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U.S. Employment of Naval Mines: A Chronology

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During this century the United States has used naval mines both effectively and ineffectively. Naval mines first evolved as a weapon during the Revolutionary War. The United States employed them during both World Wars, most notably the North Sea Barrage in WWI and Operations Starvation in WWII. In such "go-for-bust" global wars against peer unified rivals, naval mines significantly shaped events. The Cold war brought a different type of warfare. This report provides information about naval mines and U.S. mining operations in the Revolutionary War, Civil War, WWI, WWII, the Korean War, Vietnam, Nicaragua and the Persian Gulf War.

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Summary

During this century the United States has used naval mines both effectively and ineffectively. Naval mines first evolved as a weapon during the Revolutionary War. The United States employed them during both World Wars, most notably the *North Sea Barrage* in WWI and *Operation Starvation* in WWII. In such "go-for-bust" global wars against peer unified rivals, naval mines significantly shaped events.

The Cold War brought a different type of warfare. The enemy was no longer a peer rival but a regional one, significantly bulwarked by our formidable Cold War adversary, the Soviet Union. In the Korean War—the first truly limited war fought by the United States—the United States, overwhelmed with mine countermeasure operations against Soviet-supplied mines, did not employ naval mines. Naval mines were laid near the end of the Vietnam conflict, initially for military reasons but were ultimately heralded for their diplomatic implications. Although requests to mine earlier in the conflict were denied, the successful diplomatic use of naval mines demonstrated the versatility of this weapon and indeed provided a meaningful bargaining chip for the North Vietnamese to continue releasing U.S. prisoners of war.

The lessons from U.S. minelaying in Nicaragua offer enlightening insights into current naval mine issues. Although the mines were obtained and laid by the Central Intelligence Agency (CIA) and not the Department of Defense, the weapons demonstrated their indiscriminate nature by striking not only the intended shipping, but also French, British, and Soviet ships. Did the CIA want to start World War III? How would the United States have reacted if a U.S. merchant ship had run into a KGB-laid mine field? Yes, the mines were effective, but their effectiveness was dwarfed by this covert act bordering on war and the associated collateral damage of this international debacle.

Post-Cold War, the United States employed naval mines during the opening days of *Operation Desert Storm*. Commanders were not allowed to conduct antisurface warfare against questionable transitors within Iraqi territorial waters and, as a last resort, requested permission to mine. Four A-6s from *USS Ranger* sortied, but only three returned. (In all prior military uses of mines, the mining occurred toward the end of conflict—here it's at the initiation of the allied offensive.) On-scene commanders recalled no impact on Iraqi operations from this mining effort [1]. They chose to discontinue mining operations.

What role can mines play in future conflicts? Does their potential use change if we contrast today's restrictive rules of engagement with go-for-bust global wars? History suggests so. As we look to the future, does this role change with regional vice peer conflicts? Against future asymmetric adversaries, do mines offer adequate payoff?

Introduction

Naval mines evolved as a weapon during the Revolutionary War and have played a role in conflicts ever since. The following discussion spans from the roots of naval mining through the World Wars, Cold War era applications, and the most recent use during *Operation Desert Storm*. Of particular interest are:

- Change in naval mine use in peer-versus regional-level conflicts
- Rules of engagement issues
- Potential for collateral damage
- Indiscriminate features of current naval mines.

We discovered as we walked through time that in go-for-bust global wars against peer unified powers, naval mines significantly shaped events. But in regional conflicts—as we face today and foresee in the future—the military utility of naval mines is not as obvious. Our adversaries are asymmetrically armed and typically have mediocre navies. We should look beyond just military utility though. In Vietnam, naval mines, initially laid for military reasons, were ultimately heralded for their diplomatic implications. The successful diplomatic use of naval mines demonstrated the versatility of this weapon and indeed provided a meaningful bargaining chip for the North Vietnamese to continue releasing U.S. prisoners of war.

Pre-World War mining

In 1778, to break the British blockade of the Delaware River at Philadelphia, the U.S. floated powder-filled kegs equipped with contact firing devices. Although not one struck a target, the psychological prowess of mines stymied the British. Francis Hopkinson immortalized the engagement in *The Battle of the Kegs* [2]:

> Such feats did they perform that day,
> Among the wicked kegs, sir,
> That years to come, when they get home,
> They'll make their boast and brag, sir.

The American Civil War saw the birth of naval mines as a full-fledged naval weapon, although only a defensive one. Facing superior Union naval forces, the Confederates proved ingenious in their development of novel types of contact and controlled mines. These weapons made their mark, credited with sinking 27 Union vessels while only 9 vessels were destroyed by Confederate gunfire [2].

World Wars I and II

The Russo-Japanese War of 1904 showcased not only the defensive use of mines, but also their impact as offensive weapons of war. Indeed, both the Allied and Central Powers of World War I used the harsh lessons learned by the Russians and carried out extensive defensive and offensive mining campaigns. Over 71,000 U.S. mines were planted in the *North Sea Barrage*. Hundreds of warships from both sides, along with nearly 600 allied merchant ships, were lost to mines. Even more dramatic than the actual sinking of ships was the impact on operations and the continuing threat that plummeted crew morale. Operationally, the mine threat diverted large numbers of ships and men to countermeasure operations, restricted or stopped shipping traffic, and forced traffic from shallow coastal-water havens into areas where ships were more vulnerable to other forms of attack. Psychologically, the weapons took their toll, too. German U-boat crews reportedly mutinied rather than transit potentially mined waters [3].

During World War II, the United States used mines most dramatically against Japan, culminating the Pacific mining campaigns with *Operation Starvation* during the closing months of the war. (On the European front, the United States used mines defensively.) The U.S. mining offensive against the Japanese consisted of two principal campaigns: a widespread attack on enemy ports and shipping routes on the fringes of Japan's new territory and a large aerial mining blitz focused on Japan itself. U.S. mines sank or destroyed about 150 Japanese naval vessels and nearly 2 million tons of Japanese shipping. This represented about one-fourth of Japan's merchant marine prewar strength [2].

The inner zone campaign, covering the last four and a half months of the war, marked the most concentrated mining offensive in the history of naval warfare. *Operation Starvation* exacted a toll of more than 1.2 million tons of enemy shipping and virtually severed Japan's lifeline to the Asiatic continent. B-29s planted thousands of mines around the Japanese homeland, forcing the Japanese to assign top priority to defense against mining. So desperate were the Japanese that they moved radar, antiaircraft guns, and searchlights away from important industrial cities to key mining areas, leaving these important industrial cities easier prey to Army and Navy bombers.

In both go-for-bust global wars, mines proved militarily useful to the Allied Powers. And both wars, fought against symmetrically opposed enemy coalitions, hinged on massive sea battles for sea control.

Cold War

The Cold War brought forth a new era of warfare—limited engagements against Soviet-backed adversaries, which teetered toward fears of nuclear potential. Our battlefront adversaries were in all cases dwarfed by U.S. military might, but this might was severely constrained for fear of direct Soviet engagement and escalation.

Korean War

In the first truly limited war fought by the United States, the Korean War, implications for mine warfare relate to countermeasures alone. Although engaged in a limited war, Korea was bulwarked by our formidable Cold War adversary, the Soviet Union. Most, if not all, of the mines used in the Korean's extensive defensive mining campaign were from Soviet stockpiles. Off of Wonson, the mixed threat fields—with moored contact, floating contact and magnetic influence mines—were closely integrated with the North Korean coastal defenses, offering the United States a glimpse into Soviet mining doctrine.

Vietnam

The internal U.S. turmoil over involvement in Vietnam complicates the mine warfare lessons from this conflict. Although it was similar to the Korean War with respect to Soviet backing, the "at-home" complexities demonstrated issues related to the current use of weapons: a reluctance to act with indiscriminate weapons and no tolerance for loss of American lives. The United States eventually used naval mines during this conflict, but only at the end of the war as a military weapon in an attempt to constrain the North Vietnamese offensive. Beyond the military implications, these mines proved to be an unequivocally successful diplomatic weapon in forcing the North Vietnamese to free U.S. prisoners of war. President Nixon's rationale for finally approving the mining option included his political desire to punish Russian involvement with North Vietnam. Although it was a contentious decision at the time, the mining of Haiphong gave Nixon the upper hand as he went into arms control negotiations with the Soviet Union, and it did not scuttle the negotiations as many, including Kissinger, feared [4].

In the early 1960s, then Commander, Seventh Fleet Admiral Thomas H. Moorer ordered preparation of offensive mining plans for Haiphong and other North Vietnamese ports [5]. As Commander, U.S. Pacific Fleet in 1964, Admiral Moorer recommended naval mining of Haiphong and other North Vietnamese ports to stop the delivery of war materials by sea. This application seemed obvious to Admiral Moorer, given the impact of U.S. mining on Japan's ability to import strategic materials and to resupply Japanese military forces in other areas of conquest during World War II. During President Johnson's administration

(1964-68), national command authority never seriously considered naval mining because the President expressed his position publicly that the U.S. would neither invade North Vietnam nor seek to widen the war. Naval mining was viewed as counter to that policy. (To this day, Admiral Moorer believes that the U.S. should have mined North Vietnam in 1964 to 1966. [5])

While Chief of Naval Operations between 1966 and 1970, Admiral Moorer repeatedly recommended naval mining of North Vietnamese ports to the Joint Chiefs of Staff (JCS). Other service chiefs and the JCS agreed with him although opposing views to mining prevailed within the Department of Defense and the National Security Council from 1966 to 1972. Admiral Moorer believes that his recommendations never reached the White House and thinks it possible that the Chairman, JCS (General Earle Wheeler) did not present the mining recommendations to the Secretaries of Defense (McNamara, then Laird) [5].

After Admiral Moorer became the Chairman of the JCS in 1970, he continued to propose naval mining of North Vietnam with the support of the other JCS members. President Nixon's administration rejected the idea because of several major concerns [5]:

- The Russians would provide mine countermeasures, thereby risking escalation of the conflict with overt Russian participation.
- The North Vietnamese could use railways to the Eurasian continent as an alternative logistics supply route to ocean transport.
- U.S. naval mining would scuttle strategic arms limitation negotiations with the Soviet Union.

Despite continued U.S. efforts to disengage from Vietnam, the North Vietnamese March 1972 Easter Offensive on South Vietnam beckoned a significant U.S. response. April 4, 1972 brought forth two big U.S. decisions, one political and one military. First, Kissinger was certain from the beginning of the offensive that the North Vietnamese could never have invaded South Vietnam without Soviet support, specifically tanks and long-range artillery. Nixon and Kissinger decided that they had to run the political risk and finger the Russians for complicity in the invasion. To protect the Moscow summit, planned to begin on 22 May, they used the State Department to enunciate the initial accusation on 4 April. (Unfortunately, Kissinger miscalculated and the initial burst of headlines resulting from the State Department's statement encouraged intense journalistic research that, in turn, produced numerous stories about a developing Soviet-American relations crisis that could destroy the summit. [4]) The second big decision focused on America's military response to the North Vietnamese invasion. On the morning of 4 April, the Pentagon announced that the United States would "take whatever steps are necessary to protect remaining U.S. forces in South Vietnam" [4]. This was the beginning of an extraordinary buildup of American air and naval power in Indochina. By the end of 4 April, ten to twenty B-52 strategic bombers departed their U.S. bases for Thailand, and by the

end of April, the United States had six aircraft carriers on station in the Gulf of Tonkin, along with five cruiser and forty destroyer escorts. Released from 1968 restraints for the first time, on 6 April U.S. planes struck north of the DMZ without apology.

Could the North Vietnamese invasion be "as much a political action as a military one" [4]? Kissinger expected a new round of secret talks to begin soon in Paris. Brezhnev led him to believe that the North Vietnamese were interested and that the meetings would be fruitful. Kissinger met secretly with Le Duc Tho in Paris on May 2, 1972, with what he believed to be a simple and inticing offer from Nixon to quickly settle the war: "If the North Vietnamese would agree to a cease-fire and a return of American POWs—that and nothing more—the United States would withdraw from Indochina within four months" [4]. Le Duc Tho distainly rejected the offer; Kissinger's recollections of Tho's responses include "Wars aren't fought to have a cease-fire. Wars are fought to have victory" [4].

With the peace talks paralyzed following the disastrous Kissinger-Le Duc Tho secret meeting, President Nixon suggested the need for dramatic action that would force the Russians to pay a high price for continuing to support the war. After rejecting such options as reintroduction of U.S. ground troops or nuclear weapons, the President's options dwindled to two: more unrestricted bombing or, for the first time in the war, mining the ports of North Vietnam [4]. He chose both. The Navy and Air Force launched a massive bombing campaign against North Vietnam. Mining would amount to an open interference with international shipping in and out of Haiphong—a frontal challenge to the Soviet Union that could torpedo the Moscow summit. Why did the President change his mind at a time when he was trying to disengage?

> He [President Nixon] felt that the mining idea made more military sense than at any other time because, for the first time in the war, the North Vietnamese urgently needed a daily flow of fuel for their tanks and armored vehicles on the battlefields of the south [following the March 1972 North Vietnamese offensive]. A cut, or reduction, in the flow of fuel from their depots near the ports could seriously cripple their offensive—if not immediately, then soon. Moreover—again, for the first time in the war—the idea of mining seemed politically feasible; Nixon felt he could take this drastic action against North Vietnam without risk of strong Soviet or Chinese counteraction...Kissinger, on the other hand, had his doubts—not about the idea of mining as such but about its possible effect on the Moscow summit, which was vitally important to his scheme for a global balance of the major powers. [4]

The mine plan came to life on 8 May 1972, with a presidential decision implemented by attack aircraft from USS *Coral Sea* (CVA-43) dropping mines in North Vietnam's major ports. The first drop in Haiphong harbor, composed of 36 magnetic-acoustic mines, immediately brought virtually all shipping to a halt. Within three days the mines armed themselves, trapping 27 foreign merchant vessels in port. The North Vietnamese made no immediate attempt to counter the mines. President Nixon announced that we would not remove the mines until the North Vietnamese released all American prisoners of war. The stalemate continued. The United States continued mining and bombing to influence the Paris negotiations throughout 1972, using increased military pressure to force North Vietnam to negotiate a settlement.

In conjunction with the minefield planning, the Navy prepared in advance for the mine clearance, recognizing that the Hague Convention of 1907 required subsequent removal of the mine threat and that the North Vietnamese would demand it [3]. The plan stipulated that mine types employed require only magnetic influence sweeps for clearance. One officer recalled [3]:

> From the beginning, the possibility of U.S. forces having to sweep the mines was a factor which influenced the types of mines used, their settings, and to a lesser degree their locations. As a result, when it came time to sweep, we knew everything about the mines and had purposely planted mines which could be swept easily and effectively by our mine countermeasures forces... the vast majority of the mines were programmed to self-destruct and the remainder to go inert after a given time. Thus, even as the mines were dropped, the process of mine removal had been started.

Did we ever consider such constraints in the throes of global war or is this unique to regional conflicts? Or is this simply a reflection of the times?

In November 1972, with peace talks proceeding, U.S. mine countermeasure forces moved west in preparation for the call to begin clearance operations. Paris Peace Talks broke down again, spurring reseeding yet again of Haiphong's minefields. A cease-fire was finally negotiated in January 1973, based on the exchange of all American prisoners of war for U.S. withdrawal from South Vietnam and clearance of mines laid in North Vietnamese waters. This peace-rendering protocol, signed in Paris by Le Duc Tho and Henry Kissinger on 27 January 1973, defined that the United States would meet its treaty obligation by "rendering the mines harmless through removal, permanent deactivation, or destruction" [3].

But the North Vietnamese had to abide by the protocol as well. Only one day after the first day of airborne mine countermeasure operations in Haiphong's

main shipping channel on 27 February, President Nixon suspended mine countermeasure operations because of North Vietnamese delays in releasing American prisoners of war. U.S. mine-clearance operations resumed on 6 March. Just on the verge of completing countermeasure operations in Haiphong channel, the U.S. forces were withdrawn on 17 April in protest over North Vietnamese violations of the cease-fire in Laos and Cambodia. On 14 June 1973, both parties signed the Paris Joint Communique, which required the United States to resume mine countermeasure operations within the week and to complete the effort within the month. U.S. negotiators had no difficulty meeting the mid-July deadline because all the mines were past the longest sterilization date.

Yes, mines were definitively a useful diplomatic weapon at the conclusion of the Vietnam War, but not without their cost. The total cost of the mine countermeasure operation, including two helicopter losses, all materials, maintenance, and casualties, was nearly $21 million, more than twice the cost of the mine fields [3].

Nicaragua

The controversy that erupted over the covert American intervention in Nicaragua dominated the Reagan years. The clash between the administration and Congress over funding for the contras led first to a scandal over the CIA's mining of Nicaragua's harbors in 1984 and then to the Iran-contra affair, which all but crippled the Reagan presidency in 1987. In Robert Gate's recent book, he titles the related section "Mining the Harbors: A Study in Bureaucratic Suicide" [6].

In May 1983, Duane Clarridge (CIA official in charge of Latin American operations) convinced and won the approval of the National Security Council (NSC) Crisis Pre-Planning Group for a plan in which the CIA would place limpet mines on ships in Nicaraguan ports and naval mines in the river above the port of El Bluff. Secretary of State George Shultz, on discovering the plan, promptly engaged the President to reverse the plan at an NSC meeting 3 days later. Clarridge was undaunted and shelved the idea for later use.

At the end of 1983, American policy in Nicaragua had been overshadowed by the bombing of the Marine barracks in Beirut on October 23 and the American invasion of Grenada that same week. Duane Clarridge resurrected the proposed mining of Nicaraguan harbors with a new twist. From his study of the Russo-Japanese War of 1904-5, he knew the effectiveness of mines. The Russian naval commander had been killed when a mine struck and sank his flagship in that war. Clarridge proposed a less ambitious mining program. Encouraged by Bill Casey (CIA Director), he had advocated mining the harbors of Nicaragua to discourage oil shipments and strangle both the Nicaraguan economy and the Sandinista military effort. "The mines would be designed not to destroy ships, but to frighten their captains. Mere rumors that harbors and ports were mined could be enough to reduce shipping significantly" [7]. There was no

need to sink a single ship. Lloyd's of London would pull insurance on ships going into mined harbors or increase insurance rates enough to discourage entrance into those harbors.

For months, State Department officials had rejected Clarridge's mining idea as both reckless and futile. Mining harbors reminded them of the Vietnam War and would be poorly received in the United States; the benefits were unlikely to justify the risks. (Kagan's interview with Craig Johnstone (Deputy to Thomas Enders, Assistant Secretary of State) 31 January 1991. [7]) Secretary of State George Shultz had fought the idea in meetings with Reagan. In the winter of 1983, however, State Department officials changed their minds. Frustrated at their inability to force concessions from the Sandinistas and at what Johnstone called their "empty quiver," they wanted some way to turn up the pressure.

All they needed was a mine that would create the impression of danger. CIA's working group approved a plan employing mines with low explosive power, designed to be all noise and splash. They soon learned that all the mines in the U.S. arsenal were powerful monsters designed to sink ships. So the CIA located a former Martin Marietta plant in the Carolinas where homemade "firecracker" mines could be made, though some were to have as much as 300 pounds of explosives. The mines were activated by either magnetic or acoustic signatures from ships. The CIA kept a large vessel, with a flat stern for two helicopters, in charter to act as a mother ship from which speedboats and helicopters could be used for laying mines. The ship would be an operational island in international waters, giving them several months to get everything in place. The men carrying out the attacks from motorboats were not Nicaraguan fighters; they were contract employees of the CIA, men of Hispanic origin hired by the CIA to carry out those special covert actions.

The CIA hires laid about 75 "firecracker" mines on the bottom in three Nicaraguan harbors. Transcripts of Casey's briefings to the Senate Intelligence Committee show that on 8 March and 15 March 1984, the CIA director told the committee that "mines have been placed in the Pacific harbor of Corinto and the Atlantic harbor of El Bluff, as well as the oil terminal at Puerto Sandino" [7]. The problem was that Casey never said precisely who had been laying the mines. Committee members had repeatedly asked for and been given assurances that there would be no direct American involvement.

Reports showed that the mines were doing the job. At least seven ships had been hit by mines in Corinto, the largest Nicaraguan port. Other ships were turning back. Cotton was stacked two stories high awaiting ships willing to brave the harbor. Coffee beans and sugarcane, Nicaragua's other major exports, were also piling up. There was talk inside Nicaragua of economic devastation.

As with most things, there was a downside—the indiscriminate nature of these weapons took its toll, and we pushed the Nicaraguans into closer alliance with our Cold War nemesis, the Soviet Union. A number of merchant seamen and

fishermen had been wounded and one reportedly had been killed. The mining endangered neutral shipping. British and French ships had been hit. Close allies, including Margaret Thatcher, criticized the United States for these actions [6]. Imagine what would happen if an American ship hit a British mine secretly laid in some port. Another mine had been detonated by a Soviet vessel. Did Casey want to start World War III? How would the United States have reacted if a U.S. merchant ship had run into a mine field laid by the KGB? Before the mining, Nicaragua had received much of its oil from Mexico and Europe. Now the Soviets had become the chief supplier of oil, providing up to 80 percent of Nicaragua's oil imports. So the first immediate result of the mining had been to drive the Nicaraguans further into the arms of the then Soviet Union.

The mines planted in Nicaragua's harbors earlier in the year, although they did little damage to the Santinistas, exploded into scandal in Washington. Minutes before the final vote to pass contra aid, Senator Barry Goldwater was handed a report from a member of the intelligence committee staff who had learned that the President had approved the mining of Nicaragua's harbors and that the action had been carried out directly by the CIA. For senators on the intelligence committee, the mining itself was no surprise, but the extent of the CIA's participation was. The headlines the following day in the *Wall Street Journal* read: "U.S. Role in Mining Nicaraguan Harbors Reportedly Is Larger Than First Thought."

In the weeks that followed, the CIA's direct role in the mining was the subject of angry, private exchanges between the Reagan administration and the Senate Intelligence Committee. In the public debate, however, the mining itself came under attack. Critics denounced it as an act of war and on April 10 the Senate voted overwhelmingly (84-12) to condemn the mining [7]. The uproar put Senate Intelligence Committee members in a doubly embarrassing position. Accused of having known about the mining but having done nothing to prevent it, the committee members could not explain to the public that their real complaint with Casey was that he had never told them about the extent of the CIA's direct involvement.

Casey had thought the mining was a dream operation—results without real bloodshed. Now it looked as if the only blood might be his own. Casey was saying that the mines were designed to do little damage, and yet mining was a general act of belligerency. The mining was being perceived as an escalation of an ambiguous and unclear policy. "It was almost as though the mining was a 'national' act, a statement of national character. Mining was sneaky, a shadowy endeavor, akin to planting a bomb in a restaurant, a trap for the unsuspecting and innocent." "Wasn't mining state-supported terrorism?" [8]

Following the mining scandal, the Senate eventually passed the $21 million rebel aid package, but the scandal made it unlikely to overrule the House in a conference as in 1983. On May 24, the House voted overwhelmingly against aid to the contras (241-177). The World Court condemned the Reagan

administration's mining of Nicaragua's harbors, and the administration was doubly criticized for refusing to participate in the adjudication.

Post-Cold War

Persian Gulf War

During the Post-Cold War era, the United States has been engaged in a single, sizable armed conflict, *Desert Storm*, and chose to mine offensively early in this conflict. Before *Desert Storm*, the rules of engagement (ROE) did not allow mining or other offensive actions by the allied coalition.

As we transitioned to *Desert Storm* on 17 January 1991, COMUSNAVCENT, Admiral Stan Arthur and COMCARGRU SEVEN, Admiral R. J. "Zap" Zlatoper initiated maritime interdiction operations (MIO) to prevent the resupply of Iraq from the sea and prevent departures from Iraq, allowed to act only in international waters [1]. The allied coalition also needed to isolate Iraqi naval combatants operating in the northern Persian Gulf from the port facilities and naval bases at Al Basrah, Az Zubayr, and Umm Qasr, at the same time preventing these combatants from entering the northern Gulf or from resupplying their oil platforms (which were manned, armed outposts) and their base on Faylakah Island. These commanders were not allowed to conduct antisurface warfare against questionable transitors within Iraqi territorial waters because of concerns about post-war impact on eliminating the nation's economic shipping. As a last resort, they requested permission to mine. Permission was readily granted to mine within Iraqi territorial waters [1]. (Other nations in the allied coalition were not consulted in advance about the plan to mine Iraqi rivers. Admirals Arthur and Zlatoper did not believe that the allies had mining capabilities with them, nor did they mine during the conflict.)

On 18 January 1991, four A-6 aircraft from USS *Ranger* (CV-61) conducted mining operations at the mouth of the Khawr Az Zubayr river between Umm Qasr naval base and the Persian Gulf [9]. (The channel is 1 to 1.5 miles wide and 10 to 14 meters deep at the entrance.) The A-6s launched 42 of the 48 planned Mk 36 DST mines, but one A-6 was lost on the mission. The mines were set to target fast patrol boats and other high-speed shallow craft rather than deep draft ships.

Because battle damage assessment is not available for that mission, it is not possible to determine the effectiveness of that mine field directly; however, based on the continued Iraqi naval activity in the northern Gulf following U.S. mining, it appears that the mine field had no major effect on Iraqi naval operations [9]. (More than 56 surface contacts were reported in the vicinity of the mine field between 23 January and 27 February, with no evidence of mine strikes.) Admiral Stan Arthur recalled no discernible change in shipping traffic after the mining; no known sinkings or damage was incurred as a result of the mines [1].

No record shows that the U.S. forces issued a Notice to Mariners, although such a notice was recommended in a message summarizing the mission [9]. There was no government-to-government notification. Did the Iraqis even know that we mined? If not, ignorance is bliss. If so, they were lucky, and we were not able to leverage the psychological aspects of this weapon to our advantage.

Given the A-6 loss and no clear payoff from the first mission, Admiral Arthur chose not to continue mining. The potential gain seemed small compared to the obvious risk. (The mission profile was low and slow during the run-in, hence the minelaying aircraft were quite vulnerable to enemy AAA and SAMs.) In our first post-Cold War offensive mining experience, permission to mine was not the issue that it was throughout the Vietnam conflict; weapon effectiveness was. Was it an employment problem or are mines simply not as attractive an option against asymmetrically armed, and minded, adversaries?

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