When you have captured [Savannah] I invite you to add to your brow the laurels thrown away by General Butler after they were laid at his feet by the Navy, and which neither he nor those with him had the courage to gather up.” To Welles in Washington Porter wrote: “I feel ashamed that men calling themselves soldiers should have left this place so ingloriously.... [In] a war like this, so many incompetent men in the Army are placed in charge of important trusts.... If this temporary failure succeeds in sending General Butler into private life, it is not to be regretted.” Later, when Butler attempted to blame the failure on the Navy, Porter pronounced Butler’s report “a tissue of misstatements from beginning to end.”³⁷ The fiasco ended Butler’s military career.

While Porter had wanted Sherman to replace Butler, Grant’s choice, Major General Alfred H. Terry, was excellent, as unlike the flamboyant Butler as imaginable. Though not a professional soldier, he had risen to command a corps on merit. He was quiet, dependable, and easygoing, attributes that helped in dealing with the mercurial, self-promoting Porter.³⁸ Grant’s instructions to Terry left no doubt that he did not want a repetition of the former command friction. He wrote to Porter in the same vein:

*I send [Terry] with the same troops General Butler had, with one picked brigade added, to renew the attempt on Fort Fisher. ... [He] will consult with you fully, and will be governed by your suggestions as far as his responsibility for the safety of his command will admit of.*³⁹

Porter was somewhat dubious of Terry, because he had been a subordinate of Butler’s and because the additional troops he brought were colored, of whom Porter disapproved. However, once the two men met at Beaufort on January 8, things went well. After a three-day gale they set out on January 12, the largest expedition ever to sail under the American flag to that time. Porter had 59 warships mounting 627 guns, while Terry had nearly 9,000 men in 21 transport vessels.⁴⁰

The fleet arrived at Wilmington late at night. Porter had been dissatisfied with the accuracy of naval gunnery in the first bombardment; far too many shells had sailed over the fort and landed in the river or simply buried themselves in the sand. His instructions directed commanders to not fire at the fort's flag but to pick out the guns. The Parrott rifles, whose explosions had caused problems, were to be fired with reduced charges if at all.⁴¹

The Confederate garrison was only 700 strong. Hoke's division, which had arrived just as Butler withdrew, had itself been withdrawn to Wilmington by Bragg, who did not think that the Union would attack again before spring. Lamb, on sighting the fleet, urgently appealed to Bragg, who ordered Hoke back, telling him to prevent a landing, and if it had already occurred to establish a defensive line to protect Wilmington.

Porter began the bombardment before dawn on the 13th, hoping to provoke the fort's guns into disclosing their location by muzzle flashes. This worked, and after sunrise the rest of the fleet joined in, firing as heavy as, and substantially more accurately than, the December bombardment. The landing began between 0800 and 0900 hours. To guard against a repetition of the December fiasco, where the men had been marooned for a day, the troops carried three days' rations. Terry's biggest fear was an attack during the landing by Hoke's troops; therefore, the Federal troops were ordered to establish a defensive line facing north. But the landing was unopposed and 8,000 men got ashore by mid-afternoon. Porter kept up the bombardment until dark and left ironclads at work all night to discourage repairs to the fort. Several ships were damaged but none severely.⁴²

By this time, Hoke's division had advanced from Wilmington and set up a defensive line. Despite appeals from the fort, Bragg, thinking the Union force too strong to resist, at first refused to order Hoke to attack on the peninsula. Lamb was reinforced with North Carolina soldiers and sailors, bringing his force to about 1,550. On the 14th, Bragg ordered Hoke to attack and went to the scene. On seeing well-entrenched Federal troops (who he overestimated), Bragg thought the assault futile, especially given the power of the fleet. He countermanded his order and Hoke remained quiescent.⁴³

Porter resumed the bombardment on the 14th. It had a substantial effect. General Whiting, who thought Bragg a fool and had come to share the fort's fate, said, "It was beyond description, no language can describe the terrific bombardment." The fort took some 300 casualties, and only one gun on the landface was still operational.⁴⁴

Porter and Terry met that night aboard Porter's flagship and planned the land assault. The fleet would bombard until 1500 on the 15th. Then two columns would assault the fort, one Army, one Navy. While 4,000 Army troops assaulted the landface near its western end, the Navy with 2,000 sailors and marines would attack the northeast bastion. The remaining 4,000 soldiers ashore would protect the rear against an attack by Hoke. The naval assault was a dubious proposition, consisting of sending sailors ignorant of infantry tactics and armed only with cutlasses and pistols against strong works. Perhaps Porter, despite excellent cooperation with Terry, was loath to give the Army all the glory of storming the fort. The assault failed and the sailors were badly cut up by musket fire and canister, taking about 300 casualties. Pinned down, they desperately attempted to dig holes in the sand and finally broke and ran.

However, the naval assault had done the Army attackers a great service. Convinced that this was the main attack, the rebel manpower and attention were diverted from the landface. Even as the exultant Confederates watched, in Lamb's words, "a disorderly rout of American sailors and marines," Union flags appeared on the western end of the landface. A counterattack was mounted, but then the fleet opened up on the Confederates massed in the fort, creating havoc. Fierce hand-to-hand fighting ensued at the landface, where ships could not fire without hitting friendly forces. The fight moved from one traverse to another and did not end until about 2200 hours.⁴⁵ The fort surrendered with some 2,000 men and 169 guns. Terry sustained 955 casualties and Porter 386. Another 250 Union casualties resulted from an accidental explosion in the main magazine on the day after its surrender.

The essential part joint operations played at Fort Fisher was readily apparent to participants of both services. Porter wrote to Welles: "[Terry] is my beau ideal of a soldier and a general. Our cooperation has been most cordial; the result is victory, which will always be ours when the Army and Navy go hand in hand."⁴⁶ Stanton wrote to Terry and Porter: "The combined [joint] operations of the squadron and land forces of your commands deserve and will receive the thanks of the Nation, and will be held in admiration throughout the world as a proof of the naval and military prowess of the United States."⁴⁷

"... commanders thought jointly in considering the resources which the Army and Navy brought to the table ..."

What conclusions can be drawn about jointness from these two Civil War campaigns? The first is that joint warfare existed and could be effective. Joint operations did not come of age until World War II or perhaps until passage of the Goldwater-Nichols Act in 1986; but commanders such as Grant, Porter, and Foote thought jointly in considering the resources which the Army and Navy brought to the table, and how each of the services fought to achieve common objectives. Both the Fort Henry-Fort Donelson and the Fort Fisher campaigns presented many problems of terrain, weather, logistics, tactics, and strategy. Jointness solved them to the extent needed for success. Joint operations perhaps were not essential to victory, as Joint Pub 1 claims, but they contributed in important ways to attaining victory.⁴⁸

Second, by the end of the war, joint operations had reached a high degree of sophistication. The contrast between the rather small-scale Henry-Donelson operation, advocated by Grant in the face of opposition from the Army, uncoordinated with other movements, and not followed up, and the Fisher operation, which was done on a huge scale with the full support of both the War and Navy Departments, and detailed planning, is instructive. Fort Fisher illustrates as well the industrial and organizational maturity which the war vastly accelerated in the North. Much of this sophistication would be lost after the war (as logistical nightmares and command squabbling during the Spanish-American War were to show), but for the United States to have attained it in the 1860s, with a volunteer army, was a remarkable feat. Indeed, operations of this scale and maturity were not seen again until World War II.

Finally, notwithstanding such advances, the command structure for joint operations remained deficient throughout the war. Ultimately, success or failure of these operations depended upon the personalities of the Army and Navy commanders. In the absence of a unified command, it was only by cooperation and good relations between them that victory could be attained. The hatred between Butler and Porter was enough to doom the first expedition to Fort Fisher in spite of the military, economic, and political power that lay behind it. In our own age we have succeeded, we think, in exorcising inter-service rivalries by giving real powers to joint combatant commanders. Have we? The experience in the Persian Gulf was positive, but anyone who thinks that formal command arrangements can guarantee control of events understands neither history nor the fog and friction of war. All they can do is provide the best possible framework for what must be done, and those in the Civil War were deficient in that respect; ad hoc relationships, not formal organization, were the essence of success in joint operations.

Lincoln, in his second annual message to Congress in 1862, observed: “The dogmas of the quiet past are inadequate to the stormy present... As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country.”⁴⁹ Those men who conducted joint operations in the Civil War had disenthralled themselves from military dogma; the occasion brought forth innovation, organization, and ultimately victory on a grand scale.

Notes

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5. Geoffrey S. Smith, “An Uncertain Passage: The Bureaus Run the Navy, 1842–1861,” in Kenneth J. Hagan, editor, *In Peace and War: Interpretations of American Naval History, 1775–1984* (Westport, Conn.: Greenwood Press, 1984), pp. 86–87.
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8. Rowena Reed, *Combined Operations in the Civil War* (Annapolis: Naval Institute Press, 1978), see chapter 2, “The Army Takes the Initiative.”
9. *Ibid.*, p. 188.
10. *Ibid.*, p. 189.
11. The obvious place for fortifications on the Tennessee and Cumberland Rivers was at the Birmingham narrows between Paducah and Eddyville, where the rivers are only three miles apart. However, this site is well within Kentucky and therefore was politically off limits in 1861. Benjamin Franklin Cooling, *Forts Henry and Donelson: Key to the Confederate Heartland* (Knoxville: University of Tennessee Press, 1987), p. 46.
12. Cooling, *Forts Henry and Donelson*, p. 46.
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16. Ulysses S. Grant, *Personal Memoirs of U.S. Grant* (New York: Library of America, 1990), p. 189.
17. William S. McFeely, *Grant: A Biography* (New York: W.W. Norton, 1981), pp. 96–97.
18. Grant, *Personal Memoirs*, p. 190.
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20. Cooling, *Forts Henry and Donelson*, pp. 101–06; Herman Hattaway and Archer Jones, *How the North Won: A Military History of the Civil War* (Urbana: University of Illinois Press, 1983), pp. 66–67.
21. Anderson, *By Sea and By River*, pp. 96–97; U.S. Navy, *Chronology*, p. II–22; Grant, *Personal Memoirs*, p. 204; Cooling, *Forts Henry and Donelson*, p. 136.
22. Grant, *Personal Memoirs*, p. 190.
23. Rod Gragg, *Confederate Goliath: The Battle of Fort Fisher* (New York: HarperCollins, 1991), p. 2.
24. A ton of coffee could be purchased in Nassau for \$249 and resold in Wilmington for \$5,500; the blockade runner could then buy cotton for 3 cents a pound and resell it in Great Britain for \$1 a pound. A bottle of gin purchased in Bermuda for \$4 could be resold in Wilmington for \$150. Ibid., p. 8.
25. Ibid., pp. 11–21.
26. Ibid., pp. 17–21.
27. Ibid., pp. 34–37; Reed, *Combined Operations*, pp. 331–33.
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29. Allan Nevins, *Ordeal of the Union*, vol. 8, *The Organized War to Victory, 1864–1865* (New York: Charles Scribner's Sons, 1971), p. 190; Hattaway and Jones, *How the North Won*, pp. 658–59.
30. Grant, *Personal Memoirs*, p. 663; Gragg, *Confederate Goliath*, pp. 40–42; also see Reed, *Combined Operations*, pp. 337–38. For the scientific calculations supporting the idea see U.S. Navy Department, *Official Records of the Union and Confederate Navies in the War of the Rebellion*, series I, volume II (Washington: Department of the Navy, 1900), pp. 207–14 (hereafter cited as O.R.N.).
31. Shelby Foote, *The Civil War: A Narrative*, vol. 3, *Red River to Appomattox* (New York: Random House, 1974), pp. 715–17.
32. Gragg, *Confederate Goliath*, pp. 50–51; O.R.N., I, II, pp. 226–27.
33. Nevins, *Ordeal of the Union*, p. 190; Gragg, *Confederate Goliath*, pp. 51–53. After the war, Butler blamed the failure of the powder-boat on Navy incompetence. A typical Butlerian squabble followed. O.R.N., I, II, pp. 237–40.
34. Foote, *The Civil War*, p. 719.
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36. Foote, *The Civil War*, p. 720; U.S. War Department, *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*, series I, volume 44 (Washington: Government Printing Office, 1893), p. 825 (hereafter cited as O.R.).
37. O.R., I, pp. 44, 832; O.R.N., I, pp. 11, 264, 268; Grant, *Personal Memoirs*, p. 668.
38. Foote, *The Civil War*, pp. 739–40; Gragg, *Confederate Goliath*, pp. 103–04.
39. O.R.N., I, pp. 11, 404–05.
40. Gragg, *Confederate Goliath*, pp. 107–09.

41. O.R.N., I, pp. 11, 425–27; Anderson, *By Sea and By River*, pp. 281–82.
42. Foote, *The Civil War*, pp. 741–42; Gragg, *Confederate Goliath*, p. 114.
43. Gragg, *Confederate Goliath*, pp. 126–27.
44. U.S. Department of the Navy, *Chronology*, p. V–11.
45. Gragg, *Confederate Goliath*, pp. 157–90.
46. Grant, *Personal Memoirs*, p. 670; Foote, *The Civil War*, p. 746; Gragg, *Confederate Goliath*, pp. 232–42.
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Army Assault From a Navy Carrier

CPT Sean C. McGovern

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Joint operations became more than an exercise when soldiers and sailors prepared to sling-load equipment aboard the *USS Eisenhower* in support of the Haiti invasion force.

The U.S. occupation of Haiti to restore the government of exiled Haitian President Jean-Bertrand Aristide turned out to be a permissive-entry operation. But until a last-minute diplomatic breakthrough led to the peaceful departure of the Cedras regime that had ousted Aristide, it looked like U.S. forces would have to make a forced entry against Haitian resistance. That possibility resulted in a historic Army-Navy collaboration: preparations for launching a major Army air assault from the deck of a Navy aircraft carrier. I was privileged to participate in the logistics support of that operation, where I watched soldiers and sailors work together, often in novel ways, to prepare the invasion force to execute any orders received from the National Command Authorities.

Getting Ready for Haiti

I was S-2/3 of the 10th Forward Support Battalion (FSB), which is part of the 10th Mountain Division (Light Infantry) at Fort Drum, New York. Elements of the division began boarding the aircraft carrier *USS Eisenhower* at Norfolk, Virginia, on 12 September 1994 in preparation for the forced-entry operation, Restore Democracy. (Operation Restore Democracy became Operation Uphold Democracy following the peaceful Cedras departure.) These troops would spearhead the proposed Haiti invasion force.

The plan called for the 1-87th and 2-22nd Infantry Battalions, along with 1st Brigade Headquarters, to lead the air assault in conjunction with elements of the 10th Aviation Brigade. The 10th FSB, in turn, would go ashore to provide the infantry with all the logistics support they would require until logistics bases were established at the Port-au-Prince airport and seaport and the Haitian American Sugar Company's facility.

Racing Against Time

For 60 hours, men, machines, and supplies flooded onto the carrier. The *Eisenhower's* aft hangar bay (hangar bay 3) was selected for vehicle and equipment staging. It quickly filled with 25 high-mobility, multipurpose, wheeled vehicles (HMMWVs); 3 trailers; and numerous Army supplies in various sizes and shapes. Ammunition continued to arrive and was uploaded into the *Eisenhower's* magazines in the early morning hours just before the ship's departure from Norfolk.

Since an air assault of such proportions had never before been conducted from an aircraft carrier, there was no plan for transforming a jet aircraft hangar bay into an intermediate staging base for a light infantry invasion force. Nor had Army and Navy liaisons been appointed to direct such a transformation. As the time for departure closed in on the participants like an ever-tightening noose, equipment and supplies were loaded into hangar bay 3 as quickly as they arrived at the

dock. Little consideration was paid to prioritizing the equipment in the order in which it would depart the ship; indeed, a prioritization plan did not yet exist. The primary logistics concern governing our actions was clear: the *Eisenhower* would sail at 0800 on 15 September, and all equipment that was earmarked for the initial air assault had to be onboard before then.

Army Meets Navy in Hangar Bay 3

Somewhere in the overcrowded, artificially illuminated confusion of hangar bay 3, I met Navy Lieutenant (junior grade) Dennis Piton. He looked as bewildered as I felt, and I quickly learned that the hangar bays were his area of responsibility. Hangar bays 1 and 2 would be used to stage helicopters and infantrymen, respectively, and posed few concerns for us. But hangar bay 3 was crammed from end to end with Army materiel; careful orchestration would be required if we were to prioritize equipment for helicopter sling-load delivery to Port-au-Prince.

“Couldn’t you have brought a bigger aircraft carrier?” I joked. “This is as big as they come,” he replied as we began discussing our plight. All of the Army vehicles, trailers, supplies, and odds and ends would have to be sling-loaded off the ship’s deck during the assault. We needed a plan for prioritizing all of these items and ensuring that they were staged near the carrier’s two monstrous aft elevators in descending order of priority. Each load would have to be placed onto an elevator by a forklift, raised topside, and then moved by forklift onto the ship’s fantail for pickup by Army Black Hawk helicopters. Each sling load would have to be weighed, inspected, and labeled so that each aircraft’s crew chief could identify the load’s destination.

I proposed to Lieutenant Colonel Joseph Lewis, the commander of the 10th FSB, that we volunteer for the mission of sorting out the confusion in hangar bay 3. Since the FSB would depart the ship after the infantrymen and aviators, we were the natural choice for such a mission: we could tie up any loose ends and see the job through to completion. Colonel Lewis agreed, and he had little difficulty in securing the mission from the 1st Brigade commander. I was charged with preparing hangar bay 3 for the assault.

Sling-Load Preparations

Lieutenant Piton and I established ourselves as self-appointed liaisons. I would assemble the prioritization list based on the infantry and aviation commanders’ intent. Lieutenant Piton would determine the best method of implementing the load plan based on the ship’s capabilities.

With the assistance of the Army units onboard the carrier, we drove our vehicles into hangar bay 2. The owning units had already rigged their vehicles for sling-loading. The 10th FSB’s sling-load inspection team checked each vehicle and corrected faulty chain link counts, twisted sling legs, and other deficiencies. Each vehicle then was weighed by a Navy forklift fitted with a special scale attachment. Weights were recorded directly onto the vehicles for easier identification.

We discovered that several vehicles had weights exceeding the lift capacity of the Black Hawk helicopters, so we called the aviation brigade headquarters for help. What was the absolute maximum weight that the aviators would attempt to lift with their Black Hawks? This was a delicate question, but one that needed answering. An error on the side of safety meant that vehicles critical to the infantry’s mission would not be sling-loaded off the ship. An error in the other direction could result in a load being dropped into the ocean and possibly even the loss of an aircraft and crew. The Army aviators quoted several maximum weights to us but

finally decided that they would attempt to lift anything we put on the ship's fantail. The ship's commander offered the use of a Navy CH-53 Sea Stallion helicopter to assist in transporting the exceptionally heavy sling loads.

After the vehicles and trailers were weighed, they were parked in descending order of priority by elevator 4. The infantry's 18 HMMWVs and 2 M149 water trailers had first priority, followed by the aviators' 8 HMMWVs and 2 trailers. Note that the M149 water trailer was not designed to be sling-loaded while full of water. However, the harsh Haitian climate dictated that the infantry be supplied with as much water as possible, and the commanders of the infantry battalions were determined to use every asset at their disposal.

Once all of the vehicles and trailers were prioritized on the port side of hangar bay 3, the soldiers began preparing and prioritizing all of the remaining equipment on the starboard side. This equipment consisted primarily of individual soldiers' rucksacks and dufflebags; class IV packages of lumber, concertina wire, and sandbags; water resupply packages; and large mobility containers used to store helicopter repair parts and toolkits.

The infantrymen prepared cargo nets for their rucksacks and dufflebags, but they didn't realize that the Navy had no way of lifting the completed nets and transporting them to the elevator and onto the ship's fantail. Wherever a cargo net is prepared is generally the spot from which it is sling-loaded. Forklifts cannot slide under a net without damaging the nylon webbing. Another plan was required.

Lieutenant Piton offered us the use of as many huge, triwall cardboard boxes as we required. We lined the triwall boxes with cargo nets and then placed the rucksacks and dufflebags inside the nets. The boxes kept their form, and the Navy was able to lift the triwalls with forklifts and move them around the hangar bays and out onto the flight deck.

The soldiers of the aviation brigade designed an innovative, field-expedient means of sling-loading class IV materials. These items were placed on an Air Force 463L pallet and secured. Sling legs then were attached to the four corners of the pallet. Since this type of pallet has no lifting points and was not designed to be used as a platform for sling-load operations, the sling legs were fitted snugly around the corners of the pallet. As the helicopter lifted the pallet by the four sling legs, inward pressure exerted by the weight of the load held the chains fast in place.

Water for the Invasion Force

Water resupply was handled in several ways. Two 250-gallon pillow tanks were placed on wooden warehouse pallets and then rigged in cargo nets. The pillow tanks extended over the edges of the pallets, so we were concerned that the tanks might burst when they were lifted by a helicopter. Fortunately, this did not happen. At lift-off, the shape of the pillow tanks was distorted by the uneven pressure exerted by the cargo nets, but the tanks did not burst.

We also used a forward area water production supply system. The 710th Main Support Battalion had attached a water team to the 10th FSB. This team had two 500-gallon water blivets prepared for sling-loading. On the day of the assault, the team's three soldiers and their pump and hoses were loaded onto a Black Hawk helicopter. The helicopter lifted off, picked up one water blivet, and headed ashore. The second blivet followed on a second lift.

The infantry battalions had their own plan for water resupply. In addition to using M149 water trailers, they also prepared cargo nets filled with dozens of 5-gallon water cans. In their rush to get ready for the coming assault, however, the infantrymen filled the cans with water from the ship. This practice inadvertently created a potential health problem. The ship's drinking water is nothing more than condensed steam; because the *Eisenhower* provides a ready supply of fresh drinking water and water-borne illnesses are nearly nonexistent, the ship's engineer generally does not add chlorine to it. But the water the soldiers placed in the 5-gallon cans would sit for at least 5 days in the hot, humid hangar bay; without chlorine, it would spawn a potentially dangerous level of bacterial growth. We had to make special arrangements with the ship's engineer to have chlorine added to one of the ship's water lines. This ensured that all water taken ashore by the infantrymen in any container larger than a canteen would be chlorinated.

Moving Out

Hangar bay 3 was tightly packed. The vehicles, equipment, and sling loads were prioritized and staged in the order in which they would be moved off the *Eisenhower*. We informed the infantry and aviation commanders that because of the lack of maneuver space in the bay, it would be nearly impossible to alter the order of flow once the operation kicked off.

Early on the morning of 19 September, the air assault operation began. All 18 of the Black Hawk helicopters were used initially to ferry troops ashore. The first 2 HMMWVs were staged on the *Eisenhower's* fantail while an additional 12 vehicles were staged on elevator 4. After the first wave of infantrymen were ashore, two helicopters were dedicated to sling-load operations.

Lieutenant Piton and I decided that we could best manage the operation if we split up. He remained in hangar bay 3 and controlled the flow of cargo onto elevators 3 and 4. I positioned myself on the flight deck near elevator 3. As the cargo arrived on the flight deck, I directed it onto the fantail for pickup. I assembled a sling-load hookup team of three soldiers to assist me.

Lieutenant Piton loaned me a Navy handheld radio so that we could communicate. The Black Hawks drowned out the radio most of the time, but between launches we could update one another on our respective situations. Ideally, I would have used a helmet with a built-in headset, but these were not available in sufficient quantities to provide me with one.

Lieutenant Piton also had to scrounge up "float coats" for me and the Army sling-load team. Navy safety regulations require that all personnel working on the flight deck wear these inflatable overcoats, which contain a cylinder with pressurized gas that inflates the coat upon impact with the water. These coats were in short supply, so it required quite a bit of wrangling before Lieutenant Piton was able to obtain some for us.

Teaching Sailors the Army Way

Some confusion ensued over who would perform the sling-load hookups: soldiers or sailors? We argued that the sailors had no experience with Black Hawk sling-load operations. The sailors argued that it was their ship and they were responsible for all aspects of flight operations. Reluctantly, we gave in.

Our soldiers gave the sailors a bare-bones class on Army hookup procedures. The sailors were astonished to hear that they would have to stand directly beneath a hovering helicopter and manually attach the sling-load's apex to the helicopter's lift hook. This defied all Navy safety

principles. The CH-53 is the helicopter used for Navy sling-load operations. Generally, a CH-53 pilot will set his aircraft down on the deck and cut his engines. A telescoping lift hook is then attached to the load, the pilot restarts his engine, and the helicopter lifts off with the load. The sailors had never heard of a static discharge probe! Fortunately, they were quick learners.

Another service incompatibility problem we encountered concerned hand and arm signals. The sailors were familiar with the “hover,” “approach,” and “take off” commands; but since they rarely hook up sling loads to hovering helicopters, they were rusty on other hand and Army signals. Where the hand and arm signals were lacking, the helicopter crew chiefs improvised.

One by one, the HMMWVs were lifted off the deck and ferried to the shore. The pilots would lift a vehicle off the flight deck and hover for 10 to 15 seconds. In some cases, the weight of a vehicle exceeded the helicopter’s lift capability. When this occurred, the pilot would lower the vehicle back down to the deck and the crew chief would disengage the sling load. The Navy CH-53 helicopter was used to haul some of these heavier loads; the aviation brigade also identified its strongest Black Hawks and dedicated them to lifting the heavier loads.

By the end of the first day, both infantry battalions and the majority of their equipment were ashore. The sling-load operation would last for 4 complete days, drawing to a close on the afternoon of 22 September. During its course, 204 sling loads were transported ashore without a single loss. Army and Navy cooperation had gotten Operation Uphold Democracy off to a smooth start.

Army and Navy Joint Operations: A GLO's Perspective

MAJ Dan Collins and 2LT Richard Elias, 3-4 Air Defense Artillery Regiment

For years, the Army and Air Force have worked closely by providing liaisons to each other to better integrate the ground and air fight. The Air Force provided air liaison officers (ALOs) to the Army and the Army provided ground liaison officers (GLOs) to the Air Force. Colonel (Retired) Glenn W. Harp was the visionary behind placing a GLO team on the carrier strike groups serving in support of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF).

On 27 August 2006, SFC Elias, now 2LT Elias, and I were sent out to USS Enterprise (CVN-65) to link up with the Strike Group and Carrier Air Wing 1 (CVW 1). The Enterprise was departing the Persian Gulf to support OEF from the North Arabian Sea. With most joint operations, some issues arose in regard to communication. While supporting operations in Iraq the strike group was able to communicate from the ship to the Joint Terminal Attack Controller (JTAC) through the Secure Internet Protocol Router (SIPR) Net. The transition to OEF would require us to communicate with the JTACs through Combined Enterprise Regional Information Exchange system (CENTRIX) Global Counter-Terrorism Forces (GCTF).

All carrier strike groups operated off of CENTRIX Coalition Naval Forces Central (CNFC) to communicate with our coalition partners. The Enterprise Strike Group was operating off the assumption that all CENTRIX systems were interoperable. When our team arrived on the carrier, many meetings were required to describe the differences and requirements for CENTRIX GCTF to operate on the USS Enterprise. The main justification for bringing the CENTRIX GCTF package onboard the Enterprise was to provide up-to-date changes to the Joint Tactical Air Support Requests (JTASRs) and better situational awareness from the JTACs.

Once we overcame the hurdle of getting the CENTRIX GCTF package aboard the USS Enterprise, the GLO team's usefulness became apparent. For the first time pilots coming from a carrier air wing would have even more situational awareness than previous JTASRs they supported. The air tasking order (ATO) cycle would provide the pilots with a JTASR that was up to 72 hours old. Our team was in direct contact with the JTACs that our pilots would support right up to the time they went through their crew briefings. As details for the operations changed from the original JTASR, we could provide them with up to the minute details as a part of their crew briefing.

On the ship, our team operated out of the Carrier Intelligence Center or CVIC. We worked hand-in-hand with the air wing's targeting cell. We would receive the JTASRs that our pilots would support. Most JTASRs came with imbedded graphics for the pilots to use in the aircraft. We would work with both the JTAC and the targeting cell to build more useful graphics for the pilots to take with them. We were also the conduit to send the graphics the targeting cell developed back to the JTAC. This kept both the pilots coming from our strike group and the JTAC talking to each other off of the same grid reference graphics (GRG).

The GLO team's ability to monitor multi-user Internet Relay Chat (mIRC) while the aircraft were supporting was crucial in providing the Strike Group Commander and Air Wing Commander with situational awareness on whether their pilots were remaining on their assigned JTASR or being redirected to support troops in contact (TICs). Many times we were able to track potential TICs prior to the pilots departing the ship and provide them with additional GRGs just

in case they were redirected. During our time supporting OEF most of the TICs that our aircraft supported would go kinetic. By providing additional GRGs to those pilots who we thought would be directed to support a TIC, we increased their effectiveness and lethality.

Prior to our GLO team being aboard the aircraft carrier, the effectiveness of the close air support (CAS); nontraditional intelligence, surveillance, and reconnaissance (NTISR); or TIC support would not make it back to the aircrews. We would monitor when our crews cleared station via mIRC chat and start asking the JTACs how well our crews supported them. If our crews supported a TIC we would have an initial battle damage assessment (BDA) for the effects of their kinetic strike(s) before they returned to the ship. The carrier's aircrews and Sailors received a tremendous morale boost when they heard about their decisive involvement in ground operations.

During our time at sea we served with three different carrier strike groups. We started on the Enterprise Strike Group, followed by the Eisenhower Strike Group (CVN-69), and finished operating with the Nimitz Strike Group (CVN-68). When the ground troop surge started, the Navy provided the John C. Stennis Strike Group (CVN-74) to overlap coverage with the Eisenhower. Because of our GLO team's success, a second GLO team was requested to be sent to the Stennis.

The Army should consider placing GLO teams at the Naval Air Wings the way it places GLO teams with Air Force Wings. The integration should start with sending the GLO teams with the targeting cells of each air wing at Fallon, Nevada. The targeting team and GLOs should go to the Joint Air Tasking Order Processes Course (JATOPC) and the Joint Fires Course (JFC) together. These courses will provide insight as to how the teams can integrate with each other and how to anticipate changes to the ATO. After the GLO team and targeting team train together, the team could move to the air wing's home station to integrate with the air wing staff. The GLO team would go through the train-up and all the required exercises with their supported air wing prior to a deployment.

Integrating the GLO teams with the assigned air wing would also reduce the culture shock of living the Navy life. The separation of ranks on a ship is more stringent than it is in the Army. In the Army, we know that we will be sharing a tent with our noncommissioned officers (NCOs) and Soldiers; the Navy keeps the ranks separated to a greater extent. Chief petty officers, which are the Navy's senior NCOs, did an outstanding job in integrating SFC Elias to Navy life. The command master chief's of the air wings and ships also played a great hand in mentoring and welcoming the Army into Navy life.

The initial integration into joint operations usually has growing pains, but we were able to quickly overcome these shortcomings. The usefulness and success of GLO teams aboard carrier strike groups were proven not only with our team, but with the team on the Stennis. Permanently stationing established GLO teams with the carrier air wings would greatly enhance our fighting capabilities, providing more firepower to the boots on the ground.

Stennis Teams with Army, Marines in OEF Missions

Lt. Nathan Christensen, USS John C. Stennis Public Affairs

Reprinted with permission from Navy.mil, 5 March 2007

USS JOHN C. STENNIS, At Sea (NNS)—The face of USS John C. Stennis (CVN 74) Carrier Strike Group (JCSG) is a little different than most ships operating in the U.S. 5th Fleet area of operation (AOO).

Aboard Stennis, there are Navy, Marine Corps, and Army personnel working together in an environment where joint execution is essential to ensuring the mission success of Operation Enduring Freedom (OEF) in Afghanistan.

“This is the epitome of a joint operation,” said Rear Adm. Kevin Quinn, Commander of Carrier Strike Group (CSG) 3. “Our primary mission is to conduct air operations in support of joint and coalition forces on the ground in Afghanistan. Every single mission we conduct is a joint one.”

Stennis Commanding Officer Capt. Bradley Johanson noted that everyone onboard plays an important role in joint operations.

“Support for coalition forces on the ground in Afghanistan starts here on the deckplates of Stennis where everyone onboard plays a vital role in achieving overall mission success in OEF,” said Johanson. “From those preparing food in the galley to personnel on the flight deck helping launch aircraft to the engineers who provide propulsion for the ship, everyone has important responsibilities. The men and women of Stennis ensure that the ship is able successfully launch aircraft to execute operations in support of OEF.”

Aboard Stennis, not only are Navy personnel supporting coalition ground forces in Afghanistan, but there are Army Soldiers and Marines stationed aboard Stennis that give a traditionally blue Navy ship, a more purple hue.

“Retired Vice Adm. Dennis McGinn stated that carrier aviation could be considered ‘the world’s largest and most complex team sport,’” said Capt. Sterling Gilliam, commander, Carrier Air Wing (CVW) 9. “That analogy resonates with me because one only has to observe the activities on the flight deck to make the connection.”

The “Death Rattlers” of Marine Fighter Attack Squadron 323 (VMFA-323) embarked Stennis with JCSG on Jan. 20, from San Diego, and have played a critical role in supporting ground forces engaged in OEF.

The squadron consists of 18 Marine Corps pilots who fly the all-weather carrier strike fighter F/A-18C Hornets capable of ground and air attacks and 145 Marines that help maintain, repair, and service the aircraft.

“Ultimately, a Marine squadron operates just like a Navy squadron,” said Marine 1st Lt. Bradley Byers, a pilot with VMFA-323. “We bring a different perspective and help provide close-air support to Marines and Soldiers on the ground operating in support of OEF. We have a great respect and understanding for what the Marines and Soldiers on the ground deal with. We put a heavy emphasis on doing what it takes to help those on the ground and are here to support them.”

With 10 Hornet jets onboard and skilled Marines to support and fly the aircraft, the Death Rattlers have a great deal to offer JCSSG.

The joint environment aboard Stennis is also enhanced by Army Soldiers serving onboard Stennis. MAJ Dave Lander and SFC John Reardon work in the carrier intelligence center as liaisons to coordinate operations between the pilots of CVW-9 and the Soldiers on the ground in theater.

In short, Lander and Reardon translate Army language for Navy pilots and then back again to Army speak for ground forces operating in Afghanistan.

“The incorporation of the ground liaison officer (GLO) team has made a tremendous difference in the effectiveness of CVW-9,” said Gilliam. “Their combat expertise, insight, and ability to communicate rapidly with the ground elements have allowed our aircrews to arrive on station with much better battlespace awareness.”

Lander said their mission on Stennis is to support joint OEF operations and make sure the pilots are better prepared to support ground forces. “We’ve got the same mission. We bring the ground forces together with the Navy air power in the same place to defeat the enemy.”

A key mission of CVW-9 is providing close air support for ground forces in Afghanistan.

“We are flying missions in support of troops that we have on the ground,” said Lt. Steve Neebe, a pilot with Attack Fighter Squadron 147 (VFA-147). “It’s not a personal fight for us most of the time, it’s a guy on the ground who is calling for support and we’re there to provide that support for them.”

The men and women of JCSSG have formed a joint team to provide support for coalition forces on the ground as well as help bring security and stability to the region.

“Every day we conduct joint operations,” said Quinn. “Navy and Marine Corps aircrews fly missions, Army GLOs communicate with ground elements, and we are dependent on Air Force tankers to conduct operations over Afghanistan.”

JCSSG entered its second week of combat operations over Afghanistan in support of OEF on 7 March 2007. Stennis entered the U.S. 5th Fleet AOO on 19 February 2007 to provide support for ground forces operating in Afghanistan as well as conduct maritime security operations.

MSO help set the conditions for security and stability in the maritime environment, as well as complement the counterterrorism and security efforts of regional nations. These operations deny international terrorists use of the maritime environment as a venue for attack or to transport personnel, weapons or other material.

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Anti-Maritime SOF Using Innovation and Synergy to Solve a Very Real and Substantial Threat

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SOF Challenge

Over the last two years, Combined Forces Command (CFC) developed and implemented a unique concept for defeating threat maritime special operations forces (SOF) likely to infiltrate the shores of the Republic of Korea (ROK) from the sea. The CFC designed the concept to defeat a SOF threat specific to the Korean Theater, but other commands can apply the concept wherever U.S. forces are deployed.

After a brief description of the North Korean maritime SOF threat, this article describes how CFC developed and practiced a technique whereby Army attack helicopters, under the control of CFC's Naval Component Command (NCC), are used to destroy threat maritime SOF before they reach friendly shores.



During 1996, this North Korean submarine floundered within 50 meters of shore. North Korea will attempt to penetrate ROK rear areas in war just as certainly as they historically have done during the armistice.

Overview on Concept Development

CFC's mission is to maintain the armistice, deter war, and if necessary fight and win. The Combined Defense Team has performed this vital mission every day for the past 44 years. The strength of the Combined Defense Team is the main reason that peace and stability exist on the peninsula. Yet the military threat from North Korea has not subsided. The "Cold War" is not over and the North's military remains formidable, unpredictable, and dangerous. A significant concern is the North's SOF, designed to wage war on a "second front." The North's SOF are well equipped to infiltrate the ROK from the sea. The sea affords the North's SOF their best avenue of approach. It is against this backdrop that CFC developed a concept and practiced a promising technique to counter the problem posed by North Korea's maritime SOF.

The CFC now cross attaches Army AH-64 Apache attack helicopters, from its Ground Component Command (GCC), to its Naval Component Command (NCC) on a temporary basis, depending on the situation, to attack enemy maritime-SOF assets before they reach ROK shores. CFC initially experimented with the concept in October 1996 during its annual, theaterwide, Combined Field Training Exercise: FOAL EAGLE. FOAL EAGLE is an ideal setting for practicing the anti-maritime-SOF concept since the focus of the exercise is on rear area operations, and security and protection from enemy SOF. Following initial success on a small scale, CFC moved to expand the concept in time for ULCHI FOCUS LENS (UFL) 97. UFL is the CFC's theaterwide, simulation-driven, combined command post exercise designed to practice execution of various parts of the theater campaign plan. UFL 97 provided an opportunity to practice the anti-maritime-SOF concept on a grand scale without being cost prohibitive.

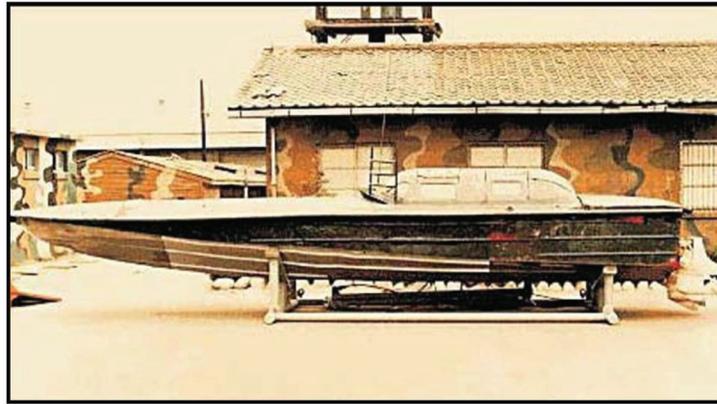
Through a series of round-table discussions, CFC's GCC and NCC developed unit training programs to fine-tune the new anti-maritime-SOF concept in time for UFL 97. Analysis from UFL 97 proved that the concept was very effective in defeating an enemy maritime SOF threat.

After more refinement on Army Airspace Command and Control (A2C2) and Army attack helicopter handoff procedures to Naval airspace command and control authorities, the concept was put to test again under field conditions during FOAL EAGLE 97. CFC's overall conclusion from these training exercises is that AH-64s enhance NCC's ability to intercept and destroy infiltrating enemy maritime SOF elements before they reach ROK shores. This unique joint and combined team is an example of the synergistic use of capabilities from more than one service and more than one nation to effectively attack and destroy an elusive enemy target. The concept itself is an example of innovative thinking to solve a complex problem.

The Korean Challenge—Forces and Geography

The North Korean maritime SOF threat is very real, substantial, and dangerous. The CFC must intercept and destroy infiltrating maritime SOF elements to prevent them from reaching the ROK coastline and infiltrating into the ROK interior to disrupt CFC's rear operations. This is a challenging task because 86 percent of the ROK border is coastline, inundated with thousands of rocky islets, and is conducive to maritime infiltration operations by the North. The defense of the ROK is further complicated by the relative ease of access to its coastline from the sea and by the extraordinary size of the North's special purpose forces, the largest in the world.

North Korean naval forces have significant numbers of watercraft of various sizes and capabilities allocated exclusively to a maritime infiltration mission. These craft include a variety of submarines; coastal patrol craft; high-speed, semi-submersible craft; air-cushioned amphibious craft; and rubber raiding craft.



This SILC is a high-speed, semi-submersible craft that can be used to infiltrate North Korean Special Forces. North Korea has adapted technology to focus on invading the ROK; this boat is powered by three inboard-outboard engines and is capable of submerging for limited periods.



This hovercraft is an example of what North Korea could use to infiltrate forces into the ROK.

The North Koreans expect to use these craft to infiltrate large numbers of maritime SOF units into CFC rear areas just prior to hostilities, followed by a surge of other SOF and conventional maritime forces at the outset of a major offensive. These craft will transport SOF forces capable of sustained independent operations. They will gather intelligence, perform sabotage, and disrupt CFC's critical rear area activities supporting current and future operations. The North's SOF are capable of a wide variety of insurgent operations and terrorist activities. CFC expects them to attack utility systems, lines of communication, and population centers.

The North Korean Navy itself has more than 130 air-cushioned vessels. Each is capable of carrying up to 50 fully equipped personnel. These amphibious craft can reach speeds up to 50 knots per hour and are hard to detect and interdict. Within a short period of time, North Korea can move approximately 7,000 maritime SOF personnel to many disbursed debarkation points along both coastlines of the ROK. Once ashore these small teams will attempt to evade CFC

forces and move into CFC's rear areas and ROK population centers. The key to CFC's success is to detect the North's maritime SOF teams early, while they are still offshore, and destroy them before they land on ROK soil.

The Naval Challenge in Perspective

In organizing the defense of the ROK against North Korean aggression, the CFC designated the Commander 7th Fleet (C7F) as Commander, NCC and made him the supported commander for maritime interdiction operations. While NCC surface combatants are well organized to defend the blue-water areas surrounding the ROK, the littoral areas pose a different challenge. The littoral area, generally within 12 miles of the ROK shore, restricts ship movement. Also, ships that do move in the littoral area are more vulnerable to enemy land-based weapon systems. It is in this littoral area that the North intends to move its tremendous numbers of maritime SOF forces to land on ROK soil.

CFC naval forces intend to detect North Korean movement in the littoral area with their own helicopters, airplanes, shore-based radars, and patrol craft. However, the NCC's helicopters and airplanes are mainly for target detection and not interdiction. That role is assigned to the NCC's fighter aircraft, surface combatant ships, and submarines. The NCC simply doesn't have enough resources to detect, track, and destroy every enemy surface vessel, submarine, and aircraft in both the "blue water" and the littoral. Yet, the NCC's ability to detect, track, and destroy all enemy vessels operating anywhere along the ROK coast and along sea lines of communication is critical to CFC's campaign during the early stages of hostilities.

CFC planners considered a number of options to address North Korea's massive maritime SOF threat. Fixed-wing fighter aircraft are always an option, but it is unlikely CFC will be able to employ fighters in the anti-maritime-SOF role since they will be busy with counter air (CA) and air interdiction (AI) missions in support of land-based operations, and defense of the fleet.

Special Operations Component-Korea (SOCKOR) could provide AC-130 Spectre gunships to attack enemy maritime SOF, but Spectres are a finite resource and are vulnerable to enemy air defense systems and enemy fighter aircraft. Because the AC-130 Spectre is a scarce and valuable resource, the Commander in Chief, CFC determines the priorities for Spectre gunships while considering the risks associated with each employment decision.

In proposing the use of Army Apache attack helicopters, planners discovered a match between the best "window" of AH-64 availability and time of greatest need in an anti-maritime-SOF role. During the early stages of hostilities, when the North's maritime-SOF threat is expected to be the greatest, the GCC's AH-64s are the least committed. While the Apache's primary mission is not an anti-maritime-SOF asset, it is very capable in that role. The Apache's speed, armament, navigation, and communications suite is ideally suited for long-range target detection and attack, even in the littoral areas of the ROK.

In the early stages of hostilities, GCC Apache helicopters await employment against critical targets. A number of Apaches can be called upon to complete anti-maritime-SOF missions if the situation warrants their release to NCC control.

Planning and Execution

Using its experience from many exercises the past two years, CFC created a sequence of planning and execution steps for Apache anti-maritime-SOF missions. The Assistant Chief of Staff, C2, monitors the North's military activity 24 hours a day. As soon as C2 detects unusual or threatening North Korean military activity, it warns CFC forces and surge collection systems on specific indicators of an impending attack. In the meantime, the CINC directs CFC forces to initiate defensive measures appropriate to the situation. Off the ROK shores, the combined coverage of ROK and U.S. P-3 aircraft, Airborne Warning and Control System (AWACS) and ROK Navy coastal radars focus detection operations on the most likely littoral areas and maritime approaches.

Either AWACS or P-3 aircraft coordinate attack of detected targets until U.S. Navy combatants arrive off the coast of the ROK. The NCC then uses the Navy Tactical Data System (NTDS), a digital communications system that blends U.S. and ROK sensor outputs into an integrated common operational picture, to deconflict, handoff, and attack threat systems.

Once CFC recognizes the appropriate indicators, the C7F requests the CINC's release of GCC attack helicopters to anti-maritime-SOF operations. When the CINC decides to use AH-64s in that role, the Army attack aviation brigade gets the mission and begins its preparation.

The brigade itself remains under the operational control (OPCON) of the ground component commander, but two attack helicopter battalions are placed under the tactical control (TACON) of the NCC for planning and execution. CFC can release these two battalions to NCC control, for anti-maritime-SOF operations, when they are not involved in ongoing deep attack. Under this command and control relationship, the NCC has the authority to move and position attack battalion assets once they enter the NCC area of operations. The CFC commander can terminate the mission at any time if the battalions are needed elsewhere. By using two battalions, the brigade commander can respond quickly to missions occurring on both coasts from assembly areas that facilitate rapid interdiction well off both shores of the ROK.

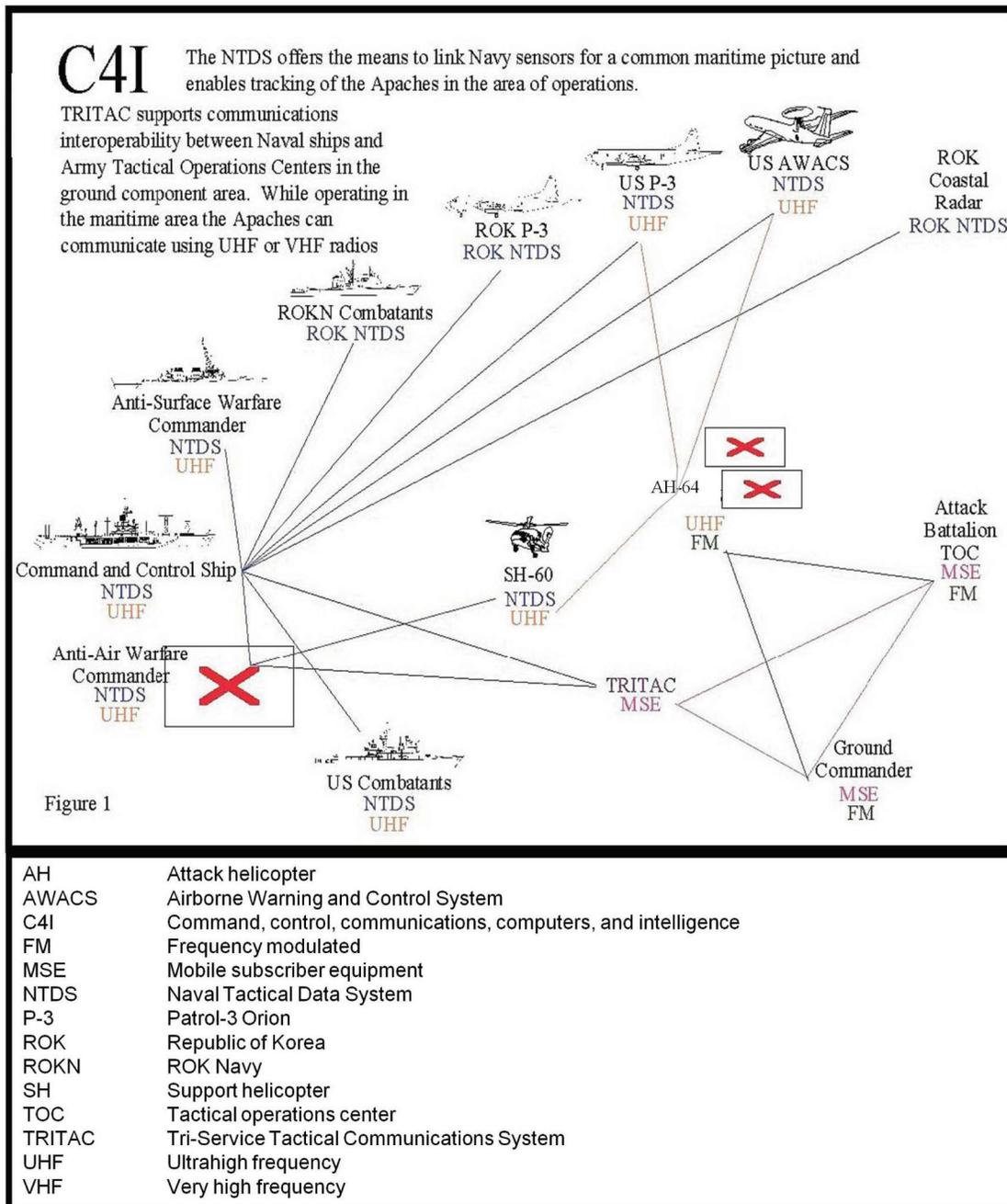
Once the brigade commander gets his mission, he establishes initial communications through the Peninsula Command, Control, Communications, Computers, and Intelligence (C4I) Network, using the Tri-Service Tactical Communications System (TRI-TAC), to talk to the NCC. The commander dispatches a brigade liaison (LNO) team, including S-2 (intelligence) and S-3 (operations) representatives, to board the designated Navy command and control ship. The attack battalions move to both coastlines to establish assembly areas and to prepare for operations. The brigade headquarters coordinates land and local security requirements with the responsible ground commanders. The battalions then move to, occupy, and stage from designated assembly areas to perform their missions in the Navy's maritime area of operations.

The Navy command and control ship has control over all maritime activity in the naval operational area. The command and control ship exercises both functional and geographic control. The NCC establishes a functional anti-surface warfare (ASUW) command for each coast. Each ASUW Commander (ASUWC), located aboard a cruiser or destroyer, is responsible for functional control of surface warfare within his assigned geographic area.

The NCC Waterspace Management Scheme allocates each naval surface and subsurface combatant decentralized responsibility for portions of the NCC's area. The NCC also establishes

a separate anti-air warfare (AAW) command, generally located aboard an Aegis-equipped cruiser or destroyer. The AAW Commander (AAWC) is functionally responsible for anti-air warfare in his area of operations. The AAWC coordinates engagement of hostile aircraft and protection of friendly aircraft within his respective area, similar to the ASUWC function.

Each attack battalion dispatches an LNO team aboard the AAW ship on its respective coast to ensure attack operations are properly coordinated with the NCC and its subordinate functional and geographic commands. (Diagram 1: C4I)



Target Detection and Engagement



An AH-64 team flies off the coast en route to a bull's-eye. Typically, this mission would be conducted at night. Close crew coordination becomes more important due to the low contrast conditions over water.

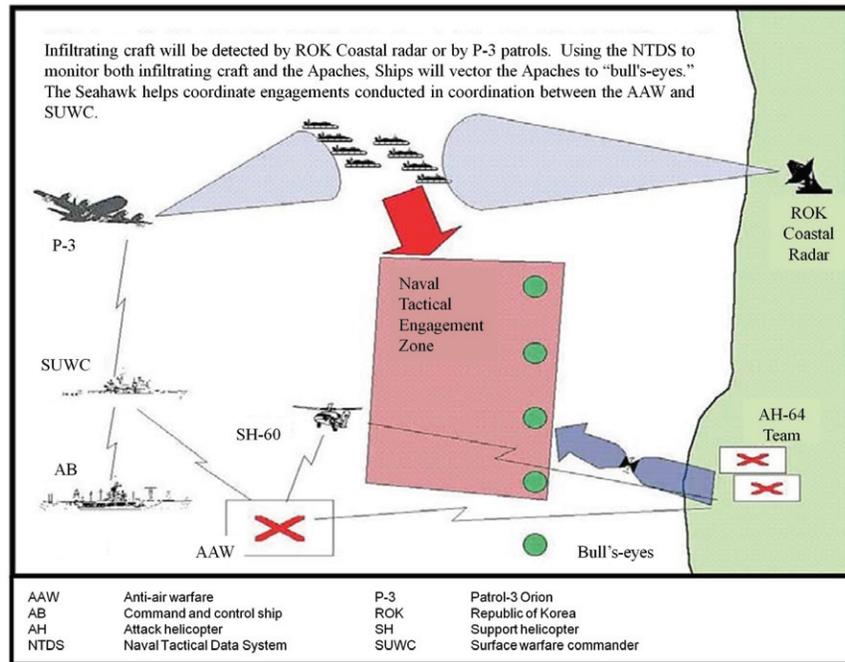
The aircraft or surface combatant who first detects an unknown contact is usually designated the Scene of Action Commander (SAC). The SAC determines whether the contact is friend or foe and coordinates an attack against positively identified enemy contacts unless the mission is transferred to another SAC. The responsible SAC communicates with the appropriate ASUWC or AAWC to obtain execution authority.

For surface targets, the ASUWC designates the nearest capable surface ship to attack the target. For enemy targets in the air, the AAW ship coordinates the attack with a system best able to respond quickly. In the event the NCC command and control ship designates an aircraft to strike a surface target, the AAWC coordinates the airspace and the ASUWC directs its attack against the enemy vessel.

When the NCC commander decides to use attack helicopters, the command and control ship sends an execute message to the aviation brigade. Each attack helicopter battalion has two aircraft on standby, ready to respond to missions from the NCC. The message contains the necessary information to enable the crew of the AH-64s to communicate with the AAW ship.

The attack battalion coordinates movement to and from the coast through Army airspace command and control (A2C2) channels. Army A2C2 provides a transponder identification friend or foe (IFF) squawk for flight-following. An IFF code prevents fratricide of the Apaches because it gives the A2C2, air defense, and Air Component Command (ACC) elements the ability to track the attack helicopters throughout the GCC area of operations. This minimizes the risk to the Apache crews while they transit CFC rear areas. Once the aircraft reach the coast, they cross into the NCC Commander's area and must comply with naval airspace coordination measures. The aviation brigade and attack battalions determine any change to the NCC's procedures during planning and coordination for each mission.

After the Apaches reach the coast the crews radio the Army LNO team aboard the AAW ship using either UHF or VHF. The AAW ship vectors the AH 64s to either an airspace entry and exit point, called a “bull’s-eye,” or directly to the target. (Diagram 2: Sketch)



The AAW ship also uses an IFF code to track the movement of the Apaches. As an added measure of fratricide prevention, the NCC’s airspace is also procedurally de-conflicted by altitude. The Apaches remain at or below 200 feet above sea level (ASL) while Naval fixed-wing aircraft stay at 600 feet ASL or higher.

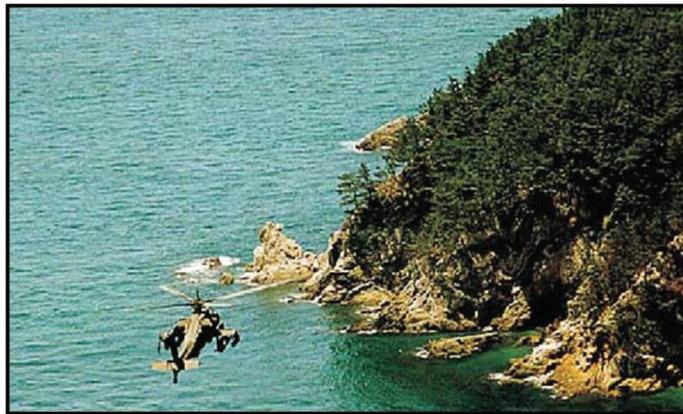
The Apaches then contact the SAC who is tracking the inbound enemy target or targets to arrange for battle handover. The Apache crews use the aircraft’s speed and in-flight navigation systems to quickly arrive at the target area. Once on the scene the Apache crews acquire the target using their onboard day-TV or forward looking infrared radar (FLIR) systems.

The Apaches must positively identify a target as an enemy before they get authorization to attack. The ASUWC authorizes an attack when enemy contact is confirmed by the Apache crews. Upon authorization from the ASUWC, the Apaches use running fire from a standoff position as many times as necessary to destroy the enemy force. The crew’s principal weapon for the mission is the Hellfire missile; however, Apaches also carry an appropriate supply of 30mm cannon ammunition.

Because the enemy’s maritime SOF teams are small and the vessels they ride in are point targets, the Apache crews are able to coordinate their fires with each other to prevent waste of ammunition and target overkill. If during an engagement the ASUWC designates additional targets, the AAWC can send the same aircraft to the new contact or arrange the launch of the next Apache team waiting back in the holding area.

The Apache crews perform their own battle damage assessment (BDA) and send their assessment through the SAC to the ASUWC. At the end of the mission the NCC may direct other assets to perform a more detailed BDA. The Navy could direct SEALs to perform boarding, rescue, and scuttle missions.

In the event an Apache is shot down, the NCC immediately performs search and rescue operations.



An AH-64 team flies off the coast en route to a bull's-eye. Typically, this mission would be conducted at night. Close crew coordination becomes more important due to the low contrast conditions over water.

Issues Resolved

CFC Component Commanders raised several issues during the development of the theater anti-maritime-SOF concept. CFC felt the vulnerability of two widely separated ROK coastlines necessitated the allocation of two GCC attack helicopter battalions TACON to the NCC to cover both coasts simultaneously.

Two battalions can position forward arming and refueling points near each coast to maximize response time, aircraft availability, and station time. Also, by using external fuel tanks, the battalions can extend their range of operations and loiter time.

Over several exercises, the attack battalions learned it was easier to operate from land rather than sea, even though they are trained to operate from NCC ships. The NCC concurred because this tactic facilitates a ship's freedom of movement, reduces its vulnerability to shore-based weapons, prevents disruption of concurrent deck functions, and eliminates cross-service logistical requirements.

Clearly stated, command and control relationships enable the battalions to remain responsive to the CINC's priorities for contingencies ashore and facilitate rapid turnaround from the anti-maritime-SOF role to more traditional missions.

The aviation brigade can sustain crew anti-maritime-SOF training with as little as six flying hours per month. The NCC can easily support joint training with Army aviation with minimal impact.

Should weather turn unfavorable, the Apaches land on a helicopter-capable ship or return to shore, whichever is closer and safer. During one training exercise on the ROK's west coast, heavy fog did not affect the ability of an Apache to either acquire or attack simulated enemy targets.

Conclusion

Three times during the past year, CFC's Army attack helicopter units practiced the anti-maritime-SOF concept with the Navy. Aviation commanders believe this is an important mission for which the Apache is well-suited. While the Apache's primary role continues to be anti-tank in the land battle, it is a system just as formidable in an anti-maritime-SOF role.

A little more than two years ago, what began as an idea evolved into a viable concept. The CFC carefully planned, trained, and tested its AH-64 anti-maritime-SOF concept before accepting the technique as a viable alternative. As a result of some innovative thinking and the synergistic effects of the GCC and NCC, the CFC is stronger and better prepared to protect the ROK in the event of renewed hostilities.

The CFC also accumulated other intangible benefits associated with the concept development process. Working on a solution to a very real and substantial North Korean threat brought the Joint and Combined Defense Team closer together. Each component's understanding of each other's abilities and capabilities grew while working together to solve a common problem. Joint and Combined teamwork is essential for unity of effort in time of peace or conflict.

The CFC developed a concept with a specific North Korean threat in mind. The CFC anti-maritime-SOF concept enables joint force planners to maximize a finite number of resources to achieve the best possible effect against an illusive enemy. The result in the Korean Theater is a Joint and Combined Defense Team better able to deter aggression and if necessary to fight and win.

ANGLICO: The Great Enabler

Lt. Col. Michael D. Grice, U.S. Marine Corps

Reprinted with permission from the May–June 2009 issue of *Fires*

“To provide Marine Air Ground Task Force commanders a liaison capability ... to plan, coordinate, employ and conduct terminal control of fires in support of joint, allied and coalition forces.”

—Air Naval Gunfire Liaison Company mission statement

The days of unilateral service action are over. Joint, combined and coalition operations are de rigueur in the “Long War.” With the drawdown of Operation Iraqi Freedom (OIF), the U.S. Marine Corps (USMC) embraces the opportunity to join the U.S. Army and NATO forces fighting in Afghanistan. Joint task force, coalition and combined endeavors provide forces, equipment and expertise not available to a single service or even a single nation. In addition to the increased capability, they present significant challenges in the areas of command, control and integration.

Due to its inherent flexibility, born of a culture of task organization based on the Marine air ground task force (MAGTF), the USMC stands ready to lead, follow and otherwise embrace such efforts. To be successful, however, the MAGTF commander needs a trusted agent to bring his intent to nonorganic subordinate and adjacent units, to provide planning expertise and to leverage U.S. Navy and USMC combat power to support all partners. Fortunately, the commander has an agent to meet the demanding, challenging and dynamic requirements of diverse confederations—the air naval gunfire liaison company. Unfortunately, the air and naval gunfire liaison company (ANGLICO) remains a little-known and often poorly understood organization. To understand ANGLICO, its origins and its potential future, this article provides a brief history of the organization, an example of its employment in support of OIF and recommendations for this specialized organization’s future.

History

The ANGLICO was created during the reactivation of the 1st and 2nd companies in 2003, but its storied lineage reaches back to the hard-fought amphibious campaigns in the Pacific during World War II. Then called the Joint Assault Signal Company (JASCO), the specialized unit performed the communications and control functions of sea-based and airborne fires—in support of assault forces as it stormed hotly contested beachheads. Through World War II, the unit evolved to a crucial component of amphibious operations.

In 1949, the organization traded the JASCO moniker for ANGLICO. The company participated in the daring amphibious assault at the Battle of Inchon during the Korean War in 1950. In 1951, the company grew into a two-company unit and participated in combat operations throughout the Korean Conflict. Following active combat operations on the Korean peninsula, ANGLICO Marines and sailors deployed to Lebanon, the Dominican Republic and the emergent war in Vietnam.

In 1965, Sub-Unit 1, 1st ANGLICO, was created as a fire support coordination and control organization under Military Assistance Command, Vietnam (MACV). The newly formed unit specialized in controlling naval gunfire and U.S. Navy and U.S. Marines close air support. The organization served throughout the entire theater of operations, providing support to various allied and sister service units, including the U.S. Army, the Army of the Republic of Vietnam, the Republic of Korea army and marine corps, the Australian army and others.

Although Sub-Unit 1's primary mission was integrating fires, it also provided the essential liaison function between MACV and the varied supported units. ANGLICO Marines and sailors continued active service in Vietnam until the end; it was one of the last American combat units to leave Vietnam. They departed in early 1973 after providing crucial fire support to the Republic of Vietnam soldiers and marines during the North Vietnamese army's offensives in 1972.

ANGLICO provided support for deployments throughout the 1970s and 1980s—most notably during the Lebanon peacekeeping operations in 1982 and the invasion of Grenada in 1983. The unit's liaison and fires integration capabilities were an integral part of Marine Amphibious Unit (MAU) deployments. ANGLICO detachments trained with countless armed forces in coastal areas and participated in combat and contingency operations. As the MAUs transitioned to Marine Expeditionary Units-Special Operations Capable (MEUSOC), ANGLICO became one of the MAGTF commander's most useful tools for training and humanitarian operations with other militaries from the Mediterranean Sea to the Korean peninsula to Australasia's beaches.

Saddam Hussein's invasion of Kuwait in 1990 showcased the unit's value as the MAGTF commander's enabler. Active and reserve ANGLICO units provided fire support and liaison to the U.S. Army 82nd Airborne Division and coalition units from Saudi Arabia, Kuwait, Qatar, Oman, United Arab Emirates, Bahrain, Syria, Morocco, Spain and the French Foreign Legion.

ANGLICO Marines and sailors also conducted pre-battle combined arms and fire support training to ensure all supported forces functioned effectively within or adjacent to a MAGTF. When Operation Desert Shield transitioned to Operation Desert Storm, ANGLICO units integrated all forms of fire support on the battlefield and provided crucial communications links between U.S. and Coalition units.¹

In 1999, USMC manpower reductions forced the deactivation of active duty ANGLICOs. They were replaced by much smaller Marine Liaison Elements (MLE) at I and II Marine Expeditionary Forces—each had a significantly reduced communications and fire support coordination capability. Although greatly reduced in size and ability, the I MEF MLE supported the British Royal Marines' 3 Commando Brigade in Basra during the initial months of OIF, operating closely with the 15th MEUSOC and other I MEF forces.

The MLE Marines and sailors—critical enablers for the MEF and the British forces—were the primary link to the direct air support center and Coalition air support. The MLE's successful support of British forces proved the effectiveness of ANGLICO capabilities, but it found the MLEs inadequate for the requirements for liaison and fire support integration in support of OIF and Operation Enduring Freedom (OEF).²

Growing operational demands required the reactivation of the active duty 1st and 2nd ANGLICOs in 2003. A new unit, 5th ANGLICO stood up in 2005.³ The reactivated active duty ANGLICO units gave the MAGTF commander a robust capability that enabled him to bring his intent, planning expertise and the full spectrum of Marine fire support to every member in the joint, coalition or allied fight—including the enduring deployment of rotational ANGLICO units to Iraq.

Unit Organization

ANGLICO is a separate company located in the MEF Headquarters Group and serves as the primary liaison between the MAGTF command and non-Marine units.³ Each company numbers more than 200 Marines and sailors—equivalent to a battalion-level command. A command screened and slated lieutenant colonel leads the ANGLICO, consisting of a headquarters platoon and three brigade platoons. The company is self-sufficient with organic logistical, supply, motor vehicle, ordnance and communications resources to support any assigned unit.

Company headquarters. Headquarters includes the command element and the headquarters platoon. The company headquarters has the staff elements of a typical battalion-size organization—administration, intelligence, logistics and a large, robust operations section that incorporates subject matter experts for all forms of supporting arms. The headquarters platoon maintains a large, armory, motor pool, a comprehensively equipped communications section and an organic motor vehicle maintenance capability. It equips, trains, deploys, commands and controls the subordinate ANGLICO elements.

The company headquarters is staffed and equipped to be an independently deployable fire support coordination center that can embed into a joint, coalition or allied division-level organization. It provides liaison, planning expertise and detailed integration and de-confliction of MAGTF fires for the supported unit.

Embedding ANGLICO units—at the division and down to the line company—is arguably the company’s most valuable service. It provides a direct link between the MAGTF commander and the non-Marine unit—either part of or adjacent to the Marine area of operations. At the division level, the ANGLICO headquarters as a fire support coordination center (FSCC) performs all fires related battlefield functions, such as naval surface fire support, close air support (CAS) and surface-to-surface integration. It is digitally capable and integrates into all USMC and nearly all U.S. Army, USN and U.S. Air Force battlefield systems.

Brigade platoon. The company’s three brigade platoons perform fire support integration, MAGTF planning, communications and liaison between the MAGTF and an adjacent or subordinate brigade or regimental-size non-Marine unit. During OIF, ANGLICO brigade platoons supported coalition forces from Great Britain and Poland and U.S. Army units, Special Operations Forces and U.S. Army and USMC military transition teams and their Iraqi counterparts, including combat operations outside Multi-National Force–West (MNF–W) in Basra and Baghdad.

Doctrinally, the brigade platoon embeds in a brigade-size or equivalent coalition or allied unit that requires either MAGTF fires, falls within a command relationship with the MAGTF commander or both. Once attached, the platoon headquarters becomes a special staff section at the brigade headquarters. The subordinate units within the platoon join the battalion task forces and company teams, bringing their requisite expertise to all levels of the supported unit. In reality, this model works well with U.S. Army and other top-tier brigades due to their similarity in capabilities. However, the brigade platoon moves up one level to provide support at the Iraqi Army division level because of the design of the Iraqi Army formations.

The ANGLICO has three brigade platoon listed on its table of organization. Within each platoon, there are platoon headquarters, two supporting arms liaison teams (SALTs) and four firepower control teams (FCTs)—two within each SALT. Functionally, each element operates independently without relying on the supported unit for vehicles, radios and other equipment or supplies. Like the company headquarters, the brigade platoons and SALTs perform as complete doctrinal Marine FSCCs at the brigade and battalion levels. The FCT has the trained personnel and necessary equipment to fight as a fire support team.

Although their ranks range from major to first lieutenant, the platoon, SALT and FCT leaders largely share the same billet description, acting as the subject matter expert on the MAGTF, fires, communication and planning for the unit they support. The principal difference is the level of their assigned units, ranging from the brigade/regiment to the company/team.

These leaders provide planning and execution expertise for the supported commander. They may prepare a traditional fire plan, conduct a helicopter-borne combat resupply, plan an air assault or explain how the Marine Corps planning process works.

They are interpreters who bridge the gap between the supported unit and the MAGTF. They also lead their own FCTs and deploy and deploy forward in support of combat operations and units-in contact with the enemy as needed and directed. The platoon command and SALT leaders also may act as either the leader or the co-leader of the supported unit's tactical air control party.⁴ If they cannot integrate into the marine aviation command and control system, the ANGLICO platoon commander establishes a tactical air control party capable of fulfilling the functions of Marine aviation that apply to the supported unit—offensive air support, assault support, control of aircraft and missiles, aerial reconnaissance and electronic warfare. If the platoon does not have an assigned aviator as the air officer, the platoon commander fills that billet, submits joint terminal attack and assault requests to the MAGTF air officer and plans for their integration.

SALT. There are two deployable SALTs in each brigade platoon. Each SALT is equipped for independent operations. The team includes a combat arms officer, a naval aviator and a staff sergeant scout observer; they may be joint terminal attack controllers, communicators, drivers and/or scouts.

The SALT serves as the senior fire support element for the subordinate FCTs and performs the primary mission as the supported unit's 24-hour operations capable FSCC. If robust support is not required, the SALT may split into two SALT (-) elements—capable of providing planning

and MAGTF integration expertise while simultaneously acting as the higher headquarters for one or more FCTs.

The SALT leader serves as the MAGTF representative to the battalion/task force commander and usually serves on his staff as an advisor. His duties include attending meetings, planning sessions and conducting training on the MAGTF and supporting arms.

FCT. The FCT is subordinate to the SALT and is the smallest, lowest level independently deployable unit within ANGLICO. There are two FCTs per SALT that support company-size units during combat operations. The FCT has the same capabilities as a doctrinal USMC rifle company fire support team plus the mobility and communications capabilities from its organic equipment.

The FCT leader is a joint terminal attack controller (JTAC)-qualified combat arms officer or a naval aviator. His team has a scout observer FCT chief, a radio operator and a driver. All personnel in the FCT are cross trained to perform the duties of any other member. The driver can act as the gunner and call for fire. The radio operator can talk to aircraft over the appropriate nets when required.

Operational Employment in Iraq

ANGLICO's configuration is based on the doctrinal model of "two up and one back." Supported organization would have two units-in-contact and one in reserve—the two SALTs with two FCTs per brigade platoon.⁵ In OIF, the conflict's stabilization into a counterinsurgency fight considerably changed that dynamic.

Despite the nonstandard combat environment, ANGLICO's inherent flexibility provided robust support to meet the changing requirements. ANGLICO elements supported U.S. Army units from independent task forces to entire brigades, simultaneously working with military transition teams (MiTTs) and their Iraqi counterparts, coalition partners, and USMC units that required fires and CAS control and fire support.

An example of the organization's flexibility is the brigade platoon that supported the 1st Brigade, 1st Armored Division in Ar Ramadi, Iraq. The U.S. Army brigade was a subordinate unit within the Marine Expeditionary Force (Forward) and was a battlespace landowner in the MNF-W area of operations. During a highly active 2006 to 2007 deployment, the ANGLICO brigade platoon that supported 1st Brigade, 1st Armored Division, reorganized to support five separate maneuver task forces—each with numerous company teams.

To meet this large requirement, the SALTs were restructured; five SALT (-) elements were created, and each was coupled with one deployable FCT. In addition, the platoon was complemented by the Air Force tactical air control party, providing additional JTACs and air liaison officers.⁶

The platoon's members were employed at the tactical level, supporting armored and infantry task forces as they conducted offensive operations in and around Ar Ramadi. They occupied overt and covert observation posts, integrated CAS in the tightly confined urban canyons of the city and de-conflicted surface-to surface fires that ranged from mortars to Guided Multiple-Launch Rocket System missiles. They were inculcated into the U.S. Army and coalition units that they supported and served in combat side-by-side with their non-Marine counterparts.

Future Employment

ANGLICO proved to be an invaluable part of the MEFs (Forward) that have been winning the fight in al Anbar. As Iraq stabilizes, the need for the ANGLICO's specialized capabilities in Iraq has declined. The focus is shifting toward Afghanistan where the skills provided by ANGLICO are in high demand. To meet the demand, the company headquarters redeployed to the continental U.S. to train, equip and deploy brigade platoons to both combat theaters. In addition, West Coast Marine Expeditionary Units will deploy with SALTs in the near future.

As the USMC's presence in Afghanistan grows, the requirement for the MAGTF to work with joint, coalition and allied organizations increases. ANGLICO is the USMC organization that meets this need; it is staffed with trained and equipped professionals who are ready to bring the full spectrum of capabilities resident in the MAGTF to support non-Marine units. ANGLICOs and the U.S. Army enjoy a strong, habitual relationship in training and at war, strengthening the bonds between these services. In the future, this bond will serve both services well as they continue to train, deploy, and fight side-by-side.

Endnotes

1. Condensed from Ahern, Peter W., Dennis M. Cunniffe and Mitchell J. McCarthy, "ANGLICO," *Marine Corps Gazette* (November 2005), 72-76.
2. Brian T. Koch, "Evolution of ANGLICO," *Marine Corps Gazette* (February 2007), 26.
3. There are three active and two reserve ANGLICOs in the Marine Corps: 1st ANGLICO is at Camp Pendleton, Calif.; and is part of I Marine Expeditionary Force, 2nd ANGLICO is at Camp LeJeune, N.C., and supports II MEF, 3rd ANGLICO is at Long Beach, Calif., 4th ANGLICO is at West Palm Beach, Fla., and 5th ANGLICO is at Okinawa, Japan, and supports III MEF.
4. In cases where ANGLICO supports U.S. Army units, the terminal attack control party (TACP) responsibilities usually will be shared with U.S. Air Force air support operations squadron personnel.
5. Until 2007, there were only two brigade platoons in each active duty company; the increase in USMC end strength made the addition of a third brigade platoon possible for 1st, 2nd and 5th ANGLICOs.
6. The combined ANGLICO/U.S. Air Force TACP was integrated down to the company/team levels, with U.S. Air Force and ANGLICO personnel at every echelon. There were 22 JTAC teams throughout Ramadi during active-combat operations, led by the brigade TACP. In addition, U.S. Naval Special Warfare JTACs would fall under brigade TACP control for some operations.

Navy Trains Airborne Forward Observers

SSG Mike Pryor, Fort Bragg Public Affairs Office

FORT BRAGG, N.C.—Soldiers in ground contact with the enemy may not care where their fire support comes from, as long as it's accurate. But standing on the deck of a Navy destroyer and looking at the five-inch deck guns that can rain down rounds on enemy forces from 10 miles offshore, it's hard not to appreciate the uniquely powerful capabilities of naval gunfire.

Ten paratroopers from the 82nd Airborne Division's 2nd Brigade Combat Team (BCT) learned that lesson when they attended the three-day Naval Surface Fires class at the Naval Amphibious Base in Little Creek, Va. from September 2–4, 2009.

The Soldiers, who were all forward observers (FOs) or members of the brigade's combat observation and lasing teams, were the first Army personnel to attend the training. The Marine instructors were pleased to have their Army brothers attend.

“This is exciting for us. We've never had anything like this in the past,” said Marine Master Sergeant Ryan German, the noncommissioned officer in charge of the Naval Experimental Warfare Training Group, Atlantic, which conducted the training.

“The inter-service cooperation says a lot about the state of relations, cooperation, and training between the Army and Marines,” German said. The purpose of the class was to familiarize the students with the capabilities of Naval gunfire and to provide an overall introduction to Naval and Marine Corps combat assets.

Army Sergeant First Class Paul Morris, 2nd BCT targeting noncommissioned officer (NCO), coordinated the effort to get the Army personnel enrolled in the class. As a former Marine familiar with the capabilities of naval gunfire, Morris wanted to make sure FOs from 2nd BCT had the same knowledge.

“Being a former member of the Marine Corps and ANGLICO [Air/Naval Gunfire Liaison Company] teams, not only gave me a unique perspective as to the capabilities of these units, but allowed me to show the current FOs and COLTs [combat observation lasing teams] of the brigade what other assets are available to them to bring to the fight,” said Morris.

The first day of training was centered on learning Naval gunfire capabilities and correct call-for-fire procedures. The students were also given a tour of the destroyer USS *Ross*, including an up-close look at the ship's five-inch deck gun.

The second and third days were focused on Marine and Navy close air support procedures along with computer simulations inside the school's \$1.4 million simulator. Navy Experimental Warfare Training Group, Atlantic (EWGLANT) has a multi-person call-for-fire simulator that allows an operator to train multiple FOs using artillery, mortar, naval gunfire, fixed-wing close air support, and rotary-wing close air support.

All the participants in the class said the interservice training had been extremely valuable.

“Because of the joint environment we are operating in, it’s incredibly important that we understand the capabilities that the different services have,” said Bishop. Morris agreed. “We’re all on the same team, and the better we understand that, the better warfighters we become,” he said.



Ten paratroopers from the 82nd Airborne Division got up-front and personal with Naval fire support onboard the USS *Ross* at Little Creek, Va. They were the first Soldiers to attend Naval Surface Fires training conducted by the Navy Experimental Warfare Training Group, Atlantic, 2–4 September 2009.

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Army Special Forces and Navy Fighter Aircrews Hone Warfighting Skills at JRTC

**Casey Bain and Lew Corlew,
Joint Fires Integration and Interoperability Team, U.S. Joint Forces Command**

Army special forces and joint fires observers (JFOs), Air Force joint terminal attack controllers (JTACs), and Navy fighter aircrews prepared for an upcoming deployment during a recent two-week Joint Readiness Training Center (JRTC) and Green Flag East (GFE) exercise with the help of U.S. Joint Forces Command's (USJFCOM's) Joint Fires Integration and Interoperability Team (JFIIT).

The Army's 1st Special Forces Group from Fort Lewis, Wash.; JFOs from the 3rd Brigade Combat Team (BCT), 101st Airborne Division, Fort Campbell, Ky.; JTACs from the 19th Air Support Operations Squadron; and the Navy's Strike Fighter Squadron 11 at Naval Air Station-Oceana, Va., partnered to conduct this mission rehearsal exercise. One senior fighter pilot said the exercise was the best predeployment training he has ever received.

The training, led by the Operations Group at JRTC and GFE with support from JFIIT, focused units on improving mission-essential close air support (CAS) skills they will use once they are deployed.

"This is the best predeployment training that we've ever experienced," said Navy Cmdr. JJ Cummings, commander, Strike Fighter Squadron 11. "I can't wait to get back and tell the other skippers about it so they can take advantage of this exceptional training opportunity."

Part of this training incorporated CAS situational training exercise (STX) lanes that allowed Army special forces to work closely with JFOs, JTACs, and Navy F/A-18 Hornet fighter aircrews on emergency CAS tactics, techniques, and procedures used in an urban environment and while conducting combat patrols.

"This has been a great opportunity to work with JTACs and CAS pilots just as we will in theater," said Army Sergeant First Class Jeff Cudlich, 1st Special Forces Group. "This is about as real as it gets until we deploy. Learning how to utilize CAS properly will be vital to our success in theater and this training will go a long way in helping us achieve that goal."

"This has been just like a no-kidding deployment to us," added Cummings. "Being able to practice putting down fire in an urban environment near the proximity of friendly forces is something that makes our entire team better."

JRTC and GFE employs joint assets to provide realistic and rigorous training that replicates the operational environments found in Afghanistan and Iraq.

"JRTC and Green Flag have done a superb job of enhancing CAS training for the entire joint warfighting team," said Army Major Thomas Kokes, JFIIT lead at JRTC. "Our mission is to help integrate those assets and bridge fires related gaps between the services so they will improve their combat effectiveness while reducing the potential of fratricide and collateral damage when they're deployed."

“Ensuring all warfighters understand the capabilities and limitations of each system operating in the battlespace is crucial,” said Air Force Lieutenant Colonel Rhude Cherry III, commander, GFE and the 548th Combat Training Squadron, Ft. Polk, La. “We reinforce the right process and best practices from units currently in theater to teach units how to achieve the ground commander’s desired effects on the battlefield.”

According to Air Force Staff Sergeant Chris Brown, GFE JTAC instructor, the unique opportunity for an Army BCT to plan and execute realistic missions with many of the same assets they will have in theater will be crucial to the unit’s success once they are deployed.

“We’re trying to simulate the battlefield conditions downrange,” said Brown. “Part of that is to help teach the BCT how to employ CAS. We want to give them that experience before they deploy. If we’re successful in our mission here then we will see those results when the units get into theater. They will be able to execute their job more efficiently and we’ll save lives in the process.”

“This CAS training is extremely realistic and replicates what the units will experience in theater,” added Cherry. “JFOs and JTACs will pass 6–10 nine-line messages to CAS aircraft and fighter pilots will execute 10–20 lethal attacks, and that’s in every training period or vulnerability window—that’s great training.”

The need for BCTs to continue honing their joint air-to-ground skills is an important part of their training mission at home station and in other training events, according to JRTC, GFE, and JFIIT leaders.

“BCTs need to become very familiar with what their JTACs and other joint assets can do to help the maneuver commander execute their mission more effectively,” added Kokes. “That training may start here, but it won’t end here. It’s a set of crucial skills that needs to be practiced continuously.”

According to senior leaders at JRTC, the importance of integrating joint assets at the combat training center has never been more important than it is today.

“You can’t just talk about integrating joint assets,” said Brigadier General James C. Yarbrough, commanding general, JRTC and Ft. Polk. “You’ve got to do it. You’ve got to do it slow, you’ve got to do it fast, you’ve got to do it at night, and you’ve got to make mistakes—that’s how you learn. Units come here expecting to train jointly and it’s up to us to deliver.”

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Navy and Army Air Defense Units Improve Joint Integrated Training

**Mario Wilhelm and Chris Corbitt,
Joint Fires Integration and Interoperability Team, U.S. Joint Forces Command**

NAVAL AIR STATION FALLON, Nev.—Navy Carrier Air Wing Eight (CVW-8), with support from Air Force surveillance and electronic warfare aircraft and an Army Patriot battalion, worked closely together to defeat a three-dimensional irregular warfare threat over the snow-capped mountains of northern Nevada desert during the largest joint integrated training event (ITE) at NAS Fallon in years, according to officials at the Naval Strike and Air Warfare Center (NSAWC).

“Air Wing Fallon [AWF] provided our forces with a realistic and dynamic training opportunity that replicates the way we fight in theater,” said Rear Adm. Mark Emerson, commander, NSAWC. “We provide end-to-end training for the forces that train here. This exercise was a culmination of almost six years of planning, coordination, and hard work. We believe it provided a unique joint training environment for the entire carrier air wing including joint terminal attack controllers, special operations forces, Air Force command and control and electronic warfare aircraft, and an Army Patriot battalion so they can learn how to better integrate and work together here exactly like they will in combat.”

The AWF ITE incorporates a variety of missions that test the participants’ abilities to work together as a well-synchronized joint warfighting team. Mission types include air warfare, joint suppression of enemy air defenses, joint close air support, theater air and missile defense, and combat search and rescue.

“The training event here at Fallon provided a great opportunity to conduct superb joint training,” said Army MG Howard Bromberg, commanding general, U.S. Army Air Defense Artillery Center at Fort Bliss, Texas. “Seldom have we been presented with the opportunity to train as part of this type of joint integrated team with live air and command and control assets.”

Helping to support this joint integrated training environment was U.S. Joint Forces Command’s (USJFCOM’s) Joint Warfighting Center (JWFC) and the Joint Fires Integration and Interoperability Team (JFIIT). “AWF is a great example of how an existing traditional service-level training program can be enhanced to conduct robust training that integrates other participants and services not normally found in a carrier air wing rotation,” said Michelle Lewis, JWFC program coordinator for AWF ITE. “The real and distinct value of this ITE will be the synergy in training value created by enabling CVW-8, Army Patriot, and other joint forces to train together in an increasingly complex and demanding environment that will maximize joint training and lessons learned that units can leverage today and in future rotations.”

The NSAWC provides a comprehensive training environment that incorporates 11,000 square miles of training ranges, a supersonic air corridor, and an instrumentation capability that can electronically track, record, and play back every training mission.

This venue is ripe with opportunity to exercise and stress the joint fires aspect of our mission,” said Army LTC Nick Bernhardt, commander, 2-1 Air Defense Artillery from Fort Hood, Texas. “This environment provided us with an incredible opportunity to train with all our equipment that we need to be proficient with to support the joint fight. We can train on every major task within our mission essential task list here—something that we can’t do back at home station. The ability to receive truth-based, joint focused after action reviews are priceless to our leaders and Soldiers. Everything we do here is warfighter focused and that helps to prepare our entire team for the challenges that lie ahead.”

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Army, Navy, and Air Force Leverage Capabilities to Improve Force Protection

**Kevin Gaddie, Joint Fires Integration and Interoperability Team,
U.S. Joint Forces Command**

A base defense operations center (BDOC) responsible for monitoring the security of a U.S. forward operating base (FOB) spots an unknown civilian pickup truck that suddenly stops just outside of their perimeter and begins lobbing mortars at personnel within the FOB.

Alertly, the BDOC crew sounds an acoustic alarm notifying all personnel to take cover. At the same time, the BDOC forwards information about the attack to the brigade tactical operations center, which deploys its quick reaction force and eliminates the threat without any friendly casualties.

This event didn't take place in Iraq or Afghanistan; it is part of the training at the Joint Readiness Training Center (JRTC) in Fort Polk, La. Focused on improving the force protection capabilities of military units preparing to deploy into combat, JRTC conducts the training with assistance from the Army's Counter-Rocket, Artillery, Mortar (C-RAM) Program Office, located in Huntsville, Ala., and U.S. Joint Forces Command's (USJFCOM's) Joint Fires Integration and Interoperability Team (JFIIT).

Part of this enhanced force protection capability, the Integrated Base Defense System of Systems (IBDSoS), integrates multiple systems and sensors from the Army, Navy, and Air Force to improve situational awareness and provides an audible warning of a potential attack on an FOB along with a capability to defeat the threat.

"The C-RAM initiative at JRTC has made significant strides in improving the force protection training for Army brigade combat teams (BCTs) as they prepare for eventual deployments to Iraq and Afghanistan," said Navy Lt. Cmdr. Chris Olson, C-RAM project lead at JFIIT. "Thanks to the terrific work done by the Army, Navy, and Air Force, this great training can occur at JRTC and will continue to lay the foundation for success. This training provides the maneuver commander with another tool to defeat the perimeter threat that we see today in theater."

"IBDSoS provides the FOB commander with an integrated set of capabilities that is designed to protect against and defeat perimeter threats," said Mitch Rosiere, senior IBDSoS trainer at JRTC. "IBDSoS is an integral part of C-RAM and provides the ground commander with additional capabilities to help defeat the insurgent threat and prevent loss of life."

JFIIT, in support of the C-RAM Program Office, is working to improve the integration of IBDSoS into existing joint fires and joint intelligence, surveillance, and reconnaissance (JISR) capabilities to increase the force protection of U.S. and coalition FOBs.

The C-RAM Program Office has been providing IBDSoS support at JRTC since September 2005 and, with assistance from JFIIT, plans on using current IBDSoS capabilities to enhance joint fires and JISR integration to fully maximize base defense training at this and other combat training centers.

“The IBDSoS training that we’ve received here has been outstanding,” said Army Sgt. Kijan Edwards, BDOC noncommissioned officer in charge from the 3rd Brigade Combat Team, 82nd Airborne Division, Fort Bragg, N.C. “Our ability to immediately get eyes on a potential threat allows us to provide immediate early warning of a potential attack to personnel on the FOB and that helps us save lives.”

According to Olson, “Fully incorporating all the Army, Navy, and Air Force assets into IBDSoS training, also means improving the ability to provide early warning to personnel located on the FOBs and give forces time to take appropriate actions and defeat this type of irregular warfare threat. Eventually, we will digitally integrate IBDSoS and C-RAM system information with joint fires and command and control systems that will greatly improve shared situational awareness among coalition forces and make it easier to defeat FOB threats.”

“Our ability to integrate joint assets with our own fires capabilities cuts down on the time to gain a positive identification on a threat and that helps us to respond quickly and appropriately,” said Edwards. “IBDSoS provides us with a mission-essential capability that will give our unit an unprecedented level of force protection once we deploy in theater.”

“IBDSoS training is another opportunity for BCTs to receive realistic and rigorous training that prepares them for their next mission,” said Rosiere. “The goal of IBDSoS training here is to provide units with the exact tools and capabilities that they will have once deployed. When the maneuver commander knows that he can reach out and fully leverage this joint system, it will increase their force protection and help them save lives. The more units can learn about this system before coming here to train, the better they will be able to leverage its capabilities once deployed in combat.”

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Army, Navy, Other Joint and Coalition Warfighters Assess Advanced Combat Identification Technologies

Marie La Touche and Susan Hulker, Joint Fires Integration and Interoperability Team, U.S. Joint Forces Command

CAMP LEJEUNE, N.C.—Army, Navy, and other U.S. servicemembers along with many of our coalition partners recently helped assess advanced combat identification (CID) technologies that could reduce the potential of fratricide during a two-week long exercise that was conducted at Camp Lejeune and Marine Corps Air Station Cherry Point, N.C.

The exercise, known as Bold Quest (BQ) 09, was a U.S. Joint Forces Command's (USJFCOM's) coalition combat identification (CCID) advanced concept technology demonstration (ACTD), was the sixth in a series of exercises aimed at improving the warfighter's ability to distinguish friendly from enemy forces on the battlefield.

Participants from the Army included soldiers from the 4th Brigade Combat Team, 10th Mountain Division, from Fort Polk, La., as well as aviation assets from the Navy's Air Test and Evaluation Squadron 23 and Scientific Development Squadron 1 both from Naval Air Station Patuxent River, Md.

“The principle focus of BQ 09 is fixed-wing, air-to-ground CID,” said John Miller, USJFCOM Joint Capability Integration and Fires Division's BQ 09 operational manager. “Simply put, we're assessing the technical and procedural means for an aircrew to identify friendly ground elements by interrogating them or an intended target area. It's a monumental task of assessing CID technologies that could improve our combat effectiveness and reduce fratricide across the services and with our coalition partners alike.”

USJFCOM's Joint Fires Integration and Interoperability Team (JFIIT) is part of the team that includes representation from the Army, Navy, Marine Corps, Air Force, and a 10-nation coalition. The countries that participated in this event included: Australia, Belgium, Canada, France, Germany, Italy, Netherlands, Norway, Sweden, and the United Kingdom.

“This is a win-win for the Army, Navy, Marines, Air Force, and our allies,” said Air Force Maj. Paul Brenner, JFIIT operational lead at BQ. “Anytime you can bring together a comprehensive group of U.S. and coalition military experts to participate in a well synchronized and orchestrated tactical exercise, progress will be made.”

Military members participating in the demonstration appreciated the opportunity to provide feedback on technologies that could play a vital role in future conflicts.

“As someone who has recently served in Iraq, it's refreshing to see the military take such a proactive stance in trying to solve the complex problem of fratricide especially in regards to Army and Navy integration on the battlefield,” said Army 1SG Joseph Gaskin, Company C, 2nd Battalion, 30th Infantry Regiment, 4th Brigade Combat Team (BCT), 10th Mountain Division from Fort Polk, La. “Another advantage of this exercise was the opportunity to work with many of our coalition partners just like we do when we're deployed. It's a vital experience especially for our younger leaders and Soldiers.”

Coalition partners also see BQ 09 as an important event to assess new CID technologies.

“Bold Quest provided the best opportunity available to test our system in a realistic environment,” said German Air Force Lt. Col. Georg Leben, German Air Force Command lead at BQ. “We enjoyed working in a live multicultural and multiservice environment that can serve as a catalyst in developing what is needed to achieve a common goal, preventing fratricide.”

USJFCOM’s CCID ACTD exercises have always been focused on potential joint and coalition CID solutions.

“As in the case today, future conflicts will be fought alongside our coalition partners,” Miller continued. “Bold Quest provides another superb opportunity for warfighters to come together and work to improve our CID capabilities as a joint and coalition team.”

Two of the air-to-ground CID technologies being assessed here are the tactical fixed-wing aircraft pod-mounted Battlefield Target Identification Device (BTID) and the Radio Based Combat Identification (RBCI) system.

BTID interrogates a potential target with its onboard weapons targeting system and allows the operator to make near-instantaneous engagement decisions using real-time identification data. BTID is designed to distinguish whether a vehicle is friend or unknown using advanced millimeter-wave technology.

RBCI is a software modification to existing combat radios to provide an interrogation and reply CID capability. During BQ 09, this proven technology will be assessed in the air-to-ground role.

“BTID and RBCI could enhance a pilot’s situational awareness by providing another means to detect the presence of friendly forces in a target area before dropping ordnance on a hostile target,” said Perry Davis, JFIIT’s lead BTID and RBCI analyst at BQ. “These technologies could prove to be another important capability to help reduce the potential of fratricide for ground forces during the terminal phase of an air-to-ground attack.”

Solving fratricide is a challenge that has spanned all conflicts and countless military operations.

“Progressing from the speed of the foot soldier on ancient battlefields to a jet fighter beaming lasers to scan a target area, the warfighter has relied on the best technology available to accomplish their assigned task,” Brenner said. “As weaponry has become more accurate and lethal, CID technologies have become increasingly more reliable, but not perfect. BQ 09 is another important milestone in trying to find potential solutions to this complex challenge.”

“Fratricide has historically been a problem facing both our forces and those of our coalition partners,” said Army SFC Jerell Daniels, platoon sergeant, Company C, 2nd Battalion, 30th Infantry Regiment, 4th BCT, 10th Mountain Division. “This exercise is another important step in trying to solve that CID challenge. It’s an absolutely essential mission that we’ve got to accomplish.”

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In the Blood

Sailors Learn That Failure to Understand the Electronic Environment ‘Can Cost You Your Life’

Tom Philpott, Special Correspondent

Reprinted with permission from the March 2007 issue of *SEAPOW*,
the official publication of the Navy League of the United States

BAGHDAD—During his first visit to Iraq, in December 2005, Adm. Mike Mullen, chief of naval operations, sat down with several Navy officers who were assigned to a task force here that was working on a host of ways to counter improvised explosive devices (IEDs), the No. 1 killer of U.S. service personnel in Iraq.

The task force had gotten a lot of money thrown at it fast.

“That’s always a worry,” Mullen said, recalling his experience from the trip. “I’m enough of a money guy to know if you throw a lot of money at something, everybody ... will show up saying, ‘Well I’ve got something.’ And it wasn’t organized as well as it should be.”

He then met with three Navy officers specially tasked to try to solve the challenge of remotely detonated IEDs. One was a reservist who, in civilian life, played a key role in developing the OnStar protection program for General Motors. Powered by a vehicle’s battery, OnStar helps drivers link to emergency service providers using wireless telephone and satellite technologies.

“Well these guys started walking through what we’re doing and that’s when the light bulb went on,” Mullen recalled.

It was time for the Navy, with its expertise in electronic warfare, to begin playing a larger role in the IED challenge.

“We grow up in the Navy learning about a very challenging electronic environment that is out here. You have nothing but radios, communication gear, electronic gear. And there [is] an expertise,” Mullen said. “For everybody who goes to sea in the Navy, it gets into your blood pretty fast because it can cost you your life not understanding the electronic environment. You win or lose based on whether you give your signature up.”

While Navy officers are immersed in that environment, said Mullen, “the Army and Air Force basically gave this capability up in 1990, on the downside of the fall of the Soviet Union.”

Mullen sent an e-mail to Army GEN George Casey, then-commander of coalition forces in Iraq and said “I’ve got this ability and, the best I can tell, you’ve got this gap.”

Casey liked the idea. So did Army GEN John Abizaid, then-commander of U.S. Central Command, who formally requested Navy support.

“That was January, and by May we pushed some 300 or so Navy personnel into Iraq. They stood up as Joint CREW (Counter Radiocontrolled IED Electronic Warfare) Composite Squadron-One under the command of Capt. Brian Hinkley. He set up an ombudsman and support network, too,” Mullen said.

“There is no ground officer around here who won’t tell you that they’ve saved a lot of lives. [It’s been] pretty extraordinary,” Mullen said.

He credited the “inherent skills that we have in managing the electronic environment that allows us to not interfere with each other, to understand what the threat is, to be able to counter it.”

Mullen conceded that, despite the Navy’s contribution since last May, IEDs in Iraq continue to take lives and remain a difficult challenge.

In describing the fluid tactics of bomb-makers among Iraqi insurgents, a British explosives expert told Mullen at the task force meeting, “these guys are changing tactics on the back of a napkin over a cup of coffee.”

By contrast, coalition forces were “taking our equipment and mailing it back to Indiana, and two months later it’s changed,” the expert said.

The lesson, Mullen said, is “we’ve got to be quicker and more agile.”

The Joint CREW Composite Squadron is an example of that kind of adaptability, he suggested.

“There’s been a huge force change, which is the kind of change you want,” Mullen said. “Has it solved the whole thing? No. But it has given us a tremendous leg up in the electronic world that we just didn’t have a year ago.”

Sandbox Sailors

A Lieutenant's Report From Iraq: 'My Skills Could Have Been Better Used'

Tom Philpott, Special Correspondent

Reprinted with permission from the March 2007 issue of *SEAPOW*,
the official publication of the Navy League of the United States

BAGHDAD—Enough Navy personnel are serving on the ground in U.S. Central Command—12,500 at last count—that they've earned a nickname: Sandbox Sailors.

Roughly 4,500 of these sailors are on the ground in Iraq and Afghanistan, most of them serving in combat support roles.

Two-thirds are individual augmentees (IAs), which means they serve apart from their parent command. The bulk of these IAs are reservists.

The intent is to help relieve the strain of wartime operations on the Army and Marine Corps. The strongest advocate for putting sailors in ground force roles is the chief of naval operations, Adm. Mike Mullen.

"We are in a war out here that isn't an Army war or a Marine Corps war. It's a national war," Mullen said. That's why the Navy has had to deepen its involvement. The fit isn't always a comfortable one.

Last April, Lt. Joseph "Max" Ernest, a Navy Reserve intelligence officer with 11 years of law enforcement experience, was mobilized to Baghdad where the Army assigned him as a logistics officer to Iraq's interior ministry. He had no former experience in logistics and spent his first months learning basic terminology and grasping the fundamentals of logistics.

"My skills could have been better used," said Ernest during an interview in Republican Palace inside Baghdad's Green Zone. But the assignment did boost his confidence.

"If I can do this here, when I get back to my world I can pretty much handle anything," Ernest said.

Sitting beside Ernest was another Navy Reserve intelligence officer, Lt. Jason Fickett. In civilian life, he is an FBI agent.

"My experience has been excellent," said Fickett, three months into his tour.

He, too, works with one of the Iraqi ministries.

"The Army has slotted me into a position where I am able to use my FBI and Navy skill sets," he said.

Before his deployment last November, Fickett received two weeks of combat tactics training in Fort Jackson, S.C.

“It’s the Army’s show, and we are here to augment them,” Fickett said.

“The fear is that because we are not part of the group we’re not going to be treated as such. I’ve heard a lot of horror stories but so far my experience had been pretty good.”

One worry among IAs, he said, is that they “might get the job no one wants because you’re the odd man out. Perhaps that’s what happened to Lt. Ernest, I’m not sure. But it seems like a misuse of resources.”

Mullen is sensitive to the complaints. The Navy is pressing Central Command and the Army to do a better job matching Navy skills and seniority with actual needs in theater.

During his visit to Iraq days before Christmas, Mullen said he heard feedback from some sailors that they want more meaningful work if they are going to spend extra time away from their families and their units.

“And some of them are telling me that sitting behind a desk, producing PowerPoint slides, is not what they anticipated,” Mullen said.

Navy's New Crew

A Special Unit of Sailors Hits the Ground to Take on One of the Toughest Tasks in Iraq

Tom Philpott, Special Correspondent

Reprinted with permission from the March 2007 issue of *SEAPOWERS*, the official publication of the Navy League of the United States.

BAGHDAD—Lt. Scott “Sherm” Oliver, an electronic countermeasures officer on Navy EA-6B Prowler jets, was near the end a second carrier deployment supporting troops in Iraq in 2005 when a welcomed set of orders arrived.

For the next 30 months, Oliver learned, he would be a flight instructor in Pensacola, Fla. There, at last, he would get to spend a stretch of home-in-the-evening quality time with his wife, who was expecting their first child.

Eight months into that tour, however, Oliver got an unexpected new set of orders for a third wartime deployment. This time he would be serving on the ground, in Baghdad no less. Understandably, he was upset.

He had been in the Persian Gulf at “the beginning of the war in 2003. I was back in ’04-’05. And now back again in ’06? That’s a lot of time away,” said Oliver. “And shore duty is when you’re supposed to be able to catch your breath and be home with your family.”

This January, after eight months on the ground in Baghdad, Oliver was packing for home, and proud of what he and a special Navy team of electronic warfare experts had accomplished.

“Our efforts have saved lives,” Oliver said. “I know that because I’ve had guys come back and tell me about scenarios where they actually found [roadside bombs before detonation] and they know the CREW is working.”

CREW is an acronym for Counter Radio-controlled IED Electronic Warfare systems. Oliver and 60 or so officers from the Prowler community had been pulled from their nonoperational jobs to lead a special 290-member naval ground force formed into Joint CREW Composite Squadron-One (JCCS-1).

The squadron is responsible for installing and maintaining CREW systems on U.S. ground convoys throughout Iraq. The effort is an initiative of Adm. Mike Mullen, the chief of naval operations.

Early in 2006, Mullen had advised Army Gen. George Casey, then-commander of multinational forces in Iraq, that naval countermeasure skills could be effective against attacks on convoys from electronically triggered improvised explosive devices (IEDs).

JCCS-1 set up its headquarters at Camp Victory in Baghdad last May, becoming a subordinate command to the Army's 79th Ordnance Battalion. But most of the squadron's members spread out across Iraq to become embedded with U.S. ground forces at every level.

"The Army didn't have any EW (electronic warfare) experience, so that's how we got here," said the 30-year-old Oliver. "The JCCS-1 guys, the electronic warfare officers, got distributed among all battalions, brigades and divisions here in Iraq."

The concept of embedding Navy personnel in Army units in wartime must be viewed as unique, Oliver said.

"It's every unit down to the battalion level. It's been quite a huge undertaking. It's been good for the Army and I think it's also been good for the Navy officers and enlisted," he said.

Ground battalions have a Navy O-3, like Oliver, assigned to oversee their electronic warfare moves against IEDs.

"Then at brigade level you have an O-4 and at division level you have two O-5s," said Oliver.

Most of JCCS-1 is made up of officers. But the enlisted sailors in the squadron are critical. They are the technicians responsible for installing CREW systems and ensuring proper maintenance.

Insurgents and terrorists began using IEDs in Iraq during the summer of 2003 after it appeared U.S. forces were settling in for a long occupation. As early press reports documented, the bomb-makers shifted over time from detonating their IEDs by command wires or pressure plates, which are more difficult to place, to rigging them with various signal devices, such as cell phones and garage door openers.

During the Cold War, the Army had electronic countermeasure skills but abandoned such training by 1990. By the time the JCCS-1 began operations last spring, some CREW systems already had been installed on Army vehicles. But soldiers reported that the gear was interfering with routine radio communication signals.

"They had had very little understanding of how it worked and little understanding about the electromagnetic spectrum. There's a lot of de-confliction problems," said Oliver. "When we got over here, nobody could talk to each other because pretty much nobody had carefully looked at the spectrum and looked at the threat and figured out we need to jam these specific threats and not jam the communications."

Jamming, of course, is what electronic countermeasure officers do aboard Prowlers and they have to do it without jamming their own gear.

"One huge success we brought to the Army," said Oliver, "is we enabled them to talk without jamming themselves. And we did that because we were able to specify exactly what we're jamming."

Oliver was restricted in what he could reveal about the capabilities of CREW systems whose antenna can be seen atop most U.S. combat vehicles.

“All I can say is, we’re focusing electronic warfare on the radio-controlled IED threat,” he said.

Installing CREW on every military vehicle in Iraq is the goal. Meanwhile, no U.S. convoy leaves a forward operating base without at least one vehicle having CREW gear aboard. The equipment is defensive, which means it blocks signals that would trigger detonations as convoys pass.

An offensive system would explode IEDs in advance of a convoy’s passing.

Can the Navy use EW capabilities in this way?

“I can’t get into that,” Oliver said.

Navy explosive ordnance disposal teams had been in-country, and protected by CREW systems, too, before the JCCS squadron was stood up.

“They were always on the leading edge of this type of thing. But now we have better systems than we ever used to,” Oliver said.

More importantly, the Navy brought in the manpower needed to install CREW so all ground forces have at least some IED protection.

U.S. forces also have drawn lessons from British forces who sharpened their own skills at jamming roadside bombs over many years in response to the threat from the Irish Republican Army.

Members of the JCCS could see evidence of their success reflected in a change of technique by bomb makers, who were returning to some old ways.

“We have seen a rise in more simplified ways of attacking us and that would be the command wire and the pressure-plate type of devices,” Oliver said. That shift, he said, “has a direct relationship to our success in what we’ve done.”

As the first JCCS squadron was being relieved, the Navy was scrambling to find sufficient numbers of EW officers it could send. Oliver said some of his squadron colleagues were being extended in Iraq to ensure that the 21,500 troops being surged into Baghdad, under President Bush’s new Iraq strategy, received the CREW protection on vehicles that they would need.

The Army, meanwhile, is restoring its EW skills with a new command going up in Fort Huachuca, Ariz. Navy EW personnel expect to be involved in the training.

When ordered to Iraq to become a “sandbox sailor,” Oliver said he had no idea what to expect. Looking back, “it’s definitely been a great experience. I’ve learned a ton, working with the Army and Air Force and a Navy [explosive ordnance disposal] unit.”

A typical work week, he said, was seven 12-hour days.

“But it is important work and I don’t think I’ve heard anyone complain once they’ve gotten over here and involved,” he said. “Everybody here realizes we are saving lives with what we are doing.”

IEDs continue to kill Americans. In December, 74 U.S. service members lost their lives to IEDs, the highest monthly toll since the war began. Joint Chiefs Chairman Gen. Peter Pace told the Senate Armed Services Committee in February that insurgents have doubled the number of IEDs planted over the past year and are using more deadly “explosively formed projectiles” provided by Iran. The result is a “sustained level” of casualties despite more effective countermeasures, including jamming efforts.

Neutralizing electronic triggers, admittedly, is just one part of the IED challenge. The Department of Defense intends to spend \$10.4 billion on the IED threat in fiscal 2008 alone. U.S. Central Command has a task force in theater looking for answers. But through the JCCS, the Navy has contributed.

Seabees Bring More Support to Surge in Afghanistan

Judith Snyderman, Defense Media Activity

Reprinted with permission from Navy.mil, 12 February 2010

WASHINGTON (NNS)—Two additional battalions of U.S. Navy Seabees are being deployed to Afghanistan in support of the 30,000 troop surge ordered by President Barack Obama in December 2009.

During a DoDLive bloggers roundtable on Feb. 11, U.S. Navy Rear Adm. Mark A. Handley, commander of the First Naval Construction Division, said extra engineering expertise is needed to build forward operating bases, pave roads and construct airfields for the increased numbers of U.S. and coalition forces.

Aside from being critical to the success of the mission in Afghanistan, he said the infrastructure Seabees provide, improves the quality of life for troops. “We are the ones who build them a wood floor under their tent, build them a galley [and] build them a command and control facility,” Handley said.

Seabees were among the first U.S. troops to enter Afghanistan at the start of Operation Enduring Freedom in 2001 to upgrade and repair airfields. For the past year, they have had two battalions on the ground, mostly assisting the Marines in Helmand province in southern Afghanistan. The new additions will also be concentrated in the south, and will bring the total number of Seabees to about 3,800.

Handley said the toughest part of their mission is transporting construction equipment and getting raw building materials into position due to the remote and rugged terrain. “We’re moving all of our equipment with a combination of air and sealift. Sealift will go into Karachi [Pakistan] and then over the passes into Afghanistan.”

He said it’s unusual to deliver the heaviest construction equipment by air, but it’s sometimes necessary in Afghanistan because some gear doesn’t fit through the passes.

Handley said that the Seabees have enjoyed a great deal of success resourcing materials so far thanks to careful planning. “We have reached very far into the future [as] to what we believe our requirements are going to be and we’ve anticipated fairly well,” he said. He added that the Seabees are getting support from the 30th Naval Construction Regiment with procurement for parts coming from the Defense Logistics Agency and the Army.

The two biggest problem areas, he said, have been getting electrical materials and water well completion kits. Those kits contain valves and other technical components needed to finish water wells after they’ve drilled and installed pipes.

In addition to the mission in Afghanistan, Handley said Seabees are operating in 20 countries around the world to support a variety of humanitarian, security and community-building operations. In Haiti, he said they have been instrumental in getting materials across the beach for distribution into population centers and they continue to repair port facilities.

For the Afghanistan mission, Handley said he has received universally strong support from the troops to the notice of additional deployments, which require some schedule adjustments. Once the buildup is complete Handley said there will be two active Seabee battalions and two reserve battalions serving in Afghanistan. Handley noted the reduction in times between the mobilizations of Reservists, from five years to 3.5 years, and he said he recognizes the sacrifice they are making. "They are true heroes for leaving a civilian job and career."

He noted that when NMCB 74's current deployment to Afghanistan was extended from six months to eight months, some members of the battalion were due to complete their six-month assignments and have new orders executed. But Handley said, "Every one of them has gone ahead and extended to do the full deployment. There's a great sense of camaraderie, a great understanding of the importance of the mission and the importance that they have."

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Army Reservists Join Comfort on Humanitarian Mission

SFC Brian Scott

Reprinted with permission from Navy.mil, 9 April 2009

USNS COMFORT, At Sea (NNS)—When hospital ship USNS *Comfort* (T-AH 20) left Miami April 6 to continue on its four-month humanitarian and civic assistance mission to Latin and the Caribbean region, more than 20 Army Reservists from the 807th Medical Command (Deployment Support) were aboard to support the operation.

“Being in the health field has always been a passion for me,” said Army Spec. Reggie Rhodes, who works as a respiratory therapist aboard *Comfort*. “When they came up with the joint mission on USNS *Comfort*, I was like, ok, let’s see what this is about, and I get more thrills out of doing this more than anything else to help people who need help—I could do that for free.”

Comfort will provide medical, dental, veterinary and engineering assistance in seven countries, including Antigua and Barbuda, Colombia, the Dominican Republic, El Salvador, Haiti, Nicaragua and Panama as part of Continuing Promise 2009 (CP09).

Reservists reported to the ship from commands from throughout the United States, volunteering to leave their families, friends and civilian jobs to assist in the mission. Many Reservists volunteered for this mission and will provide diverse medical military occupational specialties.

“I’m hoping to sharpen my medical skills really to enhance my training so I can perform better in the hospital setting and the combat field, if necessary,” said emergency room technician Spec. Frankie Davis.

Reservists who work civilian jobs similar to the jobs they perform on *Comfort* bring with them experience and knowledge from outside the Army. Rhodes works as home health care provider in Dallas, Texas, and Davis is an emergency room patient care tech at the University of Arkansas for Medical Sciences.

Many of their shipmates were surprised to learn that the Army uniform was not their everyday attire before the deployment.

“It’s been working really well,” said Rhodes, “Doing joint ops with the Navy, we’ve been accepted real well. Hospital Corpsman 2nd Class Adele Hill has been great; she’s shown me everything and opened up her office to me. Everybody speaks to you, very friendly, very accepting. If this is the mission to go on, I have no complaints about it at all.”

CP09 combines U.S. military and interagency personnel, non-governmental organizations, academics and partner nations to provide medical, dental, veterinary and engineering services afloat and ashore and alongside host nation personnel.

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Expeditionary Logistics in Its Truest Form

LCDR Richard S. Paquette, U.S. Navy

Reprinted with permission from the March–April 2009 issue of *Army Logistician*

Along the San Diego freeway (Interstate 5) near the entrance to Marine Corps Base Camp Pendleton, California, sits a dusty field and a bare beach. Sites like these can be found around the globe in all regions of strategic importance to the U.S. military. However, several months ago this barren, open plain and lonely stretch of beach was crowded with over 2,700 military personnel, hundreds of vehicles, and dozens of watercraft conducting Exercise Pacific Strike 2008.

Pacific Strike is the annual U.S. Transportation Command-sponsored joint logistics over-the-shore (JLOTS) exercise. It was carried out at Camp Pendleton from 15 June to 15 August 2008. The commanding officer of the 8th Theater Sustainment Command from Schofield Barracks, Hawaii, served as the joint task force commander. The commander of Naval Beach Group 1 from Coronado, California, served as the JLOTS commander. And the commanding officer of the 45th Sustainment Brigade from Fort Shafter, Hawaii, served as the reception, staging, and onward movement commander.

JLOTS is a key enabler to many combatant command operation plans. It allows a heavy force to be moved from ship to shore without the benefit of a modern deepwater port. In recent military operations, a large modern port in Kuwait has been available for offloading the bulk of the heavy equipment and supplies. However, during World War II and the Korean War, numerous invasions needed to be supported from ship to shore, including the Normandy invasion and General Douglas MacArthur's bold assault on Inchon in Korea.

In planning for both military missions and disaster response or humanitarian assistance missions around the world, JLOTS enables commanders to mass combat power from the sea in regions without a suitable deepwater port or with a port that has been rendered unusable. The strategic flexibility JLOTS offers is critical to keeping adversaries off balance as they attempt to anticipate U.S. military operation planning. Recently, the military has not needed to employ JLOTS in support of combat operations. The lack of necessity, coupled with budget cuts that have hampered JLOTS training exercises, has limited the exposure of many Army and Navy personnel to this critical warfighting skill set.

Exercise Mission

Pacific Strike 2008 was the largest JLOTS exercise ever conducted during peacetime. The mission was to move the 3d Brigade, 25th Infantry Division, from ship to shore and onward to the National Training Center at Fort Irwin, California, for pre-deployment training before it headed to Iraq. Thus, unlike most exercises, JLOTS 2008 had a real deadline with repercussions if the offload did not go smoothly. JLOTS planning began in earnest in October 2007, with leaders mapping out command and control nodes, de-conflicting timelines, and ensuring an adequate force flow to accomplish the mission. ["Force flow" refers to movement of personnel and equipment from home station to the area of responsibility.]

Major Navy units participating in this exercise included Expeditionary Strike Group 3, Naval Beach Group 1, Amphibious Construction Battalions 1 and 2, Beachmaster Unit 1, Assault Craft Unit 1, Expeditionary Health Services Pacific, Naval Cargo Handling Battalions 1 and 12, and Maritime Expeditionary Security Group 1. Army units participating included the 8th Theater Sustainment Command, 45th Sustainment Brigade, 24th Transportation Battalion, 169th Seaport Operations Company, 368th Seaport Operations Company, 331st Causeway Company, 705th Transportation Company, 443rd Transportation Company, 481st Heavy Boat Unit, 175th Floating Craft Maintenance Unit, and 109th Quartermaster Company.

Systems Used

Pacific Strike used all of the JLOTS technology available to support ship-to-shore movement. This family of systems included the offshore petroleum discharge system (OPDS), the elevated causeway (modular) (ELCAS[M]), the Army trident pier, the Army and Navy roll-on-roll-off discharge facilities (RRDF), the floating causeway administration pier, and a large-scale tent camp for a life-support area.

The Military Sealift Command activated four vessels for use in this exercise. The *SS Cape Mohican* carried Amphibious Construction Battalion 1's lighterage from San Diego, California, to Camp Pendleton. [Lighterage refers to small powered and nonpowered craft that move material from ship to shore.] The large, medium-speed, roll-on-roll-off (LMSR) *USNS Pihilaau* was used to move the 3d Brigade from Hawaii to Camp Pendleton. The *SS Chesapeake* was the OPDS tanker, and the auxiliary crane ship *SS Flickertail State* carried Army lighterage and the ELCAS pier components from Norfolk, Virginia, to Camp Pendleton.

Both services also used a host of smaller logistics watercraft essential to moving the cargo from ship to shore. These included legacy Army and Navy lighterage, the improved Navy lighterage system (INLS), Army and Navy landing craft utility, lighter amphibious resupply cargo amphibians, tugs, utility boats, and a large logistics support vessel.



Seabees from Amphibious Construction Battalion 1 erect the metal frame of a tension fabric structure that will be the 700-seat galley (dining facility) for Camp Peguero, the base camp for Pacific Strike 2008.

Set Up

First into the field were the Seabees of Amphibious Construction Battalion 1. Starting from pop-up tents with meals, ready-to-eat, and water for sustenance, they began construction of the tent camp that would eventually house 2,700 Soldiers and Sailors with a full range of life support. The life support area included dozens of command and control tents, a 700-seat galley [dining facility]; barbershop; laundry; showers; morale, welfare, and recreation facility; movie tent; gym; chapel; and over 250 berthing [sleeping] tents.

This was an expeditionary tent camp. No life support facilities existed before 15 June, and the field was empty again at the conclusion of the exercise. Unlike many U.S. military experiences at camps in Kosovo, Iraq, and Afghanistan, the life support area had no KBR facilities, no commercial vendors doing laundry, and no third-country nationals working in the galley. The entire operation was planned and executed by Soldiers and Sailors.

Exercise Logistics

As the Pacific Strike J-4, I was the JLOTS commander's principal assistant for logistics. I was responsible for all aspects of life support (galley, laundry, barber, tents, cots, tables, and chairs), contracting for services (port-a-johns, trash, recycling, gray water removal, rental vehicles), material (logistics yard, freight routing, priority 03 ordering, government purchase card), fuel, mail handling, coordinating commercial bus transportation to and from the aerial port of debarkation, and budget management. The total exercise budget was over \$20 million, with nearly \$2.5 million used for life support and operations and maintenance needs.

During the peak period of operations, nearly 100 Army and Navy personnel worked to support over 2,700 camp residents. Offload operations continued 24 hours a day, 7 days a week.

The J-4 organization was fully integrated, with Army and Navy leaders from the Active and Reserve components in place throughout. For example, all cooks, regardless of service, wore brown t-shirts and all food service attendants wore green t-shirts. These t-shirts told all who came to work in the J-4 organization that our mission was to support the joint force to the best of our ability, regardless of our service affiliation.

With tent camp construction underway, much of the required lighterage and heavy equipment to support JLOTS began arriving by sea. The *SS Cape Mohican* allowed fully loaded improved Navy lighterage system and Navy lighterage causeway sections to be driven onto a large elevator on the stern and rolled onto rails on three decks. This float-on-float-off technology allows for quick assembly of sections into causeway ferries for transit through the surf zone onto the beach to support cargo discharge. This capability is one of the key enablers of JLOTS.

The arrival of the *SS Chesapeake* and the legacy OPDS brought another key ingredient of logistics planning into play—fuel. OPDS allows the pumping of 1.2 million gallons per day of fuel from sea to shore. This fuel is pumped via underwater flexible pipelines or conduits to a beach termination unit. From there, the fuel is moved over land to large, collapsible storage tanks set up and operated by Soldiers or Marines.



A 175-ton crane moves pile sections into place as the elevated causeway (ELCAS) pier is constructed into the Pacific Ocean. In the distance, a barge ferry is being unloaded on the beach by a Kalmar rough-terrain container handler. Additional pontoon sections for the ELCAS pier are visible in the foreground.

JLOTS Ship-to-Shore Equipment

The next components of the JLOTS system to arrive, the ELCAS(M) and the Army trident pier, came by rail and aboard the *SS Flickertail* State from Norfolk. The ELCAS(M) is an amazing piece of engineering. Seabees use heavy construction equipment and cranes to build a steel pier from the beach into the ocean using 8-foot by 40-foot pontoon sections and steel pilings. ELCAS(M) can be built out to 3,000 feet to ensure it passes safely over the surf zone. The head of the ELCAS pier contains two 200-ton cranes for offloading cargo. The pier roadway is 24 feet wide, allowing for two-lane truck traffic. In calm conditions, the ELCAS(M) system can be used to move over 370 20-foot equivalent units of cargo during 24/7 operations.

The Army trident pier is constructed of non-powered pontoon sections that are driven onto the beach by a flotilla of modular warping tugs [the craft used to move the causeway sections and tend the completed structure]. The pier extends from the beach through the surf zone and allows for Army and some Navy watercraft to unload rolling stock. Although it is a capable piece of equipment, the fact that it floats on the water leaves it susceptible to surf damage. Thus, before it was even used during JLOTS 2008, the Pacific Ocean damaged the platform and it was not used in completing the mission.



An improved Navy lightering system (INLS) barge ferry moves into position astern of *USNS Pililaau* in preparation for equipment offload.

The final pieces of the JLOTS mission set were the RRDF platforms. These large floating platforms are assembled from non-powered causeway sections and towed by warping tugs into place alongside the vessels to be offloaded. Large ramps are lowered from the Military Sealift Command ships onto the RRDF platforms, and rolling stock is moved from the ship down the ramp onto the RRDF and then driven onto causeway ferries for transport to a beach, the ELCAS(M) pier head, or the trident pier. When the *USNS Pililaau* arrived, the Army placed RRDFs on the portside of the vessel and the Navy RRDF was positioned astern. RRDFs allow for a much more efficient rate of cargo transfer than lift-on-lift-off by crane.

As the warfighting equipment of the 25th Infantry Division was brought ashore, it was handed over to the reception, staging, and onward movement force assembled on the beach. The 45th Sustainment Brigade Soldiers loaded equipment and rolling stock onto a large number of Army and commercial trucks for the trip to Fort Irwin.

Navy cargo handling battalion personnel operated the cranes onboard the *SS Flickertail State* and the *USNS Pililaau*. Maritime expeditionary security force inshore boat units provided seaward security. Finally, there was a large presence of both Army and Navy Reserve personnel. Many key units were comprised solely of reservists. Other Active forces relied on reservists to round out their manning to sustain 24-hour operations. JLOTS demonstrated the “total force” concept envisioned by the Navy.

JLOTS 2008 was a huge success. The 3d Brigade’s equipment was delivered to Fort Irwin ahead of schedule, the operation was completed safely, and all forces were retrograded home. Pacific Strike validated to the U.S. Pacific Command, the U.S. Transportation Command, and U.S. Army Pacific that the Army-Navy team of JLOTS professionals can move a heavy force from ship to shore anywhere in the world to support both combat and humanitarian missions.

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